Silver Lake Water Quality Monitoring Program

Technical Memorandum

Halifax, Plympton, Pembroke, and Kingston, Massachusetts

June 2023

2021-2022 Monitoring Results

Prepared For:

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Executive Summary

Silver Lake is a designated Class A waterbody and Outstanding Resource Water (ORW) located in the towns of Halifax, Plympton, Pembroke, and Kingston, Massachusetts. In addition to serving as the primary source water reservoir for the City of Brockton and connected drinking distribution systems, Silver Lake constitutes the headwater source of the Jones River.

Concerns have arisen regarding potential water quality impacts to Silver Lake from watershed sources and water diversions. From the north, surface water is sourced from Tubbs Meadow Brook, with connections to Furnace Pond (via seasonal diversion) and other waterbodies. From the west, water is seasonally diverted to Silver Lake from East Monponsett Pond, which induces backflow from West Monponsett Pond. A final Phosphorus Total Maximum Daily Load (TMDL) has been approved for the Monponsett Ponds (Massachusetts Department of Environmental Protection [MassDEP] 2022a).

Silver Lake is listed as an impaired water body by MassDEP. Listed impairments include Fish Passage Barrier, Flow Regime Modification, and Dissolved Oxygen. The Dissolved Oxygen impairment requires a TMDL to be developed for the waterbody.

The Silver Lake Water Quality Monitoring Program was initiated to investigate water quality conditions within the geographic area of interest, which includes Silver Lake, its watershed, and interbasin diversion sources.

The overall goals of this Project are as follows:

1. Collect water quality data to help inform community management decisions to address water quality and quantity issues in Silver Lake and connected water bodies; and
2. Develop a baseline understanding of current water quality and continue to develop solutions-oriented relationships with the City of Brockton's Water Division and the public.

TRC Environmental Corporation (TRC) was contracted by the Central Plymouth County Water District Commission to implement the Silver Lake Water Quality Monitoring Program and collected in-lake, watershed, and diversion source data over the period extending from September 2021 to October 2022. Over the course of this period, data were collected at a total of 29 sampling locations. Additionally, water depths and aquatic plants were mapped at more than 300 locations in the lake.

Findings

The primary findings of the Silver Lake Water Quality Monitoring Program were as follows:

Aquatic Plants

Three aquatic invasive species were documented from Silver Lake, including fanwort (*Cabomba caroliniana*), variable-leaf milfoil (*Myriophyllum heterophyllum*), and Eurasian milfoil (*M. spicatum*). Of these, Eurasian milfoil was the most widespread, occurring at depths up to 20 feet in the northern and southern third of the lake. Fanwort and variable-leaf milfoil were observed to have more limited distributions. Each of these species can be problematic because of their ability

to rapidly spread via fragmentation and their production of high amounts of biovolume. They can quickly displace native vegetation and create dense monocultures, which impacts habitat for aquatic life in the lake, accelerates eutrophication processes, and may locally alter dissolved oxygen and other water quality parameters.

In addition to the aquatic invasive species, 16 native aquatic plant species were documented in Silver Lake. Aquatic plants were present in approximately 37 percent of the surveyed area and were found growing as deep as approximately 20 feet. Aquatic plant biovolume was generally low (<25% of the water column) except in the denser beds of aquatic invasive species and native clasping-leaf pond weed (*Potamogeton perfoliatus*), where it was locally moderate to high (up to 75% of the water column).

Cyanobacteria

Cyanobacteria were detected in all 12 surface samples collected from Silver Lake and were often numerically dominant, although they were not observed at bloom levels. Cyanobacteria densities were highest in samples collected in late summer of 2022. However, secondary peak densities were observed in early spring of 2022. Additionally, cyanotoxins (microcystins) were detected in six of eight surface samples. In-lake concentrations exceeded state recreational health advisory levels on one occasion and federal drinking water health advisory levels on six occasions. MassDEP is responsible for coordinating the response to reports of cyanobacteria blooms in water bodies that are used as public water system (PWS) drinking water (DW) supplies. MassDEP Guidance related to cyanobacteria is currently located at the following link here: https://www.mass.gov/guides/cyanobacterial-harmful-algal-blooms-cyanohabs-water .

Dissolved Oxygen

Dissolved oxygen concentrations in Silver Lake quickly became hypoxic (<5.0 mg/L) to anoxic (<2.0 mg/L) in deep waters following the establishment of thermal stratification in late spring and lasting until seasonal turnover in autumn. According to MassDEP's surface water quality standards (314 CMR 4.00), hypoxic conditions are not considered supportive of warmwater fish communities. Coldwater fish communities (e.g., trout) are even more sensitive to low dissolved oxygen levels and surface water quality standards stipulate a minimum of 6.0 mg/L to be considered supportive.

Anoxia was observed in waters as shallow as 20 feet from mid- to late summer in 2022. Hypoxic conditions were observed in even shallower waters. This indicates that more than 50 percent of lake area experienced conditions that were not supportive of warmwater fish communities for some portion of the year. Since coldwater fish require water temperatures at or below 20°C to thrive and those temperatures are only found in deep waters during summer, habitat for these fish species was absent from Silver Lake during the summers of 2021 and 2022.

Water Column Nutrients

The median in-lake total phosphorus concentration observed for Silver Lake was 0.023 mg/L, with lower concentrations typically observed near the surface than at depth, especially during periods of thermal stratification. Total phosphorus concentrations in Silver Lake frequently exceeded US EPA's Gold Book standard of 0.025 mg/L for lakes in mid-depth and bottom waters. This indicates that total phosphorus levels in Silver Lake were consistent impairment listing under MassDEP's

Consolidated Assessment and Listing Methodology (MassDEP 2022b). This pattern, considered in light of dissolved oxygen observations and sediment sampling results, suggests that internal loading (i.e., recycling from the sediments) of phosphorus is significant and has the potential to contribute to cyanobacteria blooms. Massachusetts lakes and reservoirs are generally considered to be at moderate risk for cyanobacteria blooms when total phosphorus is 0.010 to 0.025 mg/L and water temperatures are warm (>20°C), while total phosphorus concentrations above 0.025 mg/L constitute high risk conditions (MassDEP 2021a). Furthermore, the Monponsett Pond System Total Maximum Daily Load set a total phosphorus target of 0.018 mg/L (MassDEP 2022a)

The median in-lake total nitrogen concentration observed for Silver Lake was 0.45 mg/L. The bulk of this was in the form of total Kjeldahl nitrogen (TKN), which includes both inorganic (ammonia) and organic components. TKN concentrations generally increased with depth and were highest during periods of thermal stratification.

Sediment Phosphorus

Sediment phosphorus fractionation analysis indicated that iron-bound phosphorus was the primary fraction present in surficial sediments, particularly in the top six centimeters. Iron-bound phosphorus is readily released under anoxic conditions and can contribute substantially to internal loading of phosphorus in lakes. Therefore, the high concentrations of iron-bound phosphorus in Silver Lake sediments are likely resulting in elevated phosphorus release rates from June to October, when oxygen depletion leads to anoxic conditions in deep waters.

Trophic State

Silver Lake currently appears to be a mesotrophic water body, based on the chlorophyll a samples collected and analyzed as part of this study. The trophic state index calculated using phosphorus and Secchi depth support this characterization. This also aligns with observations of other water quality conditions in the lake, including hypolimnetic anoxia in summer.

Although trophic state is ultimately not itself a measure of water quality, it does provide a helpful construct for understanding how nutrient enrichment affects certain uses of a water body. For instance, in addition to promoting more frequent algae blooms, mesotrophic conditions may be associated with undesirable levels of metals (iron and manganese), taste and odor compounds, and/or turbidity in drinking water reservoirs. Active monitoring and management of Silver Lake will be required to mitigate changes in source water quality that may cause potential risk to the public water supply moving forward.

In-Lake Water Quality Model

Using the results of the monitoring program, a custom one-dimensional water quality model was developed for the Silver Lake system. The model incorporates water balance, lake temperature, internal and external loads of nutrients (specifically nitrogen and phosphorus), losses of nutrients, and transformation of nutrients.

The water quality model suggests that the total phosphorus load to Silver Lake over this period was approximately 763 kg (1,682 lbs), equivalent to an annualized rate of 1,314 kg (2897 lbs). Of this, more than 80 percent was internal loading. External loading was primarily in the form of surface inflows (16 percent), with atmospheric deposition and groundwater contributing less than

4 percent of the total phosphorus load. Among the surface inflows assessed, the East Monponsett Pond diversion was the largest source. Tubbs Meadow Brook (SLT-1) was the second largest external source of phosphorus, although its contribution would be expected to be higher if the Furnace Pond diversion had been activated over the course of the modeled period.

The water quality model also suggests that the total nitrogen load to Silver Lake over this period was approximately 4,175 kg (about 9204 lb), equivalent to an annualized rate of 7,188 kg (about 15847 lb). Of this, 66 percent was due to external loading. Surface inflows were the largest source of external loading, followed by atmospheric deposition. Groundwater inputs of nitrogen were negligible. Among the surface inflows assessed, the East Monponsett Pond diversion was the largest source. Tubbs Meadow Brook (SLT-1) was the second largest external source of nitrogen, although its contribution would have been higher if the Furnace Pond diversion had been activated over the modeled period.

The calibrated lake model for Silver Lake was used to test two load reduction scenarios. The first scenario assessed the short-term impact of removing all East Monponsett diversions over the modeled period. The second scenario assessed the reduction of internal loading by inactivating phosphorus in the bottom sediments through active management, such as nutrient inactivation. In-lake nutrient inactivation is the direct addition of a binding agent to capture excess available phosphorus in the water column or sediments of a lake.

Results from the first scenario demonstrated that the elimination of these diversions to Silver Lake, without reducing water withdrawals by the Silver Lake Water Treatment Plant, would reduce both phosphorus and nitrogen loading by a substantial percentage (11% and 31%, respectively). However, it would also reduce flows and losses of nutrients exiting Silver Lake, meaning that a higher proportion of nutrients entering Silver Lake from other sources would be retained in the lake. Therefore, the benefits of eliminating diversions over the modeled period would be minimal to Silver Lake on their own, at least over the short term, as indicated by predicted nutrient and chlorophyll a concentrations.

In contrast, the second scenario demonstrated that reducing internal loading by inactivating sediment phosphorus would have a more substantial water quality benefit to Silver Lake, although not until the last few months of the modeled period (August through October). This benefit is realized as thermal stratification breaks down and the water column becomes more deeply mixed. Without internal load reduction, nutrient-rich bottom waters would be mixed with surface waters, leading to ready availability of phosphorus for biological uptake. However, with internal load reduction, the bottom waters do not become as nutrient-rich, meaning that phosphorus concentrations stay lower in surface waters despite mixing, thereby reducing the amount of phytoplankton production (as measured by chlorophyll a concentrations).

Overall Assessment of Baseline Conditions

For informational purposes TRC evaluated the results of the Silver Lake Water Quality Monitoring Program using MassDEP's the weight-of-evidence approach described in the Massachusetts Department of Environmental Protection in their Consolidated Assessment and Listing Methodology (MassDEP 2022c). Preliminary use support findings for Silver Lake suggest:

- Aquatic Life use is impaired due to the following causes :

  - Non-native plants
  - Dissolved oxygen (Silver Lake is already listed for this [MassDEP 2021b])
  - Total phosphorus
- Primary Contact Recreation use is impaired due to the following causes
  - Harmful algal blooms
- Aesthetics use is supported
- Secondary Contact Recreation use is supported (note that recreation on Silver Lake is prohibited due to its use as a drinking water supply reservoir).

Silver Lake's suitability for use as a PWS is based on the quality of finished water, which was beyond the scope of this study and therefore not evaluated . The MassDEP"s Drinking Water Program (DWP) has primacy for implementing the provisions of the Federal Safe Drinking Water Act (SDWA) and enforcing standards related to finished water quality.

Definitive water quality assessments for surface water use support (e.g., aquatic life, primary/secondary contact recreation, and aesthetics) with external data are performed by MassDEP's Watershed Planning Program (WPP) as required by Sections 305(b), 314 and 303(d) and are reported every two years in the Integrated List of Waters Report.

Solving the Problems

Silver Lake faces multiple management issues, some of which rise to the level of water quality impairments and the mitigation of risk to the PWS. The development of an appropriate management response is needed to address these observed issues and improve water quality in Silver Lake and associated waterbodies. Although localized approaches may be useful for ensuring the quality of raw or finished water from the point of the potable water intake to the distribution system, a regional large-scale and comprehensive approach will be needed to achieve lake-wide and associated waterbody improvements in water quality.

The following are recommended next steps toward improvement of in-lake water quality.

- Model alternative management scenarios

  Although this study modeled the outcomes of two individual load reduction scenarios, other load reduction scenarios or combinations of load reduction strategies could also be modeled to help identify viable management approaches going forward. For instance, reductions in water withdrawals by the Silver Lake Water Treatment Plant could potentially allow water levels to remain above the outlet elevation for a longer period of time, thereby providing a flow benefit to the Jones River. This would likely alter in-lake water quality, as well, and modeling could help to evaluate the direction and magnitude of change. Alternatively, a scenario could be modeled whereby diversions, water withdrawals, and internal loading were all reduced to varying degrees to maximize water quality benefit to Silver Lake while allowing the modified but continued operation of the system for water supply purposes.

- Develop a lake management plan for Silver Lake

A number of watershed and in-lake management options are available to address the challenges currently impacting Silver Lake and prevent or avoid the development of future problems. These include biological, chemical, and mechanical/physical approaches. However, a lake management plan is needed to select and prioritize the most suitable options, develop cost estimates for the preferred options, identify funding sources, and construct a schedule for implementation. The lake management plan may be developed using the data from this study, supplemental monitoring data and modeling, and key stakeholder input.

- Continue the Silver Lake Water Quality Monitoring Program

  Despite the size and regional importance of Silver Lake to both human and natural communities, a comprehensive, long-term water quality dataset has not yet been developed. The current study is a good first step in establishing baseline conditions but more data would be useful in understanding interannual variability. Furthermore, ongoing water quality monitoring will be needed to foster collaboration, document the effectiveness of any management program that is implemented in the future, as well as to identify the long-term trends related to climate change or other broader environmental changes. Additionally, the sharing of water quality data with the public will help to engage the community and encourage more active participation in the management of this important resource. To this end, the continuation of data collection at Silver Lake is recommended. The program could be modified to address key data gaps while also being streamlined to attain the most value from the funds available.

1.0 Introduction

TRC Environmental Corporation (TRC) has prepared this Technical Memorandum for Silver Lake on behalf of the Central Plymouth County Water District Commission (CPCWDC) to address concerns regarding potential water quality impacts to Silver Lake from watershed sources and water diversions.

Silver Lake is a designated Class A waterbody and Outstanding Resource Water (ORW) located in the towns of Halifax, Plympton, Pembroke, and Kingston, Massachusetts. In addition to serving as the primary source water reservoir for the City of Brockton and connected drinking distribution systems, Silver Lake constitutes the headwater source of the Jones River.

Concerns have arisen regarding potential water quality impacts to Silver Lake from watershed sources and water diversions. From the north, surface water is sourced from Tubbs Meadow Brook, with connections to Furnace Pond (via seasonal diversion) and other waterbodies. From the west, water is seasonally diverted to Silver Lake from East Monponsett Pond, which induces backflow from West Monponsett Pond. A final Phosphorus Total Maximum Daily Load (TMDL) has been approved for the Monponsett Ponds (MassDEP 2022a).

Silver Lake is listed in the Final 2018/2020 Integrated List of Waters by the Massachusetts Department of Environmental Protection (MassDEP 2021b). Listed impairments include Fish Passage Barrier, Flow Regime Modification, and Dissolved Oxygen. The Dissolved Oxygen impairment requires a TMDL to be developed for the waterbody. These impairments are retained in the 2022 Draft Massachusetts Integrated List of Waters (MassDEP 2022b).

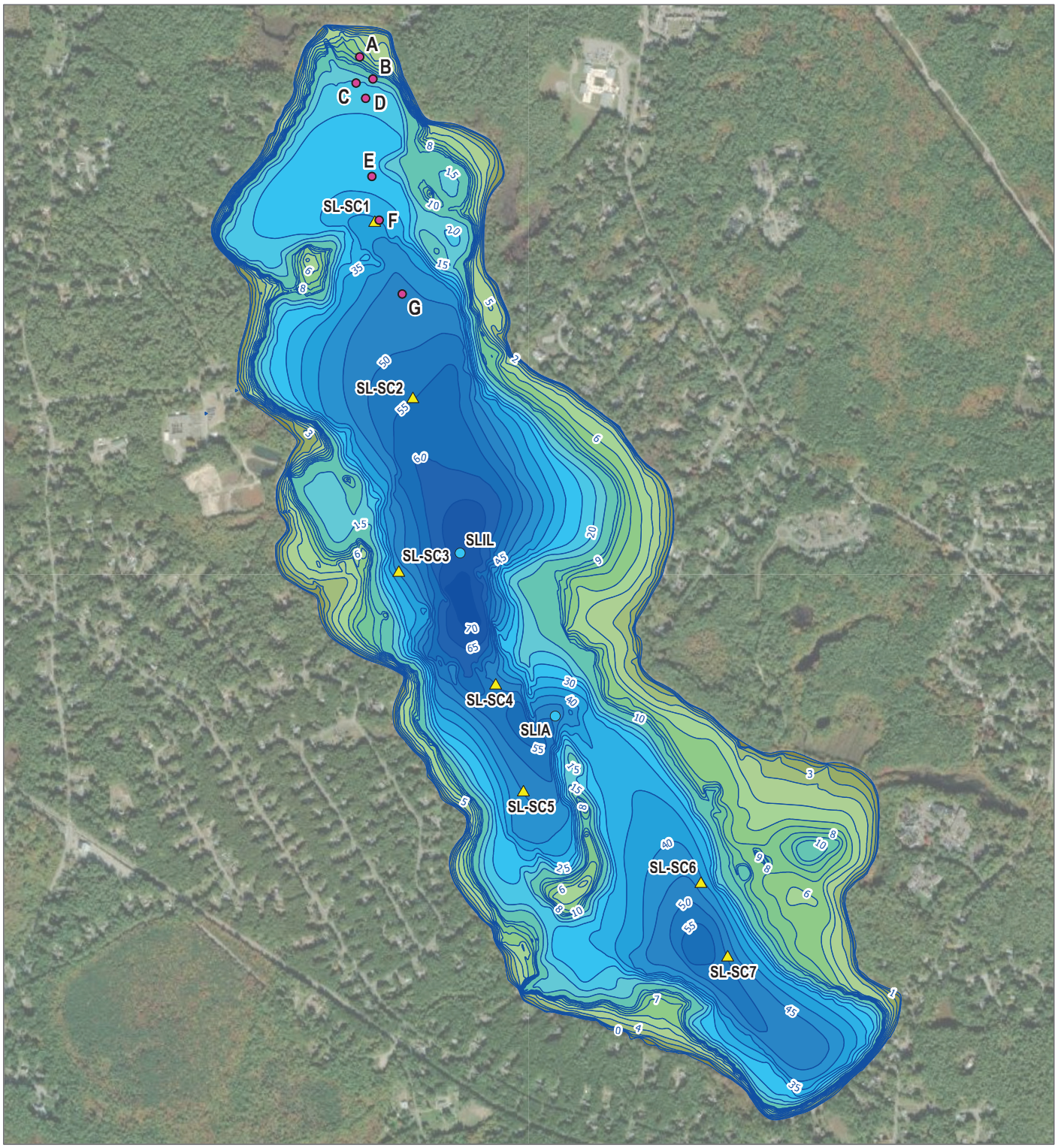
The Silver Lake Water Quality Monitoring Program was initiated to investigate water quality conditions within the geographic area of interest, which includes Silver Lake, its watershed, and interbasin diversion sources.

The overall goals of this Project are as follows:

1. Collect water quality data to help inform community management decisions to address water quality and quantity issues in Silver Lake and connected water bodies; and
2. Develop a baseline understanding of current water quality and continue to develop solutions-oriented relationships with the City of Brockton's Water Division and the public.

The primary objectives of this Technical Memorandum are to provide a baseline understanding of current water quality and identify key water quality drivers in Silver Lake, as well as potential management solutions to address the observed conditions.

Silver Lake is approximately 634 acres in area, with a maximum depth of just over 70 feet and an average depth of 25 feet when full. The lake is elongate, with the long axis running roughly north-northwest to southeast (**Figure 1**). A sharp underwater ridge partially separates Silver Lake into a larger, deeper northern basin and smaller, shallower southern basin. The shoreline is somewhat



BATHYMETRY DEPTH CONTOUR (FT)

BENTHIC SAMPLE LOCATION

SEDIMENT CORING LOCATION

IN-LAKE SAMPLE LOCATION

The bathymetry contour interval varies with depth.
From 0 to 10 feet the map shows 1-ft interval contours.
From 10 feet and deeper the map shows 5-ft interval contours.

BASE MAP: USGS COLOR ORTHO IMAGERY
DATA SOURCES: TRC 2022
MASSDEP HYDROGRAPHY 2019

0 500 1,000 FEET

1:16,000 1" = 1,333'

PROJECT:
CENTRAL PLYMOUTH COUNTY WATER DISTRICT COMMISSION
SILVER LAKE, PEMBROKE, MA

TITLE:
IN-LAKE SAMPLING LOCATIONS AND BATHYMETRY

DRAWN BY:	S. DEHAINAUT	PROJ. NO.:	016120.0000.0000
CHECKED BY:	K. BACHAND		
APPROVED BY:	S. MARTIN		**FIGURE #1**
DATE:	MARCH 2023		

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: C663_SILVERLAKE_FIGURES2

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0
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irregular, consisting of mostly broad coves and blunt peninsulas. These broad features are echoed in the underwater shelf that occupies much of the eastern side of the lake. However, water depths tend to drop off faster along the northern and western shorelines. The Silver Lake Water Treatment Plant is located just to the west of Silver Lake, along the west-central shoreline. The primary raw water intake extends east into a deep cove from this location.

The natural Silver Lake watershed is approximately 2,600 acres and includes portions of Halifax, Plympton, Pembroke, and Kingston, Massachusetts. The primary tributary to Silver Lake is Tubbs Meadow Brook, which drains agricultural, residential, and forest lands to the north of Silver Lake. Two other minor tributaries drain into Silver Lake from the east. The first, Little Brook, is an intermittent tributary that drains residential and forested land and enters Silver Lake along its northeastern shoreline. The second, Mirage Brook, is a small, perennial tributary that drains residential and forested land and enters Silver Lake along the southeastern shoreline, just to the west of the lake's natural outlet, which discharges into Forge Pond at high water. From Forge Pond water discharges into the Jones River, which is a state-designated coldwater fisheries resource.

Additionally, water flows into Silver Lake through two manmade diversions, which carry interbasin transfers from the North River and Taunton River watersheds. The North River watershed diversion is less frequently used but when engaged, it carries water from the outlet of Furnace Pond to Tubbs Meadow Brook, where it then continues a short distance into the northern end of Silver Lake. The Taunton River watershed diversion carries water from the southeastern portion of East Monponsett Pond, through an underground pipe, directly to the southwestern shoreline of Silver Lake. This diversion is activated more frequently than the Furnace Pond diversion. Diversions typically occur during the October to May period, as they are not permitted from June to September, except with emergency approval from the CPCWDC.

2.0 Water Quality Monitoring Program

2.1 Bathymetry

2.1.1 Technical Approach

The Silver Lake bathymetric survey began with review of a prior survey from 2003 (Coler and Colantonio) to identify any areas of complex bathymetry and plan for sufficient survey coverage to capture major features.

The bathymetric survey of Silver Lake was conducted in conjunction with the aquatic plant mapping effort in September 2021. Bathymetry was measured using an echosounder in deep, open waters and a calibrated sounding line in shallower waters where plant growth is dense. A Differential Global Positioning System (DGPS) capable of sub-meter horizontal accuracy was used to measure, position, and log bathymetric data at 326 survey locations. Survey locations were distributed using a gridded survey approach to ensure adequate coverage of survey data throughout the lake while providing field crews with the flexibility to select the exact location and number of points within each cell based on observed field conditions.

Lake bathymetry was tied to the same vertical control (Halifax 15 monument) as a prior survey completed by Coler and Colantonio (2003) and used to verify the contours of Silver Lake.

2.1.2 Analytical Results

The bathymetric survey completed by TRC revealed remarkably good concurrence with the Coler and Colantonio (2003) bathymetric survey map with mostly minor differences observed. TRC confirmed the presence and coarse-level extent of all major morphological features previously mapped in the lake. The largest deviations (as a percent of depth) from the 2003 survey were observed in the far northern cove of Silver Lake. Although some changes in bathymetry might be expected in this area due to the deposition of sediments carried to Silver Lake by Tubbs Meadow Brook, these deviations occurred in shallow areas of higher relief where depth changed rapidly over small distances. Additionally, no systemic deviations from the 2003 survey were observed across multiple adjacent survey points. Therefore, no changes were made to the 2003 bathymetric map contours.

2.2 Aquatic Macrophytes

2.2.1 Technical Approach

Qualified staff assessed aquatic plant growth within Silver Lake from September 1 to September 7, 2021. Using a grid survey approach, aquatic plant samples were collected for observation at each survey location with a throw rake in deeper waters or observed directly from the survey vessel in shallow waters. Vascular aquatic plants were identified to genus or species level in the field when practicable.

A total of 326 in-lake survey locations were assessed for community composition, exotic invasive plants, vegetative cover, and biovolume. Additional locations were also surveyed in the navigable waters at the mouth of Tubbs Meadow Brook. Supplemental data on substrate type, such as muck

or sand, were also assessed at each survey location. Field data and geographic coordinates were recorded at each survey location using a Differential Global Positioning System (DGPS) capable of sub-meter horizontal accuracy. This data was later used to generate plant cover and biovolume maps for Silver Lake, as well as the locations of any aquatic invasive species encountered.

More details on the specific field protocols used to collect aquatic macrophyte data are provided in the Silver Lake Water Quality Monitoring Program Sampling and Analysis Plan (SAP).

2.2.2 Analytical Results

Nineteen species of aquatic plants were observed in Silver Lake in September 2021 (**Table A**). Distribution maps and profiles of each species are presented in **Appendix A**.

Table A. Aquatic Plant Species Observed in Silver Lake

Common Name	Scientific Name	Dominant Growth Type	Secondary Growth Type	Invasive Status
Fanwort	*Cabomba caroliniana*	Submerged		Exotic Invasive
Water Starwort	*Callitriche heterophylla*	Submerged	Floating-leaved	
Coontail	*Ceratophyllum demersum*	Submerged		
Filamentous Green Algae	Chlorophyceae *sp.*	Alga		
Waterwort	*Elatine sp.*	Submerged	Emergent	
Spikerush	*Eleocharis sp.*	Submerged		
Canadian Waterweed	*Elodea canadensis*	Submerged		
Golden Hedge-hyssop	*Gratiola aurea*	Submerged	Emergent	
Quillwort	*Isoetes sp.*	Submerged		
Seedbox	*Ludwigia palustris*	Submerged	Emergent	
Variable-leaf Milfoil	*Myriophyllum heterophyllum*	Submerged		Exotic Invasive
Eurasian Milfoil	*Myriophyllum spicatum*	Submerged		Exotic Invasive
Stonewort	*Nitella sp.*	Alga		
Floating-leaf Pondweed	*Potamogeton epihydrus*	Floating-leaved	Submerged	
Clasping-Leaf Pondweed	*Potamogeton perfoliatus*	Submerged		
Thinleaf Pondweed	*Potamogeton pusillus*	Submerged		
Arrowhead	*Sagittaria sp.*	Emergent	Submerged	
Common Bladderwort	*Utricularia macrorhiza*	Submerged		
Water Celery	*Vallisneria americana*	Submerged		

Invasive Eurasian milfoil (left) and fanwort (right) were found at multiple locations in Silver Lake.

Of the nineteen aquatic species observed, three were exotic invasives (**Table A**), including fanwort (*Cabomba caroliniana*), variable-leaf milfoil (*Myriophyllum heterophyllum*), and Eurasian milfoil (*Myriophyllum spicatum*).

Fanwort was documented from seven different areas along the eastern, northern, and western shoreline of Silver Lake (**Figure 2**), as well as the mouth of Tubbs Meadow Brook. It occurred in water as deep as 15 feet but was more frequently observed in 5 to 10 feet of water.

Variable-leaf milfoil was only observed at one location in the far northern cove of Silver Lake (**Figure 3**), as well as the mouth of Tubbs Meadow Brook. It was only observed in water less than five feet deep. However, variable-leaf milfoil may occur as deep as 20 feet in other water bodies of central and eastern Massachusetts.

Eurasian milfoil was the most frequently observed of the three exotic species, with a total of 23 observations in Silver Lake (**Figure 4**), as well as an observation in the mouth of Tubbs Meadow Brook. This species is widely distributed in northern and southern waters of Silver Lake but was not observed along the central shoreline. It occurred in water as deep as 20 feet but was more frequently observed in 5 to 10 feet of water.

Fanwort, variable-leaf milfoil, and Eurasian milfoil may be introduced to a waterbody in a variety of ways; however, considering the known presence of these species upstream of Silver Lake, it is possible that they were transported downstream by water currents. In addition to being exotic, these plants have invasive tendencies, rapidly expanding into available habitats and forming near-monocultures of very dense growth at the water surface during the growing season. Monocultures of these plants can lead to reduced dissolved oxygen levels and shading of native plants growing below the surface.

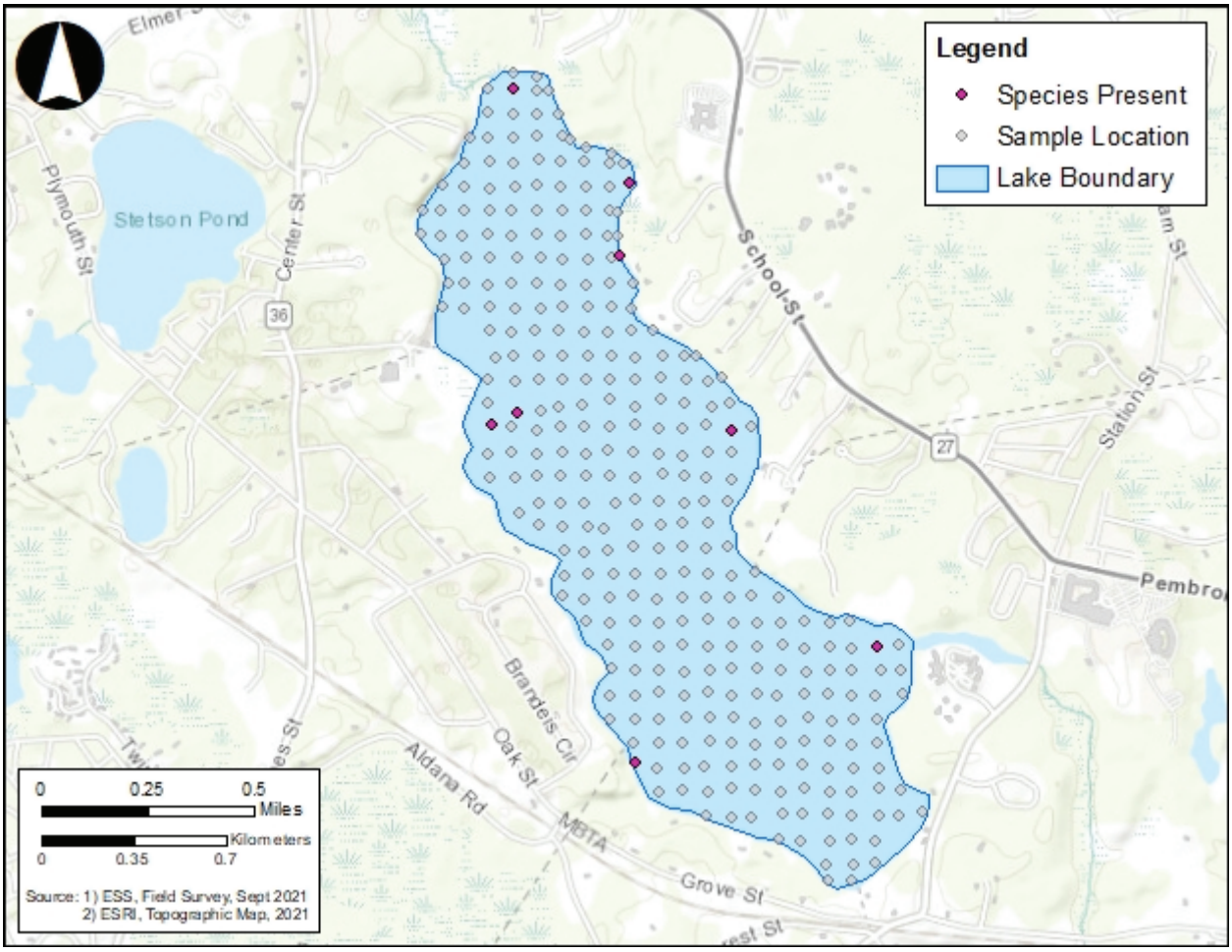


Figure 2. Distribution of Fanwort in Silver Lake

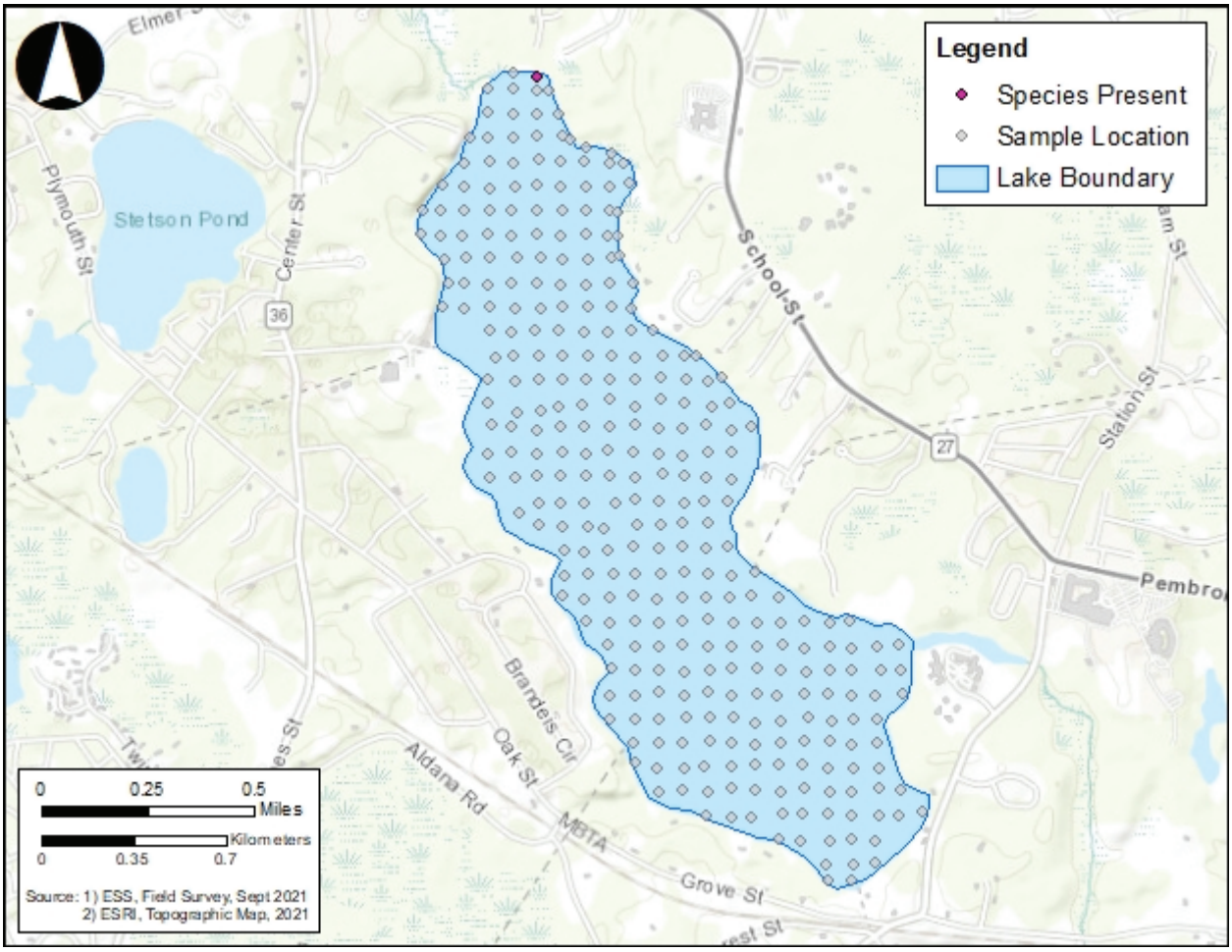


Figure 3. Distribution of Variable-leaf Milfoil in Silver Lake

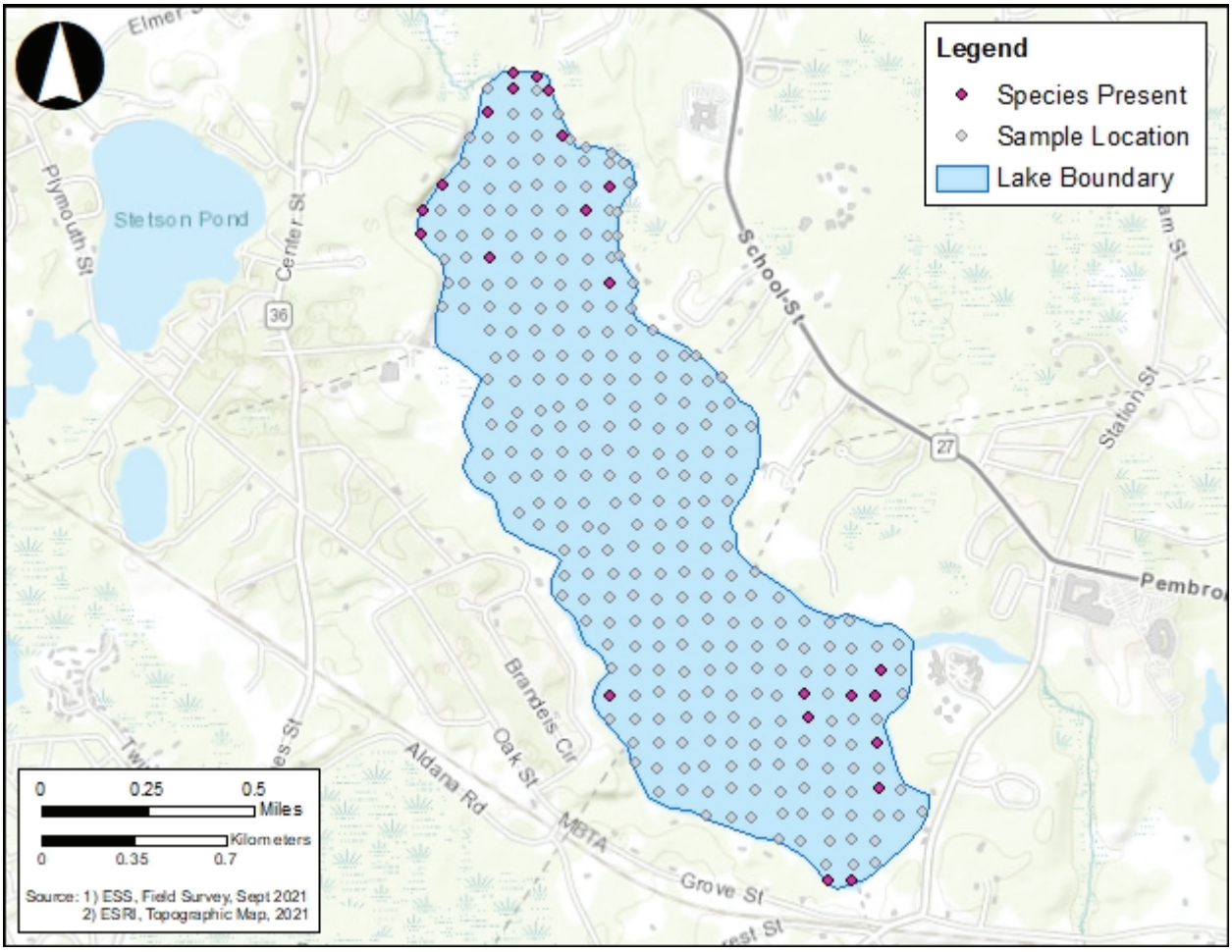


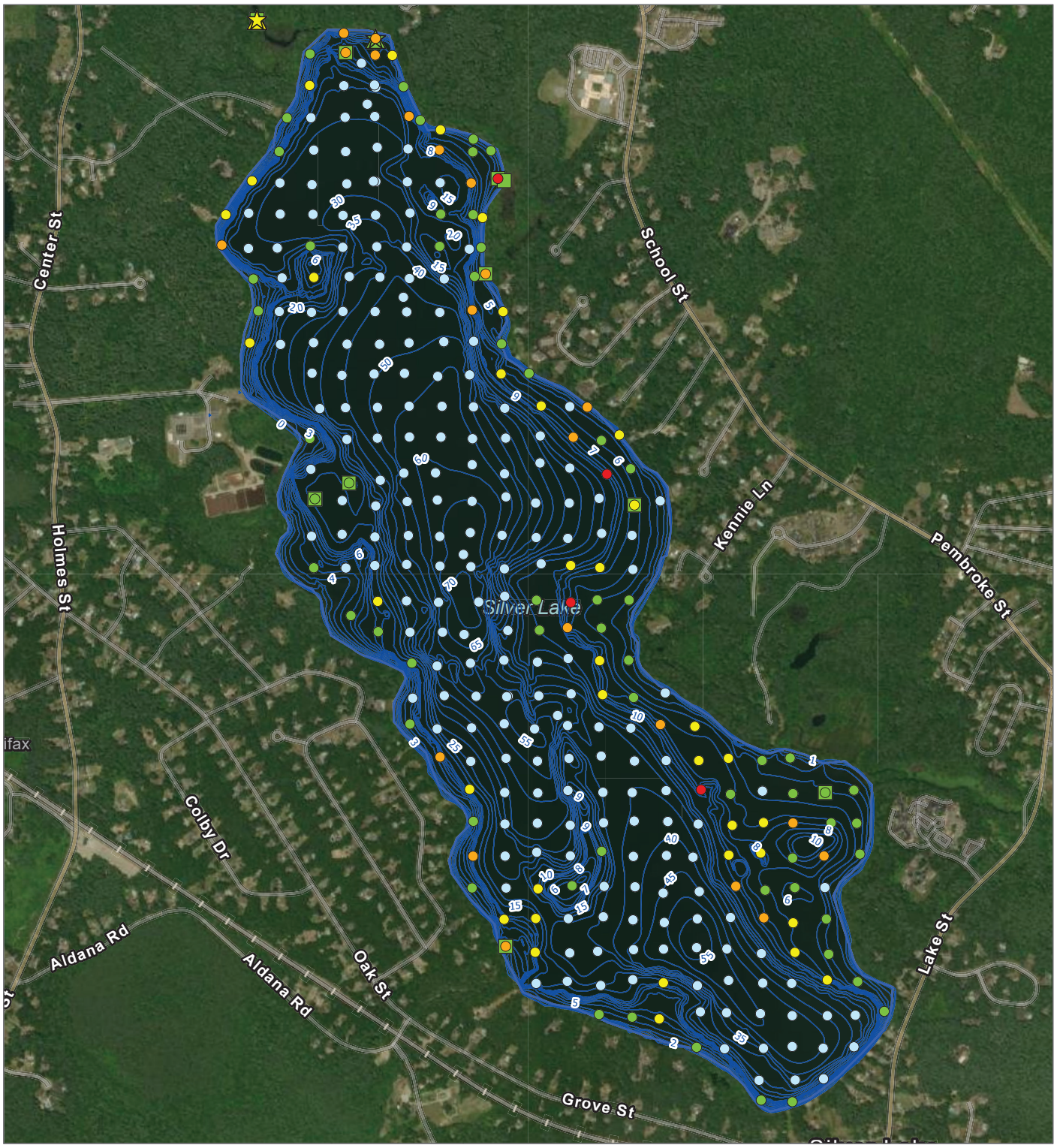
Figure 4. Distribution of Eurasian Milfoil in Silver Lake

In addition to the exotic invasive species, sixteen native plant species were documented from Silver Lake (**Table A**), observed primarily in sparse patches in shallow waters and along the shoreline. The most widespread native plant species were clasping-leaf pondweed (*Potamogeton perfoliatus*) and stonewort (*Nitella spp).* Clasping-leaf pondweed occasionally formed dense growths.

As part of the water quality monitoring program, a field guide to the plants of Silver Lake was developed, which includes these native species, as well as exotic invasives observed in the lake or known to be nearby and may be at higher risk for introduction to the lake system (Appendix A). Distribution maps for each species observed at Silver Lake are also presented in the field guide.

Aquatic Plant Cover

Aquatic plant cover was generally sparse throughout Silver Lake, with plants observed at approximately 37 percent of the sample locations (**Figure 5**). Aquatic plant growth was most abundant in the southeastern cove of the lake, in the vicinity of the Jones River Outlet, where water depths are less than ten feet over a broad area.



PLANT COVER

- 0% (206 POINTS)
- 1% - 25% (60 POINTS)
- 26% - 50% (35 POINTS)
- 51% - 75% (21 POINTS)
- 76% - 100% (4 POINTS)

FANWORT COVERAGE

- 1% - 25% (10 POINTS)

VARIABLE LEAF MILFOIL COVERAGE

- 1% - 25% (1 POINTS)
- 26% - 50% (1 POINTS)

EURASIAN MILFOIL COVERAGE

- 1% - 25% (1 POINTS)
- 26% - 50% (1 POINTS)
- BATHYMETRY DEPTH CONTOUR (FT)

BASE MAP: ESRI, WORLD IMAGERY, 2022
DATA SOURCES: TRC 2022

0 500 1,000 FEET

1:16,200 1" = 1,350'

PROJECT:
CENTRAL PLYMOUTH COUNTY WATER DISTRICT COMMISSION
SILVER LAKE, PEMBROKE, MA

TITLE:
PLANT COVER
SEPTEMBER 1, 3, AND 7, 2021

DRAWN BY:	K. BACHAND	PROJ. NO.:	016120.0000.0000
CHECKED BY:	S. DEHAINAUT		
APPROVED BY:	S. MARTIN		**FIGURE #5**
DATE:	JANUARY 2023		

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: C663_SILVERLAKE_PLANTMAPPINGFIGS

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0
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Aquatic Plant Biovolume

Aquatic plant biovolume followed a pattern similar to plant cover; plant growth exceeded 25 percent of the water column at approximately ten percent of locations (**Figure 6**). Higher biovolume areas were generally occupied by one of the exotic species or native clasping-leaf pondweed.

2.3 Aquatic Macroinvertebrates

2.3.1 Technical Approach

Due to their relatively long lifespan (months to years) and wide range of sensitivity to water quality conditions, benthic macroinvertebrates are one of the most useful organisms for inferring longer-term water quality conditions in surface waters. Specifically, serving as a supplemental measure of hypoxic and anoxic conditions at Silver Lake.

On September 7, 2021, seven benthic macroinvertebrate samples were collected from shallow and deep environments along a transect perpendicular to the lake's long axis (**Figure 7**).

Macroinvertebrate samples, and the depths from which they were obtained, are as follows:

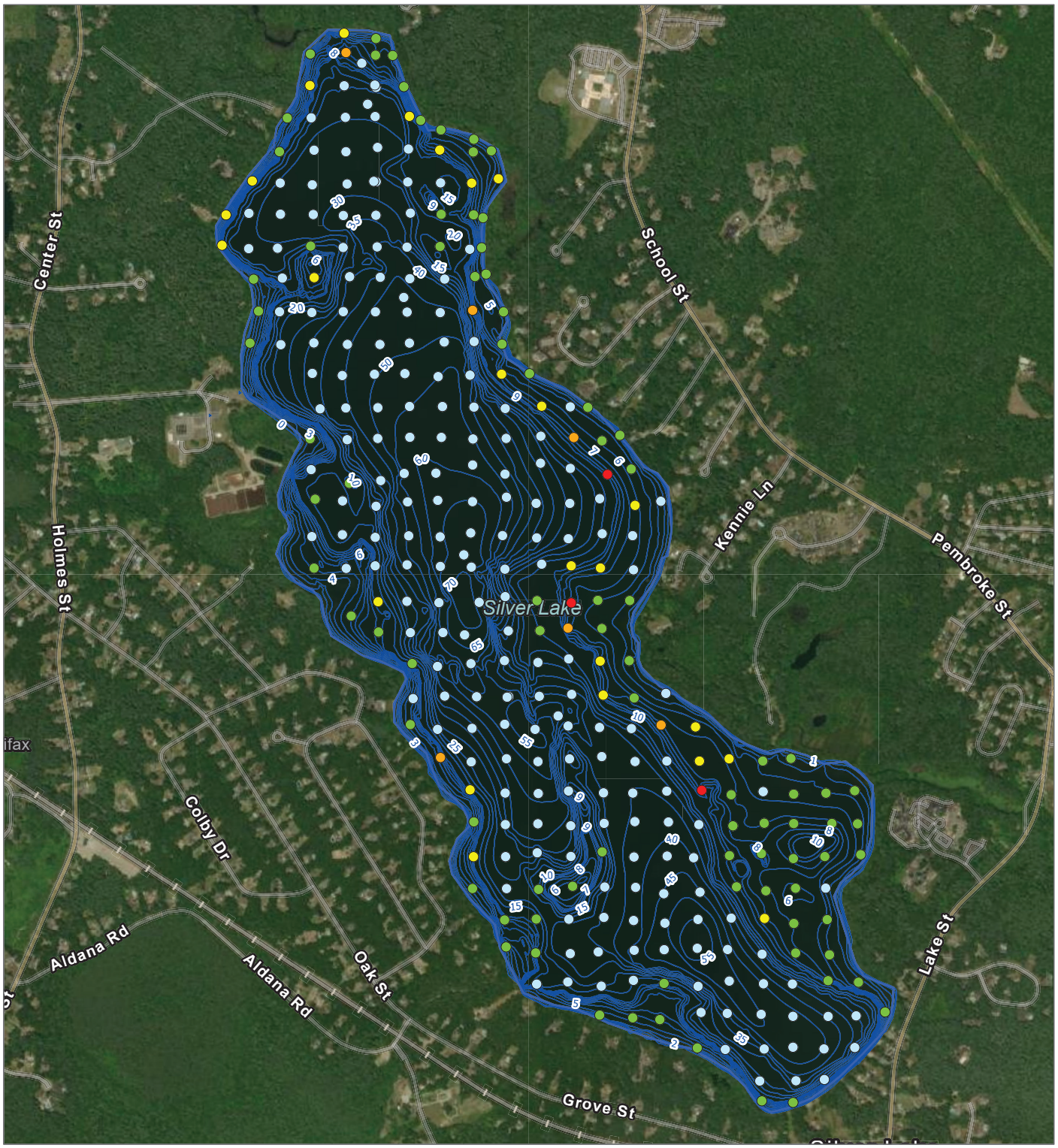
- A (5 feet)
- B (15 feet)
- C (20 feet)
- D (25 feet)
- E (30 feet)
- F (35 feet)
- G (50 feet)

A six-inch by six-inch Ekman grab sampler was used to collect samples at each of the seven sample locations. Samples were field-sieved using a 0.5-millimeter mesh bucket sieve and preserved in 75 percent denatured ethanol. Macroinvertebrate samples were then transported to the laboratory for sorting, identification, and enumeration by an SFS-certified taxonomist under a microscope.

More details on the specific field protocols used to collect aquatic macroinvertebrate data are provided in the Silver Lake Water Quality Monitoring Program SAP.

2.3.2 Analytical Results

The greatest taxa richness was found in samples collected at depths less than 20 feet, where the number of taxa identified ranged from 12 to 16 (**Table B**). Macroinvertebrates collected in this area included a variety of amphipods, aquatic snails, bivalves, beetles, caddisflies, damselflies, true flies, and aquatic earthworms, among others (**Appendix B**). Sample abundance in this area ranged from 62 to 77 organisms per grab samples (**Table B**).



PLANT BIOVOLUME

- 0% (206 POINTS)
- 1% - 25% (87 POINTS)
- 26% - 50% (24 POINTS)
- 51% - 75% (6 POINTS)
- 76% - 100% (3 POINTS)

BATHYMETRY DEPTH CONTOUR (FT)

BASE MAP: ESRI, WORLD IMAGERY, 2022
DATA SOURCES: TRC 2022

0 500 1,000 FEET

1:16,200 1" = 1,350'

PROJECT:
CENTRAL PLYMOUTH COUNTY WATER DISTRICT COMMISSION
SILVER LAKE, PEMBROKE, MA

TITLE:
PLANT BIOVOLUME SEPTEMBER 1, 3, AND 7, 2021

DRAWN BY:	K. BACHAND	PROJ. NO.:	016120.0000.0000
CHECKED BY:	S. DEHAINAUT		
APPROVED BY:	S. MARTIN		**FIGURE #6**
DATE:	JANUARY 2023		

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: C663_SILVERLAKE_PLANTMAPPINGFIGS

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0
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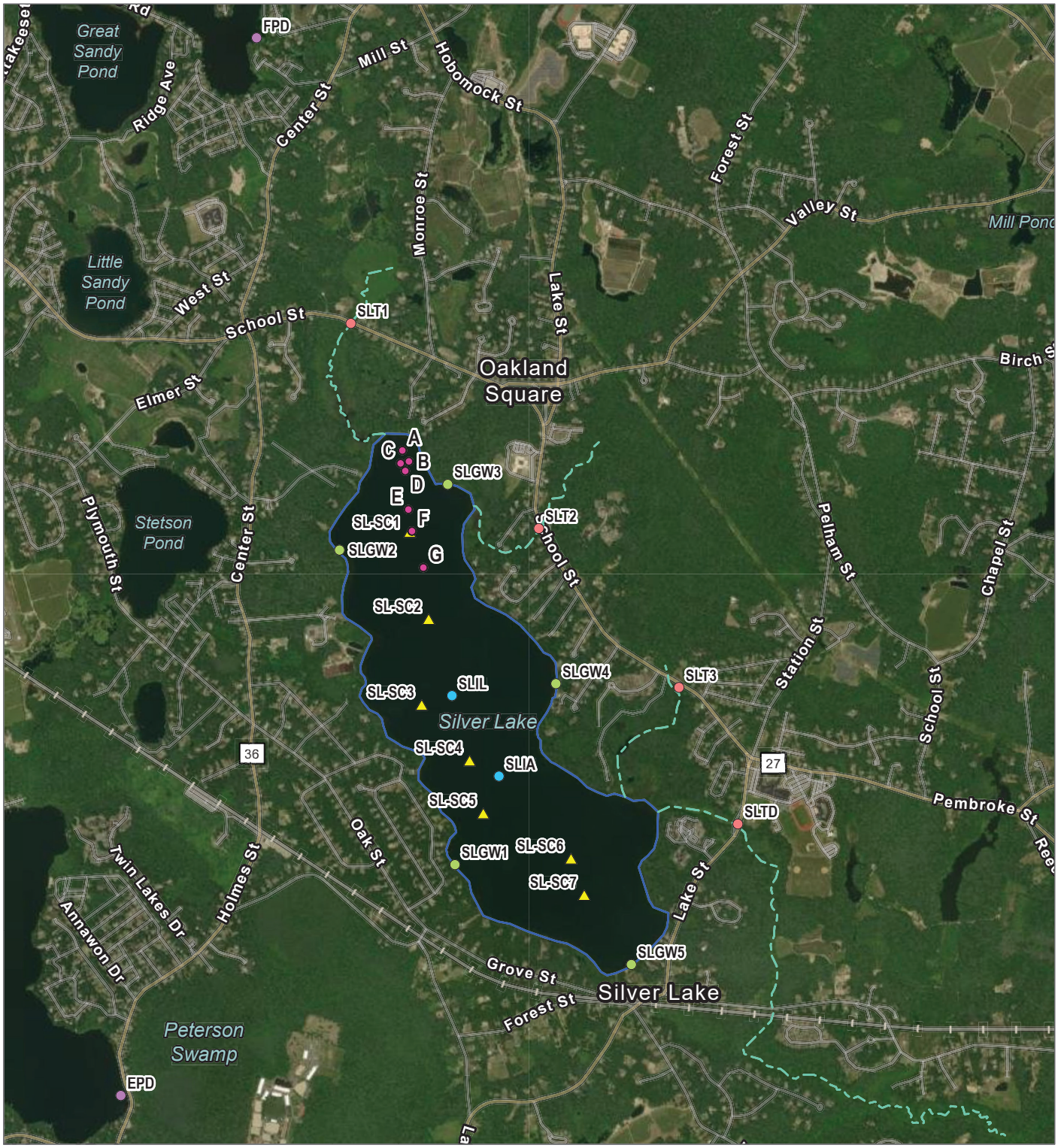


- IN-LAKE SAMPLE LOCATION
- TRIBUTARY SAMPLE LOCATION
- DIVERSION SAMPLE LOCATION
- SEDIMENT CORING LOCATION
- GROUNDWATER SAMPLING LOCATION
- BENTHIC SAMPLE LOCATION
- STREAM

BASE MAP: ESRI, WORLD IMAGERY, 2022
DATA SOURCES: TRC 2022

0 1,000 2,000 FEET

1:32,400 1" = 2,700'

PROJECT:
CENTRAL PLYMOUTH COUNTY WATER DISTRICT COMMISSION
SILVER LAKE, PEMBROKE, MA

TITLE:
SAMPLE LOCATIONS

DRAWN BY:	K. BACHAND	PROJ. NO.:	016120.0000.0000
CHECKED BY:	S. DEHAINAUT		
APPROVED BY:	S. MARTIN		**FIGURE #7**
DATE:	JANUARY 2023		

TRC
10 HEMINGWAY DRIVE
2ND FLOOR
EAST PROVIDENCE, RI 02915
PHONE: 401.330.1236

FILE: C663_SILVERLAKE_PLANTMAPPINGFIGS

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MASSACHUSETTS MNLD FIPS 2001 FTUS; MAP ROTATION: 0
-- SAVED BY: KBACHAND ON 1/20/2023, 09:01:07 AM; FILE PATH: T:\1-PROJECTS\ESS_GROUP_PROJECTS\EASTPROV\DATA\JOBS\C663-000 CENTRAL PLYMOUTH COUNTY WATER DISTRICT COMMISSION\- SILVER LAKE WATER QUALITY MONITORING PROGRAM\04 GRAPHICS\GIS\APRX\C663_SILVERLAKE_PLANTMAPPING

Table B. Summary of Macroinvertebrate Grab Sample Results

Statistic	Sample Location and Depth (feet)						
	A	B	C	D	E	F	G
	5	15	20	25	30	35	50
Taxa Richness	12	16	6	4	5	6	3
Abundance (organisms per sample)	62	77	110	58	64	35	12

Taxa richness was distinctly reduced at and below 20 feet, where the number of taxa ranged from 3 to 6 (**Table B**). The macroinvertebrates collected in this area included only true flies, water mites, and a few worms. Some of the taxa observed in deeper waters are able to migrate through the water column (e.g., the phantom midges [*Chaoborus* spp.]) for the purpose of improved forage, refuge from predators, or to otherwise seek favorable environmental conditions (**Appendix B**). Others, such as *Chironomus* spp. non-biting midges (so-called bloodworms), possess physiological adaptations that allow them to be highly tolerant of low dissolved oxygen for extended periods of time. The sample abundance from locations at or below 20 feet deep ranged from 12 to 110 organisms per grab sample (**Table B**).

The highest taxa richness (16) was observed in grab sample B, which was collected at a depth of 15 feet (**Table B**). Aquatic macrophytes were also noted in this sample, which may have influenced taxa richness by providing additional habitat complexity and surface area for benthic macroinvertebrates.

Grab sample B, collected from 15-feet of water, included a clasping-leaf pondweed plant and hosted the richest macroinvertebrate community of the seven samples collected.

The highest abundance (110) was observed in grab sample C, which was collected at a depth of 20 feet (**Table B**).

The lowest taxa richness (3) and sample abundance (12) were observed in grab sample G, which was collected at a depth of 50 feet (**Table B**).

This study's sampling design and effort were not intended to determine cause and effect. However, lower taxa richness or extreme (high or low) abundance are often associated with greater exposure to ecological stressors. These stressors could include frequent drying in shallow waters or recurring episodes of persistent hypoxic conditions, as was observed in the bottom waters (hypolimnion) of Silver Lake (see Section 2.4.2).

2.4 In Lake Water Quality Monitoring

2.4.1 Technical Approach

The in-lake portion of the Silver Lake Water Quality Monitoring Program included continuous data logging and collecting discrete water quality samples.

Continuous data logging included the deployment of two monitoring arrays at the deepest location in the Lake (SLIL) (**Figure 7**). Data loggers and sensors deployed as part of the in-lake water quality monitoring included the Solinst Levelogger and Cyclops-7. Polyvinyl chloride tubes with pre-drilled holes were used to protect each logger while allowing for the free exchange of water between the water column and the tube. The arrays were fully deployed on November 1, 2021 and removed on December 15, 2021 for winter maintenance and storage. The arrays were redeployed on March 28, 2022 and recovered at the end of the program on October 27, 2022.

A buoy marked the location of the water quality monitoring array deployed in Silver Lake. The array was continuously deployed from November 2021 to October 2022, except for the coldest portions of the winter.

The surface monitoring array, consisting of the Solinst Levelogger to monitor and record depth and temperature, and the Cyclops-7, used to monitor and record chlorophyll a, was placed within five feet of the lake surface. The bottom monitoring array included a second Solinst Levelogger data logger to monitor and record depth and temperature and was placed within five feet of the sediment-water interface. The surface monitoring array was buoyed to allow its movement up and down with changes in water level so that it remained at the same relative depth. The bottom monitoring array was set at a fixed location to effectively track changes in the water level. Each monitoring device was programmed to log measurements at one-hour intervals to provide enough detail to capture diel cycles. The monitoring arrays were removed in December 2021 before the onset of ice cover and redeployed in March 2022 once Silver Lake was ice-free.

Discrete in-lake water quality samples were collected between September 2021 and October 2022 to complement and supplement the continuous data logging program. During each sampling event, discrete in-lake water quality samples were collected from the same in-lake location as the datalogger array (SLIL), and water quality profiles were measured in-situ within the water column.

Water quality samples collected during each sampling event were obtained from three depths within the water column: the surface (SLIL-S), middle (SLIL-M), and bottom (SLIL-B).
Each sample was analyzed for the following:

- Total Phosphorus
- Soluble Phosphorus

- Total Nitrogen (nitrite-N+nitrate-N and Total Kjeldahl N)
- Alkalinity

In addition to the analytes listed above, surface samples (SLIL-S) were also analyzed for the following:

- Chlorophyll a
- *E. coli*
- Algae (Phytoplankton) Enumeration and Identification

Twelve rounds of in-lake phytoplankton samples were collected to monitor the algal community in Silver Lake over the course of the water quality monitoring program. Phytoplankton samples were collected as a grab composite from the top 1.5 feet of the water column. All phytoplankton samples were preserved in Lugol's solution and sent to Aquatic Analysts of Friday Harbor, Washington for identification, enumeration, and estimation of biovolume.

Additionally, the following parameters were field measured:

- pH
- Secchi Disk Transparency
- Apparent Color
- Turbidity
- Water Temperature - *A complete vertical profile at one-meter increments*
- Specific Conductance - *A complete vertical profile at one-meter increments*
- Dissolved Oxygen - *A complete vertical profile at one-meter increments*

More details on the specific field protocols used to collect in-lake water quality data are provided in the Silver Lake Water Quality Monitoring Program SAP.

2.4.2 Analytical Results

Water Temperature

Water temperature in Silver Lake followed the expected seasonal cycle throughout the water quality monitoring program, as indicated by field-measured and logger data retrieved from the in-lake sample location (SLIL). Water temperature was consistent throughout the water column during the winter months, as cool dense water is evenly distributed, or fully mixed, throughout the water column. As air temperature begins to increase, so do surface water temperatures. The warm surface waters in the summer months are less dense than the cool water at middle and bottom depths, resulting in thermal stratification or distinct temperature layers throughout the water column. Thermal stratification was observed by April, and an upward progression toward warmer surface water temperatures was evident until July, when temperatures reached a mid-summer plateau. Silver Lake's peak surface water temperature was recorded on August 9, 2022, reaching approximately 29°C, based on datalogger data. By September, surface water temperatures began to decline, and diel cycles were more likely to be masked by storm events and airmass changes (**Figure 8**).

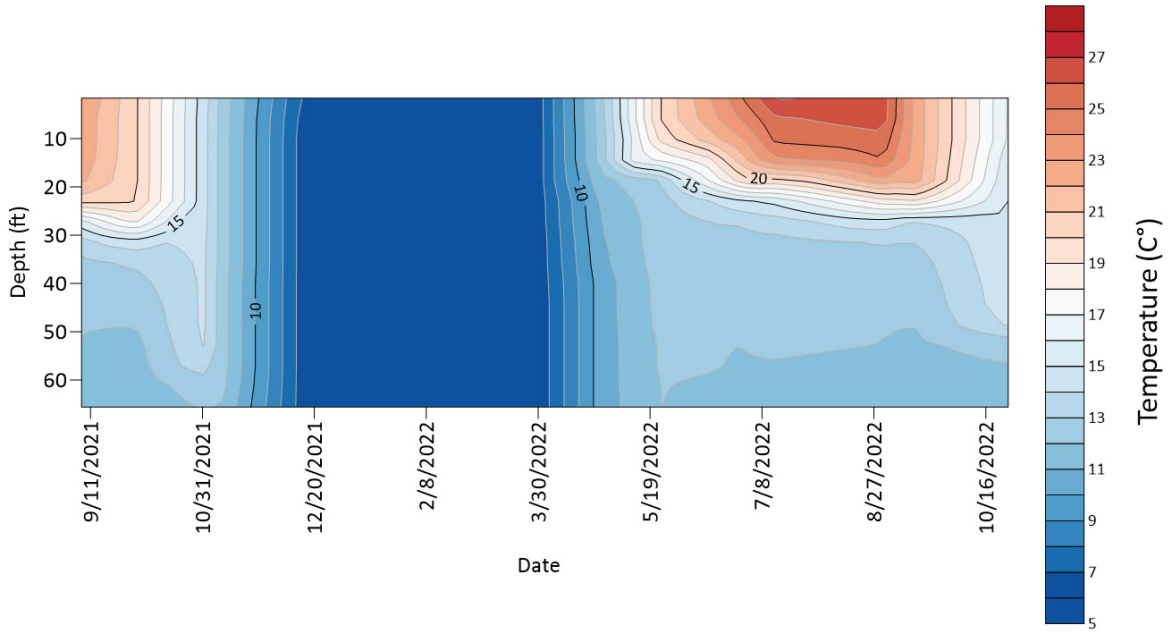


Figure 8. In-Lake Water Temperature

Dissolved Oxygen

Dissolved oxygen is a measure of oxygen gas dissolved in water and is essential for aerobic respiration by aquatic life. Oxygen solubility in water decreases with increased water temperature and varies with barometric pressure and salinity. Therefore, dissolved oxygen can be measured as both a raw concentration and as a percentage of saturation.

In-lake dissolved oxygen concentrations obtained throughout the water quality monitoring program indicate that dissolved oxygen concentrations are consistently sufficient to support aquatic life (greater than 5.0 mg/L) at depths less than six meters (**Figure 9**). Hypoxic conditions (less than 5.0 mg/L, more than 2.0 mg/L) were first observed in September 2021 at seven meters and transitioned to anoxic (less than 2.0 mg/L) at depths greater than eight meters. Similarly, in October 2021, hypoxic conditions began at eight meters and then transitioned to anoxic at nine meters. In early November, anoxic conditions were observed at depths greater than 17 meters; however, by mid-November, dissolved oxygen concentrations were sufficient to support aquatic life throughout the water column. Hypoxic conditions were not observed in December 2021 or between March and May 2022. In June, hypoxic conditions were observed at seven meters and transitioned to anoxic beyond eight meters. In July and August, dissolved oxygen concentrations were sufficient to support aquatic life until five meters and then transitioned to anoxic by six and seven meters, respectively. Similar to conditions observed in September 2021, hypoxic and anoxic conditions were observed at and beyond seven meters in September 2022. By October, dissolved oxygen concentrations were sufficient to support aquatic life until approximately 13 meters, became hypoxic at 14 meters, and anoxic at depths greater than 15 meters.

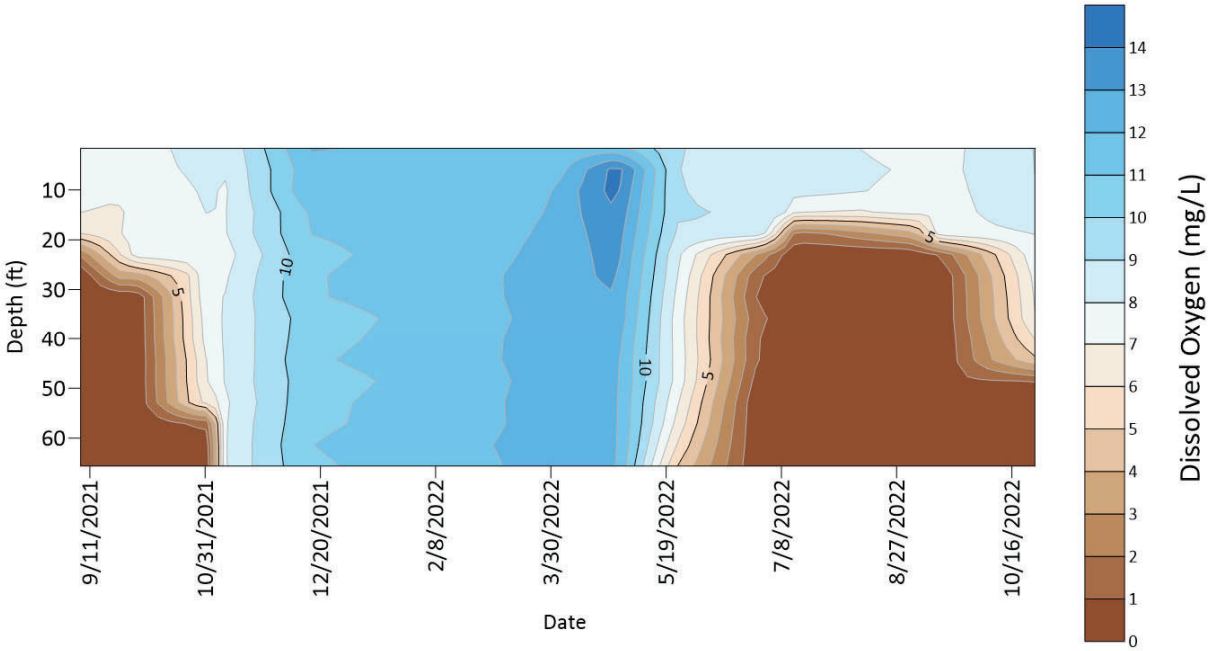


Figure 9. In Lake Dissolved Oxygen

Specific Conductance

Specific conductance is a measure of electrical conductivity in the water and is standardized to a temperature of 25°C. Although specific conductance can be affected by the presence of any charged materials in the water, it is most responsive to dissolved salts.

Field-measured specific conductance in Silver Lake was typical of a freshwater system (i.e., less than 1,000 µS/cm) throughout the water quality monitoring program. As measured from the in-lake sample location (SLIL), specific conductance ranged from 184.6 µS/cm (SLIL-S) in September 2021 to 235.2 µS/cm (SLIL-B) in October 2022 (**Table C**).

pH

The measurement of pH is used to determine the degree to which water is acidic or basic. The pH scale extends from 0 (strongly acidic) to 14 (strongly basic), with seven being neutral. The pH of most natural waters in the region falls near the middle of the scale (circumneutral). However, it can vary by season or even on a diel basis, especially in poorly buffered waters.

Field-measured data collected as part of the water quality monitoring program suggests that water in Silver Lake is generally circumneutral, varying from a low of 6.06 SU (SLIL-B) in April 2022 to a maximum of 8.54 SU in December 2021 (SLIL-B) (**Table C**). The median pH at the in-lake sample location's surface, middle and bottom depths were 7.17 SU, 6.71 SU, and 6.84 SU, respectively.

Table C. Summary of Field-Measured Water Quality Data of Silver Lake, Tributaries, and Outlet

Parameter	Units	Statistics	Furnace Pond Diversion (FPD)	East Monponsett Pond Diversion (EPD)	Tubbs Meadow Brook (SLT-1)	Little Brook (SLT-2)	Mirage Brook (SLT-3)	Silver Lake In-Lake Surface (SLIL-S)	Silver Lake In-Lake Middle (SLIL-M)	Silver Lake In-Lake Bottom (SLIL-B)	Jones River (SLT-D)
Temperature	°C	Max	22.6	21.60	22.00	19.80	24.90	27.10	14.80	12.10	22.20
		Median	14.70	14.80	14.40	13.15	14.35	19.90	12.90	11.70	14.10
		Min	7.3	6.80	2.30	2.80	0.30	6.30	6.30	6.10	1.10
Dissolved Oxygen	mg/L	Max	14.60	13.75	10.72	12.03	13.67	12.10	13.56	11.60	14.56
		Median	8.28	8.06	5.98	7.95	8.01	8.40	6.93	0.05	5.12
		Min	7.04	7.76	2.86	5.42	3.43	7.35	0.01	0.01	1.47
Dissolved Oxygen	%	Max	121.00	113.4	87.3	89.0	95.4	105.7	98.3	92.4	106.2
		Median	88.8	90.4	51.0	75.9	73.4	92.8	12.5	0.5	57.0
		Min	69.60	78.4	33.0	55.2	41.2	76.5	0.1	0.1	15.7
Specific Conductance	µS/cm	Max	272.5	205.2	195.6	360.0	210.4	201.1	212.5	235.2	375.0
		Median	258.8	200.8	171.1	139.4	153.9	191.8	193.5	210.0	196.7
		Min	251.3	188.2	132.0	113.4	111.6	184.6	185.5	185.8	175.8
pH	SU	Max	6.95	6.86	6.62	6.20	6.40	7.90	7.83	8.54	7.61
		Median	6.56	6.80	6.01	5.29	5.61	7.17	6.71	6.84	6.65
		Min	6.15	6.32	5.21	4.10	4.70	6.61	6.29	6.06	5.83
Turbidity	NTU	Max	1.53	0.87	19.94	2.78	4.54	2.80	6.23	5.48	3.36
		Median	1.160	0.61	6.79	1.12	1.34	1.11	2.25	2.19	2.38
		Min	0.950	0.27	1.01	0.13	0.13	0.18	0.10	0.10	0.32
Secchi Depth	m	Max	2.00	1.75	-	-	-	3	-	-	-
		Median	1.75	1.00-	-	-	-	2	-	-	-
		Min	1.25	0.75	-	-	-	1	-	-	-

Turbidity, Apparent Color, and Secchi Depth

Turbidity is a measure of water clarity as sensed by the scattering of light through water. Colloidal and suspended materials in the water column raise turbidity. Turbidity is affected by the size, shape, color, and concentration of materials in water and has an inverse relationship with transparency. MassDEP's surface water quality standards (314 CMR 4.00) set a narrative standard for color and turbidity that surface waters shall be free from color and turbidity unless naturally occurring.

Field-measured data collected as part of the water quality monitoring program indicate that turbidity, as measured from the surface, middle, and bottom depths of the in-lake sample location, ranged from 0.10 NTU (July 2022, SLIL-M and SLIL-B) to 6.23 NTU (**Table C**). However, the median turbidity measurement varied only slightly among surface, middle, and bottom sampling depths, ranging from 1.11 NTU to 2.25 NTU.

Apparent color is related to turbidity and is affected by several variables, including the presence of dissolved organic carbon (DOC), algae, and other particulates. Apparent color was generally consistent at the in-lake sample location (SLIL) throughout the water quality monitoring program, with a median color measurement of 10 PCU (Appendix C), which is relatively low in color.

Secchi depth is a measure of water transparency, as indicated by a Secchi disk. The value indicates the deepest point at which the Secchi disk is visible. Although Secchi depth does not directly represent the depth limit of light penetration or plant growth, it provides a depth-integrated and easily understood measure of transparency in surface waters.

Secchi depth ranged from a low of one meter to a maximum of three meters (**Table C**). The median Secchi depth was two meters. MassDEP assessment methodology (MassDEP 2022b) applies a guideline of Secchi disk transparency <1.2 m for nutrient-related impairment decisions (rivers, lakes, estuaries).

Turbidity, color, and Secchi disk measurements suggest that Silver Lake is somewhat turbid with occasional periods of higher turbidity and lower transparency, possibly due to algae, particulate matter, and/or dissolved organic compounds.

Nutrients

High levels of nutrients (e.g., nitrogen and phosphorus) in the water column can lead to undesirable biological consequences. For example, floating plants like duckweed and watermeal may grow to excessive levels when soluble inorganic nitrogen (e.g., nitrate, ammonia) and phosphorus are present at high concentrations. Likewise, high levels of these nutrients may also trigger excessive algal growth, leading to bloom conditions and, under certain conditions, dominance by harmful species of cyanobacteria. Phosphorus tends to be the limiting nutrient in freshwater ponds, although this can vary between water bodies and over time at the same water body. Co-limitation by phosphorus and nitrogen can also occur.

Total phosphorus concentrations ranged from 0.003 mg/L to 0.313 mg/L at the in-lake sample location, with a median concentration of 0.023 mg/L (**Table D**). With the exception of the December 2021, concentrations of total phosphorus increased with depth throughout the water

quality monitoring program. The median total phosphorus concentrations at SLIL-S, SLIL-M, and SLIL-B were 0.018 mg/L, 0.025 mg/L, and 0.056 mg/L, respectively.

Table D. Summary of Laboratory-Analyzed Baseline Water Quality Data

Parameter	Units	Statistic	Furnace Pond Diversion (FPD)	East Monponsett Pond Diversion (EPD)	Tubbs Meadow Brook (SLT-1)	Little Brook (SLT-2)	Mirage Brook (SLT-3)	Silver Lake In-Lake - Surface (SLIL-S)	Silver Lake In-Lake Middle (SLIL-M)	Silver Lake In-Lake - Bottom (SLIL-B)	Jones River (Outlet) (SLT-D)
Alkalinity	mg/L	Max	8	11.1	-	-	-	15.2	22.8	30.5	-
		Median	6.7	9.5	-	-	-	13.5	14.9	15.95	-
		Min	5.8	9.0	-	-	-	8.8	9.7	10.3	-
Dissolved Phosphorus	mg/L	Max	0.028	0.019	0.091	0.04	0.13	0.021	0.086	0.297	0.028
		Median	0.017	0.013	0.042	0.015	0.017	0.01	0.0155	0.028	0.016
		Minimum	0.008	0.012	0.006	0.003	0.003	0.003	0.003	0.003	0.003
Nitrite-N	mg/L	Max	0.01	0.01	0.014	0.014	0.012	0.01	0.01	0.01	0.054
		Median	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		Minimum	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Nitrate-N	mg/L	Max	0.02	0.17	0.18	0.31	0.47	0.1	0.08	0.08	0.32
		Median	0.02	0.07	0.06	0.135	0.21	0.02	0.02	0.02	0.11
		Minimum	0.02	0.04	0.03	0.04	0.02	0.02	0.02	0.02	0.02
Total Kjeldahl Nitrogen	mg/L	Max	0.68	0.51	0.86	2.06	1.13	0.5	0.95	1.52	1.41
		Median	0.57	0.38	0.48	0.42	0.60	0.38	0.41	0.49	0.46
		Minimum	0.51	0.33	0.35	0.12	0.27	0.28	0.31	0.35	0.29
Total Nitrogen	mg/L	Max	0.7	0.58	0.9	2.23	1.6	0.5	0.95	1.52	1.52
		Median	0.57	0.55	0.58	0.525	0.7	0.38	0.45	0.5	0.6
		Minimum	0.51	0.37	0.44	0.34	0.49	0.33	0.31	0.35	0.32

Table D. Summary of Laboratory-Analyzed Baseline Water Quality Data

Parameter	Units	Statistic	Furnace Pond Diversion (FPD)	East Monponsett Pond Diversion (EPD)	Tubbs Meadow Brook (SLT-1)	Little Brook (SLT-2)	Mirage Brook (SLT-3)	Silver Lake In-Lake - Surface (SLIL-S)	Silver Lake In-Lake Middle (SLIL-M)	Silver Lake In-Lake - Bottom (SLIL-B)	Jones River (Outlet) (SLT-D)
Total Phosphorus	mg/L	Max	0.088	0.049	0.164	0.268	0.040	0.041	0.099	0.313	0.364
		Median	0.035	0.034	0.114	0.017	0.022	0.018	0.025	0.056	0.032
		Minimum	0.024	0.023	0.035	0.003	0.003	0.003	0.004	0.008	0.008
Chlorophyll a	mg/m3	Max	22.4	8.31	-	-	-	12.1	-	-	-
		Median	7.47	4.91	-	-	-	6.42	-	-	-
		Minimum	6.76	2.63	-	-	-	4.1	-	-	-
E. coli	MPN/100 mL	Max	40.44	14.8	-	-	-	5.16	-	-	-
		Median	31.45	2.02	-	-	-	2.02	-	-	-
		Minimum	6.32	1	-	-	-	1	-	-	-
Microcystins/Nodularins	(µg/L)	Max	0.3	0.3	-	-	-	12.55	-	-	-
		Median	0.3	0.3	-	-	-	0.83	-	-	-
		Minimum	0.3	0.3	-	-	-	0.83	-	-	-
"– "= Not Applicable											

Dissolved phosphorus concentrations ranged from 0.003 mg/L to 0.297 mg/L at the in-lake sample location, with a median concentration of 0.014 mg/L (**Table D**). Concentrations of dissolved phosphorous generally increased with depth throughout the water quality monitoring program. The median dissolved phosphorus concentrations of SLIL-S, SLIL-M, and SLIL-B were 0.010 mg/L, 0.016 mg/L. and 0.028 mg/L, respectively. These concentrations suggest that phosphorus is plentiful within Silver Lake. The highest concentrations of total and dissolved phosphorus values were observed in late summer with a peak in mid-September. The EPA Gold Book criteria can provide context for interpreting the level of total phosphorus measured in Silver Lake. Maximum concentrations of total phosphorus are above the EPA Gold Book criteria of 0.025 mg/L in surface, middle and bottom waters. Since MassDEP has a narrative nutrient standard, target concentrations of phosphorus need to be established for Silver Lake and are likely to be below the Gold Book value based on the target concentration of 0.018 mg/L established in the East and West Monponsett Pond TMDL Report (MassDEP 2022a). The median total phosphorus would be at or exceeded at surface, middle and bottom waters If the Monponsett Pond target is applied to Silver Lake.

Total nitrogen concentrations at the in-lake sample location ranged from 0.31 mg/L to 1.52 mg/L, with a median concentration of 0.45 mg/L (**Table D**). Nitrate-N concentrations ranged from less than 0.02 mg/L to 0.10 mg/L, with a median of concentration of less than 0.02 mg/L. Total Kjeldahl nitrogen concentrations ranged from 0.28 mg/L to 1.52 mg/L, with a median concentration of 0.41 mg/L. Overall, Total Kjeldahl nitrogen concentrations generally increased with depth.

The Redfield ratio provides a framework through which to interpret phosphorus and nitrogen relative to each other. It assumes that the 16:1 molar ratio of nitrogen to phosphorus found, on average, in algal cells, is the ideal balance of these nutrients to sustain growth. Above this ratio, nitrogen would be relatively plentiful, making phosphorus the limiting nutrient and vice versa below this ratio. In Silver Lake, N:P ratios were sometimes greater than the 16:1 molar ratio and sometimes less than the 16:1 molar ratio. This suggests that the growth of algae in Silver Lake varies between phosphorus limited and nitrogen limited.

Alkalinity

Alkalinity is the capacity of water to resist changes in pH (also known as acid neutralizing capacity) and is driven largely by the bedrock and soil that water comes into contact with prior to entering a pond. However, anthropogenic sources (e.g., soil liming) may also influence the alkalinity of surface waters. Waters with higher alkalinity are less susceptible to fluctuations in pH from acid deposition or pollutants.

Alkalinity concentrations at the in-lake sample location ranged from 8.8 mg/L to a maximum of 30.6 mg/L, with a median of 14.5 mg/L (**Table D**). These low concentrations are typical of softwater lakes and ponds in eastern Massachusetts, where limestone bedrock is rare and indicate there is limited buffering capacity.

Chlorophyll a

Algal density is inferred by measuring the fluorescence of chlorophyll a, a pigment found in algal cells. High chlorophyll a levels are associated with elevated algal production.

Results of the laboratory analysis of surface samples (SLIL-S) for chlorophyll a ranged from 4.1 mg/m^3 to 12.1 mg/m^3 (**Table D, Figure 10**) Although there is no numerical standard for chlorophyll a, the Massachusetts Department of Environmental Protection's Consolidated Assessment and Listing Methodology (CALM) suggests an impairment threshold of 16 mg/m^3 . Based on the laboratory analysis alone, chlorophyll a Silver Lake did not exceed this threshold.

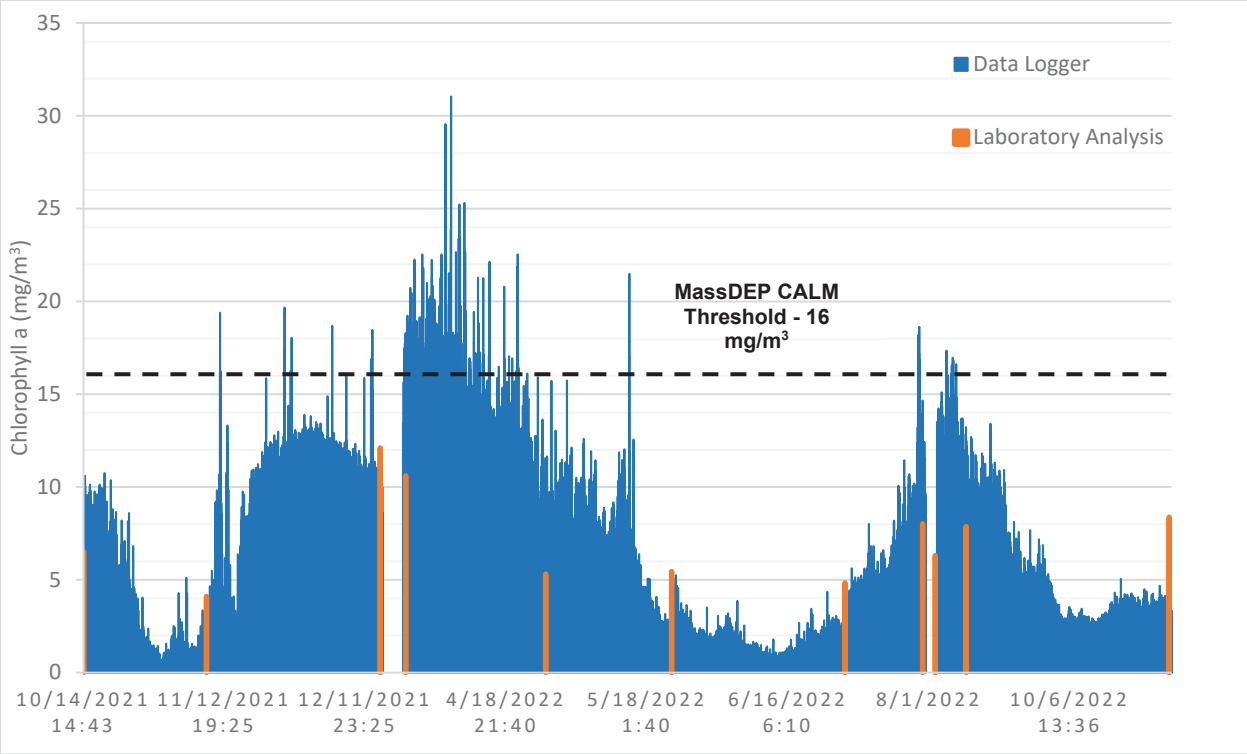


Figure 10. Chlorophyll a in Silver Lake

The laboratory-analyzed samples generally follow the same trend as concentrations collected by the data logger in 2021 (**Figure 10**). However, they tend to deviate somewhat from the trend in 2022, particularly in early spring and late summer, when peak values recorded by the data logger were sometimes substantially higher than the laboratory sample results. Data logger concentrations were highest in early April 2022, reaching as high as 31 mg/m^3, but levels dropped substantially by early May and continued to decline until early to mid-June 2022. Concentrations steadily increased again into July and August, before returning to lower levels in October 2022. between mid-June and July and generally plateaued between July and mid-September. Concentrations rapidly declined between mid-September and mid-October and remained relatively low for the remainder of the water quality monitoring program.

Phytoplankton

Seventy-four algal taxa were detected in the quantitative phytoplankton samples collected from Silver Lake, including cyanobacteria, diatoms, chrysophytes, dinoflagellate, euglenoid, and green algae. Peak phytoplankton biovolume occurred in late March, and peak abundance occurred in mid-July.

Although no cyanobacteria blooms (as defined by cell density greater than 70,000 cells/mL) were directly observed in Silver Lake, cyanobacteria were the dominant phytoplankton group during most rounds of sampling, including early spring (**Figure 11**). Although cyanobacteria are commonly considered to be favored during the warmest parts of the year, recent evidence suggests that cyanobacteria can also flourish during cold weather, even under ice cover (Reinl et al. 2023). Therefore, the seasonal patterns in cyanobacteria populations observed at Silver Lake during this study may not be that unusual. *Aphanizomenon flos-aquae*, a species of potentially toxigenic cyanobacteria, constituted the highest total biovolume in samples collected over the course of the water quality monitoring program, followed by the diatom *Tabellaria flocculosa* and two other cyanobacteria species (*Anabaena [Dolichospermum] planctonica* and *Oscillatoria limnetica*; **Table E**).

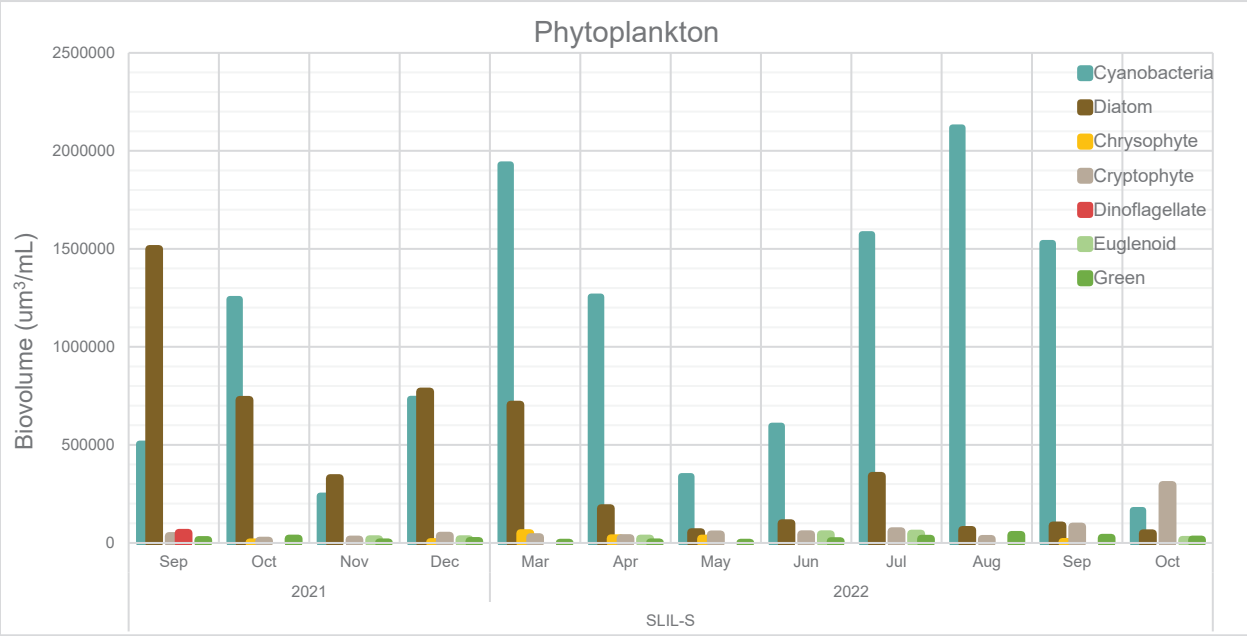


Figure 11. Phytoplankton Summary for Silver Lake

Cyanotoxins

Cyanotoxins, including anatoxin, microcystin, cylindrospermopsin, and nodularin, are toxins produced by cyanobacteria. These toxins are harmful to humans and other animals; therefore, elevated levels of these compounds are highly undesirable in drinking water reservoirs. US EPA has issued drinking water health advisory (HA) technical guidance for microcystin and cylindrospermopsin. Health advisories apply to finished drinking water, which was not sampled as part of the Silver Lake Water Quality Monitoring Program. Additionally, they are not enforceable regulations. However, since Silver Lake is a source drinking water reservoir, the HA levels provide a useful context for understanding cyanotoxin results.

Table E. Cumulative Biovolume of Groups and Species of Phytoplankton within Silver Lake

Species	Cyanobacteria	Diatom	Cryptophyte	Euglenoid	Chrysophyte	Green	Dinoflagellate	Total
Aphanizomenon [Dolichospermum] flos-aquae	4,313,290							4,313,290
Tabellaria fenestrata		2,445,698						2,445,698
Anabaena planctonica	1,026,119							1,026,119
Oscillatoria limnetica	936,479							936,479
Melosira italica		698,562						698,562
Gomphosphaeria wichurae	368,701							368,701
Asterionella formosa		301,006						301,006
Cyclotella ocellata		262,106						262,106
Melosira ambigua		231,643						231,643
Cryptomonas erosa			212,813					212,813
Fragilaria crotonensis		143,345						143,345
Anabaena [Dolichospermum] flos-aquae	116,479							116,479
Cyclotella comta		105,939						105,939
Cyclotella kutzingiana		74,958						74,958
Trachelomonas volvocina				70,475				70,475
Chrysococcus rufescens					60,369			60,369
Peridinium cinctum							51,195	51,195
Limnothrix sp.	42,247							42,247
Synedra radians		35,573						35,573
Microcystis aeruginosa	24,378							24,378
Sphaerocystis schroeteri						24,327		24,327
Rhodomonas minuta			23,900					23,900

Table E. Cumulative Biovolume of Groups and Species of Phytoplankton within Silver Lake

Species	Cyanobacteria	Diatom	Cryptophyte	Euglenoid	Chrysophyte	Green	Dinoflagellate	Total
Trachelomonas scabra				21,324				21,324
Synedra rumpens		17,346						17,346
Kephyrion spirale					16,333			16,333
Ulothrix sp.						13,168		13,168
Navicula cryptocephala		11,891						11,891
Eunotia pectinalis		9,876						9,876
Trachelomonas hispida				9,672				9,672
Dinobryon sertularia					8,897			8,897
Microcystis sp.	8,779							8,779
Kephyrion littorale					8,445			8,445
Oocystis pusilla						5,967		5,967
Achnanthes minutissima		5,735						5,735
Melosira granulata		5,066						5,066
Cyclotella meneghiniana		5,064						5,064
Crucigenia crucifera						4,144		4,144
Nitzschia acicularis		3,732						3,732
Mallomonas sp.					3,668			3,668
Aphanothece sp.	2,962							2,962
Ankistrodesmus falcatus						2,876		2,876
Pediastrum tetras						2,705		2,705
Cosmarium sp.						2,560		2,560
Kephyrion sp.					2,128			2,128
Amphora perpusilla		1,920						1,920
Nitzschia capitellata		1,658						1,658
Anomoeoneis vitrea		1,158						1,158

Table E. Cumulative Biovolume of Groups and Species of Phytoplankton within Silver Lake

Species	Cyanobacteria	Diatom	Cryptophyte	Euglenoid	Chrysophyte	Green	Dinoflagellate	Total
Oocystis lacustris						951		951
Crucigenia quadrata						783		783
Cymbella microcephala		727						727
Cyclotella stelligera		670						670
Navicula minima		604						604
Nitzschia paleacea		451						451
Total	6,839,435	4,364,729	236,713	101,471	99,841	57,481	51,195	11,750,864

Samples collected and analyzed at the laboratory indicate microcystin concentrations exceeded the US EPA's HA level of 0.3 µg/L for microcystin at the in-lake sample location (SLIL-S) in November and December 2021 and between March and June 2022 but were below the laboratory method reporting limit in July, September, and October 2022 (**Table F**).

Table F. Cyanotoxins in Silver Lake

Location	Units	9/7/21	10/14/21	11/9/21	12/15/21	3/29/22	4/27/22	5/23/22	6/28/22	7/14/22	8/31/22	9/15/22	10/27/22
SLIL-S	µg/L	-	-	**0.83**	**4.20**	**12.55**	**3.88**	**3.48**	**0.70**	0.30*	-	0.30*	0.30*
BOLD = Above the EPA's 10-Day Drinking Water HA level of 0.3 µg/L for bottle fed infants up to school age children. HA applicable only to finished drinking water, not in-lake source water, but provided for context.													
"– "= Not Analyzed; *Not detected at reporting limit													

Bacteria

Fecal coliform bacteria, such as *E. coli,* occur in the digestive tracts of humans and other animals. Although *E. coli* and other coliform bacteria may not always directly cause illness, they serve as indicators of fecal contamination and possible pathogens. *E. coli* detections in finished drinking water are considered unacceptable. Therefore, elevated numbers of *E. coli* would be highly undesirable in drinking water reservoirs.

E. coli concentrations in Silver Lake ranged from less than 1 MPN/100 mL to 5.16 MPN/100 mL, with a median concentration of 2.02 MPN/100 ml. The greatest concentrations of *E. coli* were observed the summer months, peaking in mid-September (**Table G**).

These levels are generally consistent with what would be expected for a drinking water reservoir. Although Silver Lake is not open to recreation, the observed levels of *E. coli* are also well within the state criteria for primary and secondary contact recreation.

Table G. Bacteria in Silver Lake

Location	Units	9/7/21	10/14/21	11/9/21	12/15/21	3/29/22	4/27/22	5/23/22	6/28/22	7/14/22	8/31/22	9/15/22	10/27/22
SLIL-S	MPN/100 ml	<1	<1	2.02	-	2.10	<1	2.02	2.02	<1	3.06	5.16	2.02
"– " = Not Analyzed													

2.5 Upstream and Downstream Monitoring

2.5.1 Tributaries and Outlet Water Quality Monitoring

2.5.1.1 Technical Approach

Upstream and downstream monitoring was conducted to improve understanding of the hydrologic and nutrient budgets for Silver Lake. Upstream and downstream monitoring began in October 2021 and extended through October 2022, inclusive of the winter months.

To ensure the acquisition of the most useful and complete dataset over a short period of time, the upstream and downstream monitoring components of the water quality monitoring program included continuous data logging, collection of discrete water quality samples, and direct measurement of discharge.

Upstream and downstream water quality monitoring included the deployment of four sealed (unvented) water level loggers, each of which was programmed to measure and record depth and temperature at one-hour intervals.

One water level logger was placed within each of the following upstream and downstream locations:

- Tubbs Meadow Brook (SLT-1)
- Little Brook (SLT-2),
- Mirage Brook (SLT-3),
- Jones River (SLT-D) (Outlet)

Because the four water level loggers were sealed (unvented), a fifth pressure logger (Solinst Barologger) was deployed in a discreet location to allow for continuous atmospheric pressure correction.

Thirteen rounds of discrete upstream and downstream water quality and twelve rounds of discharge measurements were conducted between October 2021 and October 2022 to complement and supplement the continuous data logging component of the water quality monitoring program. Two of the twelve monitoring events were conducted during, or soon after, wet weather conditions to capture the impact of stormwater runoff.

Discrete water quality samples and discharge measurements were collected from each of the four upstream and downstream sampling locations.

Water quality samples collected during each sampling event were obtained from the surface and analyzed for the following:

- Total Phosphorus (low detect)
- Soluble Phosphorus (low detect)
- Total Nitrogen (nitrite-N+nitrate-N and Total Kjeldahl Nitrogen)

Additionally, the following parameters were field measured:

- pH
- Apparent Color
- Turbidity
- Specific Conductance
- Temperature
- Dissolved Oxygen
- Stream Discharge

The discharge measurements collected in each stream monitoring location were used to develop stage-discharge rating curves. These curves were used to convert logger water levels into a continuous discharge record for the period of study, allowing for the estimation of surface water contaminant loads from surface tributaries into Silver Lake and out of the lake into downstream waters.

Collecting discharge measurements at SLT-2 (left) and water quality samples at SLT-1 (right).

More details on the specific field protocols used to collect tributary and outlet data are provided in the Silver Lake Water Quality Monitoring Program SAP.

2.5.1.2 Analytical Results

Results are summarized in the following sections, and detailed results are presented in **Appendix B and C**.

Discharge

Over the period of record for this study, discharge rates from the tributaries and outlet location were highest during late winter 2022, steadily decreased throughout the spring, and remained low over most of summer through early autumn (**Figure 12**). Except for SLT-1, where baseflow maintained some level of discharge over the course of the summer, each monitoring location was observed to have intermittent flows at some point during this study.

The Jones River at SLT-2 was nearly dry during the June 28, 2022 field visit.

Among the tributaries, discharge rates were the greatest from SLT-1, with peak discharge occurring in February 2022. The average and median discharge rates from SLT-1 was 1.146 and 0.698 cubic feet per second, respectively.

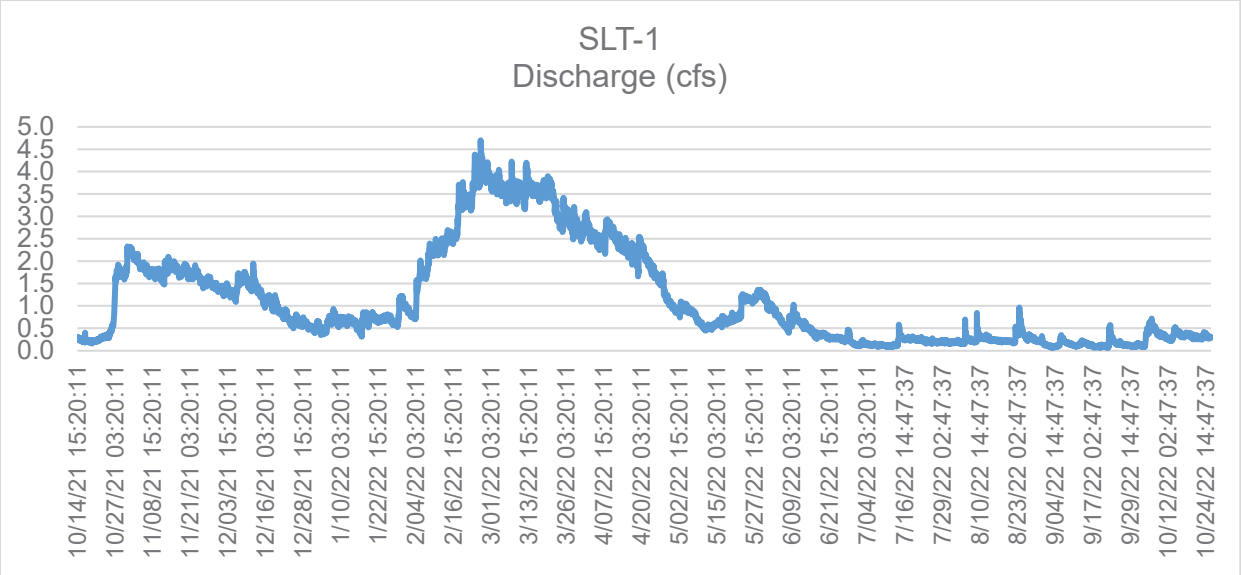
Discharge rates from SLT-2 and SLT-3 were generally low, averaging 0.066 and 0.138 cubic feet per second, respectively. These locations were also flashy, rising quickly in response to precipitation events, then receding back to very low baseflow conditions or drying out, depending on the season.

The highest rates of discharge at SLT-D were observed during the winter months, with the greatest discharge occurring in February 2022, at a rate of 32.81 cubic feet per second. Discharge rates decreased steadily through the spring months until flow appeared to cease sometime in June 2022 (June 22, based on the continuous stream datalogger estimate). From then until approximately mid-October 2022 – a period of about four months – SLT-D was either dry or barely flowing.

Dissolved Oxygen

Field measured dissolved oxygen concentrations at SLT-1 were sufficient to support aquatic life (greater than 5.0 mg/L) until April 2022; however, likely due to low or no-flow at this location, hypoxic conditions were documented for the remainder of the water quality monitoring program (**Table C**). Dissolved oxygen concentrations at SLT-2 and SLT-3 indicate minimum dissolved oxygen concentrations are generally sufficient to support aquatic life.

Dissolved oxygen concentrations at SLT-D (Outlet) were sufficient to support aquatic life through April 2022. With the exception of September 2022, where dissolved oxygen concentrations increased to slightly above 5.0 mg/L, hypoxic and anoxic conditions persisted at SLT-D (Outlet) for the remainder of the water quality monitoring program. Similar to SLT-1, hypoxic and anoxic conditions observed at this location were associated with low or no-flow conditions.



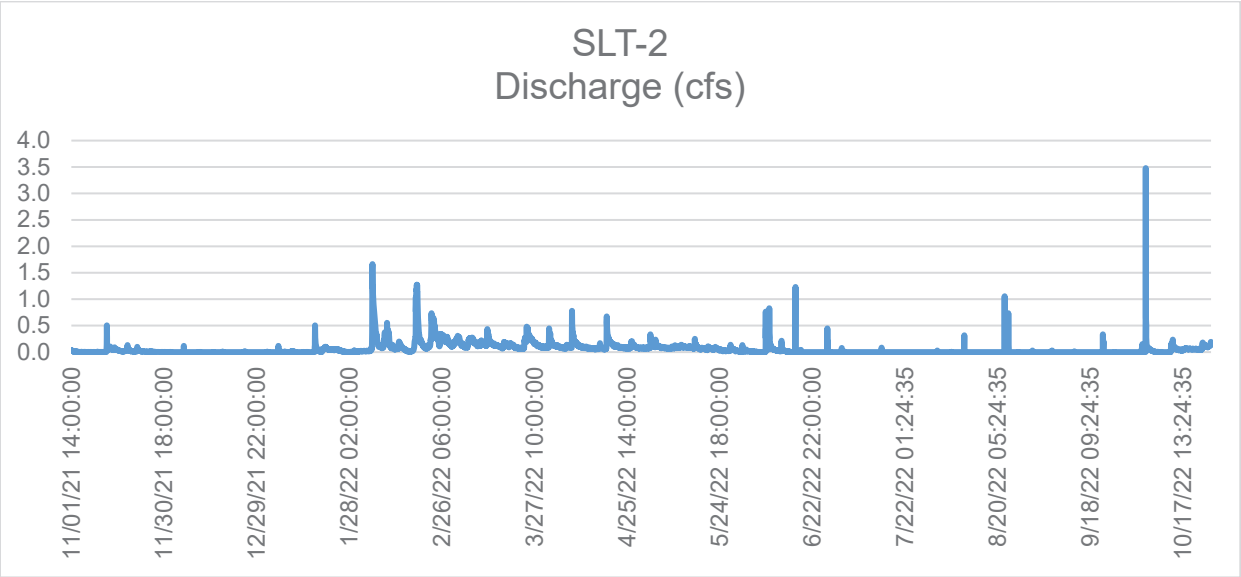
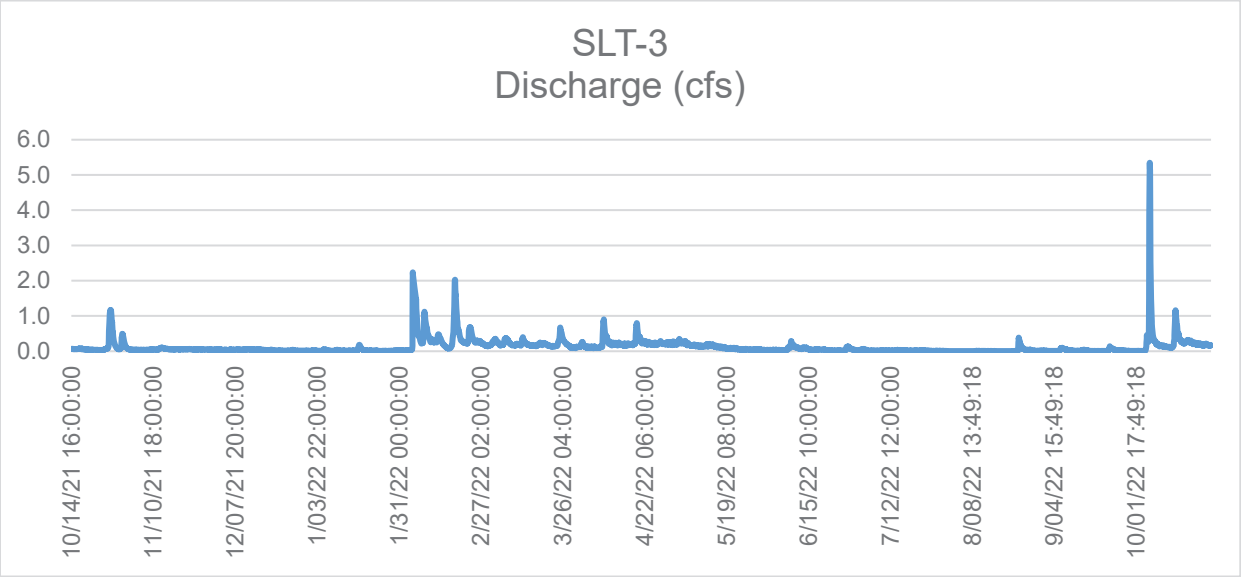


Figure 12. Stream Discharge Rates



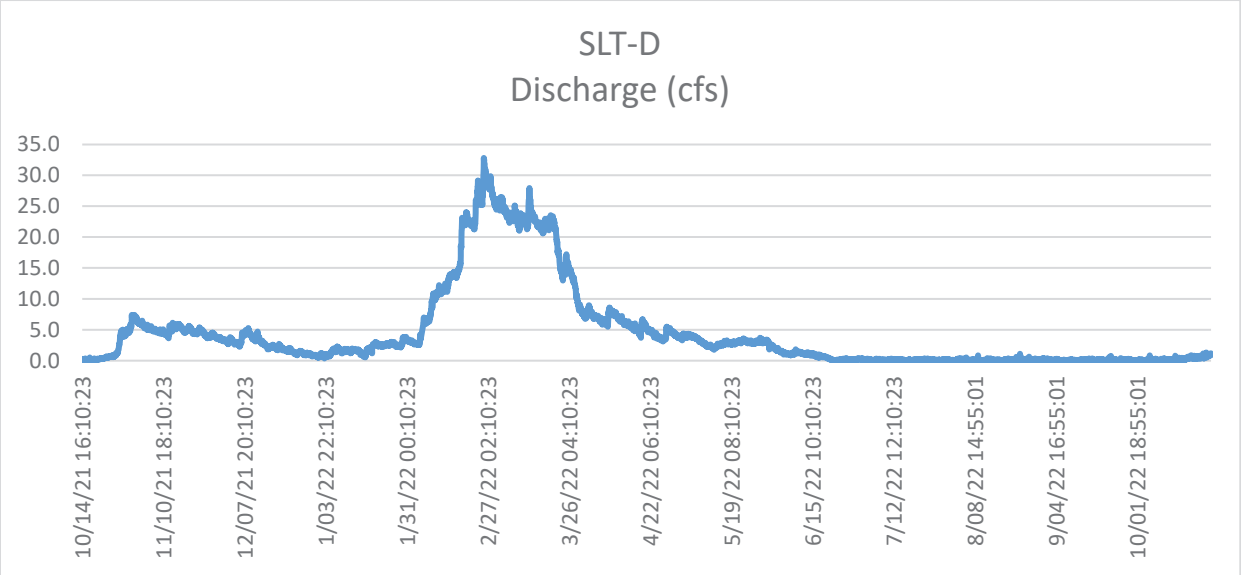


Figure 12. Stream Discharge Rates (continued)

Specific Conductance

The greatest specific conductance reading observed among the tributaries was at SLT-2 (360 µS/cm) and the lowest specific conductivity reading was at SLT-3 (111.6 µS/cm). The greatest specific conductance reading observed at the Outlet was 375 µS/cm, and the lowest at the Outlet was 175.8 µS/cm (**Table C**).

pH

Field-measured data collected as part of the water quality monitoring program indicate somewhat acidic conditions at the three tributaries. Among the tributaries, the lowest pH was 4.10 SU at SLT-2, and the greatest was 6.62 SU at SLT-1 (**Table C**).

The Outlet exhibited somewhat acidic to circumneutral conditions throughout the water quality monitoring program. The maximum pH observed at SLT-D was 7.61 SU, and the lowest was 5.83 SU. The median pH at the SLT-D was 6.65 SU.

Turbidity

Field-measured data collected as part of the sampling program indicate that turbidity at the tributaries varied from a low of 0.13 NTU to a maximum of 19.54 NTU (**Table C**). Turbidity at the Outlet (SLT-D) ranged from 0.32 NTU to 3.36 NTU. Among the tributaries and outlet sample locations, turbidity levels were generally the greatest at SLT-1, with an average turbidity of approximately 6.85 NTU. The median turbidity levels at SLT-1, SLT-2, SLT-3, and SLT-D were 6.79 NTU, 1.12 NTU, 1.34 NTU, and 2.38, respectively.

Apparent Color

Apparent color values were unremarkable, never exceeding 30 PCU and are provided in **Appendix C**.

Nutrients

Total phosphorus concentrations at the tributaries varied, ranging from 0.003 to 0.268 mg/L (**Table D**). Although the tributary sample with the greatest concentration of total phosphorus was obtained from SLT-2 (0.268 mg/L), concentrations of total phosphorus were generally the greatest at SLT-1 throughout the water quality monitoring program. The average concentration at SLT-1, SLT-2, and SLT-3 were 0.102, 0.41, and 0.021 mg/L, respectively. Total phosphorus concentrations at the Outlet (SLT-D) ranged from 0.008 to 0.364 mg/L, with a median concentration of 0.032 mg/L and an average concentration of 0.062 mg/L.

Dissolved phosphorus concentrations at the tributaries ranged from 0.003 to 0.130 mg/L (**Table D**). The average concentration at SLT-1, SLT-2, and SLT-3 were 0.045, 0.018, and 0.024 mg/L, respectively. Dissolved phosphorus concentrations at the Outlet ranged from 0.003 to 0.028 mg/L, with a median concentration of 0.016 mg/L and an average concentration of 0.014 mg/L.

Total nitrogen concentrations at the tributaries ranged from 0.34 mg/L to 2.23 mg/L (**Table D**). The average concentration at SLT-1, SLT-2, and SLT-3 were 0.62, 0.69, and 0.80 mg/L. Total nitrogen concentrations at Outlet (SLT-D) ranged from 0.32 mg/L to 1.52 mg/L, with a median concentration of 0.60 mg/L and an average concentration of 0.66 mg/L.

Nitrate-N concentrations at the tributaries varied, ranging from 0.02 to 0.47 mg/L (**Table D**). The average concentration at SLT-1, SLT-2, and SLT-3 were 0.08, 0.15, and 0.21 mg/L. Nitrate-N concentrations at the Outlet ranged from 0.02 to 0.32 mg/L, with a median concentration of 0.11 mg/L and an average concentration of 0.13 mg/L.

TKN concentrations at the tributaries ranged from 0.12 to 2.06 mg/L; however, the average TKN concentration at each of the tributaries were quite similar, ranging from 0.54 mg/L to 0.59 mg/L

(**Table D**). TKN concentrations at the Outlet ranged from 0.29 mg/L to 1.41 mg/L, with a median concentration of 0.46 mg/L and an average concentration of 0.53 mg/L.

2.5.2 Diversion Water Quality Monitoring

2.5.2.1 *Technical* Approach

Due to concerns regarding documented impairments in East Monponsett Pond (EPD) and Furnace Pond (FPD), and the potential for these to impact Silver Lake through inter-basin water transfer, surface samples were collected from these diversions concurrent with a subset of the in-lake sampling events at Silver Lake and analyzed for the following:

- Total Phosphorus
- Soluble Phosphorus
- Total Nitrogen (nitrite-N+nitrate-N and Total Kjeldahl Nitrogen)
- Alkalinity
- Chlorophyll a
- *E. coli*
- Algae (Phytoplankton) Enumeration and Identification

Three rounds of phytoplankton samples were collected from the Furnace Pond Diversion (EPD) and East Monponsett Pond (EPD). All phytoplankton samples were preserved in Lugol's solution and sent to Aquatic Analysts of Friday Harbor, Washington for identification, enumeration, and estimation of biovolume.

Additionally, the following parameters were field measured:

- pH
- Secchi Disk Transparency
- Apparent Color
- Turbidity
- Water Temperature
- Specific Conductance
- Dissolved Oxygen

More details on the specific field protocols used to collect diversion water quality data are provided in the Silver Lake Water Quality Monitoring Program SAP.

2.5.2.2 Analytical Results

Dissolved Oxygen

Field-measured data collected as part of the water quality monitoring program indicate minimum dissolved oxygen concentrations are generally sufficient to support aquatic life (above 5.0 mg/L) at EPD and FPD (**Table C**). Dissolved oxygen concentrations at the Diversions ranged from 7.25 mg/L to 13.99 mg/L, with a median concentration of approximately 9 mg/L.

Specific Conductance

Field-measured specific conductance at EPD and FPD was typical of a freshwater system (i.e., less than 1,000 µS/cm) throughout the water quality monitoring program. Specific conductance ranged from 188.2 µS/cm to 272.5 µS/cm, with a median value of 200.8 and 258.8 µS/cm at EPD and FPD, respectively (**Table C**).

pH

Field measured data collected as part of the sampling program indicate circumneutral conditions at EPD and FPD, ranging from 6.15 SU to 6.95 SU, with an average pH of 6.6 SU (**Table C**).

Turbidity

Field measured data collected as part of the water quality monitoring program suggest that turbidity at EPD is generally low, ranging from 0.27 to 0.87 NTU, with an average turbidity of 0.58 NTU (**Table C**). Turbidity at FPD ranged ranging from 0.95 to 1.53 NTU, with an average turbidity of 1.21 NTU.

Nutrients

Lab-analyzed total phosphorus at EPD ranged from 0.23 to 0.035 mg/L, while concentrations at FPD ranged from 0.24 to 0.088 mg/L (**Table D**). The greatest concentration of total phosphorus at EPD and FPD was observed in May.

Dissolved phosphorus at EPD ranged from 0.012 to 0.019 mg/L, while concentrations at FPD ranged from 0.008 to 0.028 mg/L (**Table D**). Similar to concentrations of total phosphorus, concentrations were greatest in May.

Total nitrogen at EPD ranged from 0.37 to 0.58 mg/L, while concentrations at FPD ranged from 0.51 to 0.70 mg/L (**Table D**). Again, concentrations were greatest in May. Nitrate-N concentrations ranged from 0.04 to 0.17 mg/L at EPD, and less than 0.02 to 0.02 mg/L at FPD. Unlike concentrations of total phosphorus, dissolved phosphorus, and TKN, the greatest concentration of Nitrate-N was observed at EPD in March.

Figure 13 illustrates total phosphorus and total nitrogen concentrations at each sample location throughout the water quality monitoring program.

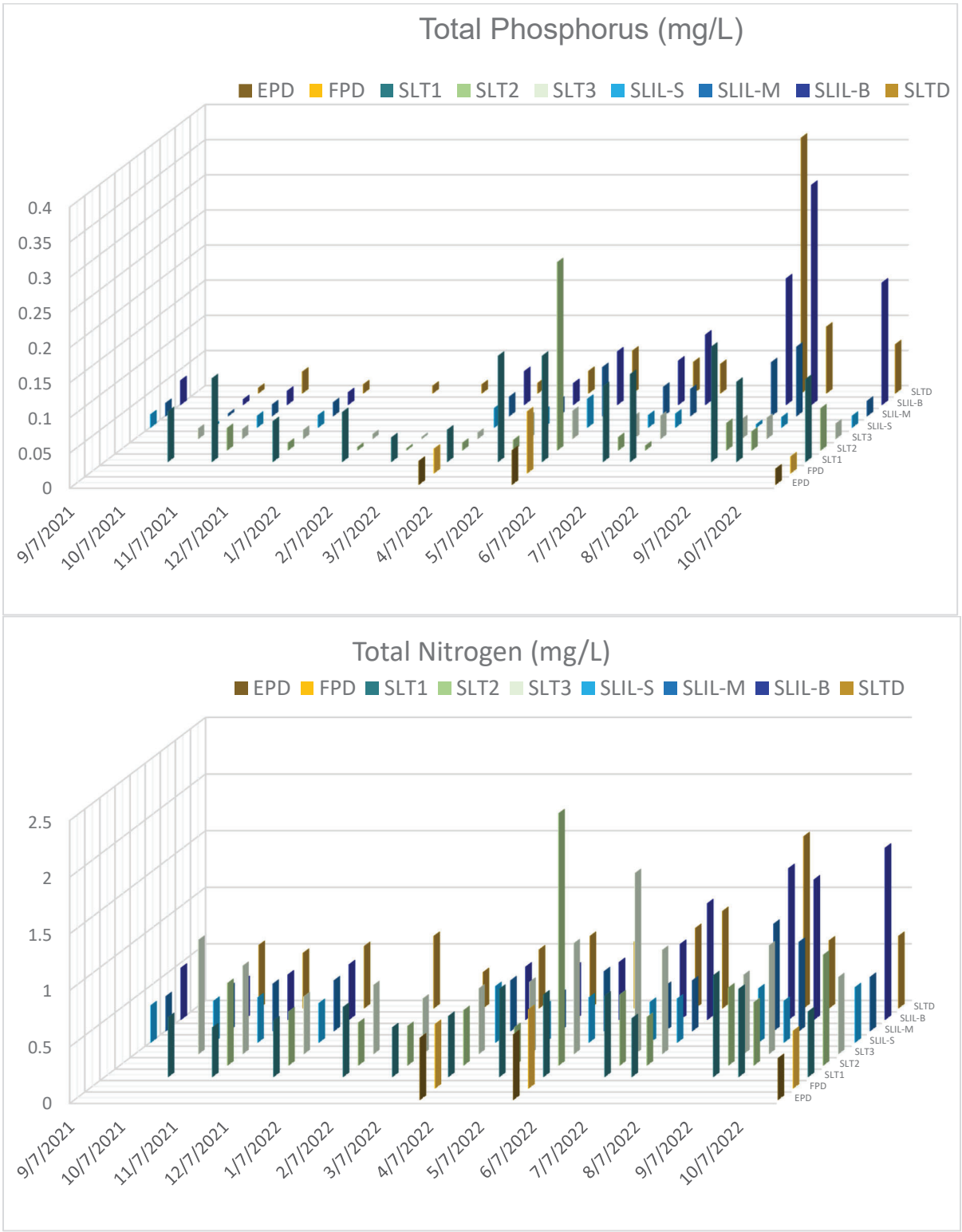


Figure 13. Nutrient Concentrations

Chlorophyll a

Results of the laboratory analysis of diversion source samples (EPD and FPD) for chlorophyll a indicate higher levels in Furnace Pond than East Monponsett Pond for all three sampling rounds in 2022 (**Table H**). Concentrations were highest at both locations in March 2022, reaching as high as 22.4 mg/m^3 at FPD.

A similar pattern in chlorophyll a concentrations was observed at Silver Lake, although the March concentration was much lower than what was observed at FPD and somewhat higher than what was observed at EPD.

Table H. Comparison of 2022 Chlorophyll a Laboratory Results from Diversion Sources and Silver Lake

Sampling Month	Chlorophyll a (mg/m^3)		
	EPD	FPD	SLIL-S
March	8.3	22.4	10.6
May	2.6	7.47	5.31
October	4.91	6.76	5.45
Average	**5.27**	**12.21**	**7.12**

Phytoplankton

Thirty-five algal taxa were detected in the three quantitative phytoplankton samples collected from each of the two diversion locations, including chrysophytes, diatoms, dinoflagellates, euglenoids, and green algae (**Appendix B**). Cyanobacteria were not detected in any of the samples collected from East Monponsett Pond or Furnace Pond. Peak phytoplankton biovolume and abundance was observed in the March samples with lowest values observed in the October samples.

Compared to Silver Lake, phytoplankton abundances in East Monponsett Pond and Furnace Pond were similar overall (**Table I**). However, biovolumes tended to be higher in Silver Lake samples than in the diversion sources.

Table I. Comparison of 2022 Phytoplankton Results from Diversion Sources and Silver Lake

Sampling Month	Density (#/mL)			Biovolume (µm/mL)			Cyanobacteria Dominant		
	EPD	FPD	SLIL-S	EPD	FPD	SLIL-S	EPD	FPD	SLIL-S
March	2,638	2,658	2,569	509,710	704,306	2,712,775	N	N	Y
May	1,699	731	826	447,642	333,278	457,541	N	N	Y
October	1,093	522	1,799	164,572	98,658	540,536	N	N	N
Average	**1,810**	**1,304**	**1,731**	**373,975**	**378,747**	**1,236,951**	**-**	**-**	**-**

Cyanotoxins

None of the samples collected from the diversion sources and analyzed at the laboratory exceeded the US EPA's HA level of 0.3 µg/L for microcystin. All sample results were below the laboratory detection limit.

Bacteria

E. coli concentrations in the diversion sources ranged from less than 1 MPN/100 mL to 40.44 MPN/100 mL (**Table J**). The highest levels were documented in Furnace Pond, particularly in March and May 2022. *E. coli* decreased in October 2022 in Furnace Pond but increased in East Monponsett Pond during the same sampling event. In comparison, Silver Lake *E. coli* results were similar to or lower than the lowest diversion source results for each sampling round.

Table J. 2022 Bacteria Results from Diversion Sources

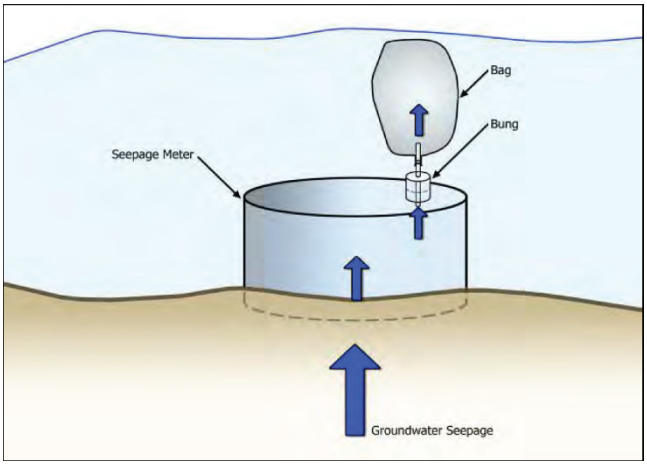
Sampling Month	E. coli (MPN/ 100 mL)		
	EPD	FPD	SLIL-S
March	1.0	31.45	2.01
May	2.0	40.44	2.02
October	14.8	6.3	2.01

2.6 Groundwater Monitoring

2.6.1 Groundwater Seepage Measurements

2.6.1.1 Technical Approach

In order to evaluate the influence of groundwater inflows on water quality within Lake, groundwater seepage surveys were conducted on May 11, 2022 and October 27, 2022 to measure the quantity of groundwater entering or exiting Silver Lake along the immediate shoreline where groundwater inseepage is typically the highest.



Conceptual illustration of seepage meter system.

A seepage meter is a device that allows the rate of seepage influent to or effluent from the Lake to be measured. The device is sealed off from surface water influence by advancing the barrel of the meter into Lake sediments and then primed with a known volume of water using watertight tubing and receptacles. Seepage meters are usually installed in soft sediments (silt or sand), where they can be deployed deeply enough

to prevent lifting of the devices through wave action and ensure that changes in water volume are due to seepage. Once the devices have been installed, they are allowed to sit undisturbed for several hours before measuring seepage rates. Over this time period, inseepage causes the volume of water to increase in the meter while outseepage causes it to decrease.

Ten seepage meters were deployed along five key shoreline segments of Silver Lake (**Figure 7**) to estimate the rate of in- or out-seepage. To ensure characterization of overall seepage conditions, three of the study shorelines were located downgradient of nearby developed areas and two were located adjacent to natural or less-developed areas. During each seepage survey, two meters were installed along each study shoreline (i.e., total of ten seepage meters) to characterize the local variability in groundwater movement. Additionally, to help account for seasonal variability in seepage rates, one seepage survey was completed in spring (May 11, 2022) and a second was completed in autumn (October 27, 2022).

More details on the specific field protocols used to collect groundwater data are provided in the Silver Lake Water Quality Monitoring Program SAP.

2.6.1.2 Analytical Results

During both seepage surveys, seepage of groundwater was predominantly positive, suggesting inseepage to the Lake (**Table K**).

Table K. Summary of Measured Seepage Rates at Silver Lake in 2022

Groundwater Sample Location	Description	Average Seepage Rate Rate(L/m2/day)	
		May 11	October 27
SLGW1	Southwestern Shoreline	4.10	0.48
SLGW2	Northwestern Shoreline	29.06	6.53
SLGW3	Northeastern Shoreline	14.77	11.92
SLGW4	Eastern Shoreline, North of Outlet	4.19	8.14
SLGW5	Southern Shoreline	8.29	6.32

Seepage rates were highest along the northern shorelines of the Lake at SLGW2 and SLGW3, with decreasing inflows to the southwestern, eastern, and southern shorelines in the spring (**Table K**). In the autumn, seepage rates were highest at the northeastern and eastern shorelines at SLGW3 and SLGW4, with the lowest inflows from the southern and southwestern shorelines. With the exception of the groundwater sample location along the eastern shoreline (SLGW4), the average seepage rates were generally greater in May than in October.

2.6.2 Shallow Groundwater Quality Monitoring

2.6.2.1 *Technical* Approach

In conjunction with the seepage survey, shallow porewater samples were extracted from each of the five previously described shoreline locations using a stainless-steel Littoral Interstitial Porewater (LIP) sampler in May and October. The LIP sampler is essentially a mini-well that

extracts groundwater from sediment for water quality testing. Three porewater samples were extracted from representative points along each of the shoreline locations and, to ensure that water obtained by the LIP sampler was groundwater; temperature, pH, and specific conductance were measured and compared to surface water quality measurements. Once confirmed, samples were composited into a single representative sample for each shoreline segment and sent to the laboratory for analysis of the following:

- Soluble Phosphorus
- Ammonia
- Nitrate-Nitrogen

More details on the specific field protocols used to collect groundwater data are provided in the Silver Lake Water Quality Monitoring Program SAP.

2.6.2.2 Analytical Results

Dissolved phosphorus concentrations in shallow groundwater were higher in spring than in autumn at four out of five sampling locations (**Table L**). The greatest dissolved phosphorus concentrations were generally observed at the northern groundwater sample locations. During the spring sampling event, the greatest concentration was observed at SLGW3, followed by SLGW4. In autumn, the greatest concentration of dissolved phosphorus was obtained from SLGW2.

Table L. Porewater Quality Data, Spring and Autumn 2022

Groundwater Sample Location	Dissolved Phosphorus (mg/L)		Ammonia as N (mg/L)		Nitrate as N (mg/L)		Dissolved Inorganic Nitrogen	
	May	Oct	May	Oct	May	Oct	May	Oct
SLGW1	0.046	0.024	<0.05	<0.10	1.98	3.91	2.03	4.01
SLGW2	0.064	0.119	<0.05	0.10	<0.02	0.03	0.07	0.13
SLGW3	0.108	0.022	<0.10	<0.05	<0.02	0.38	0.12	0.43
SLGW4	0.100	0.025	<0.05	<0.10	0.59	1.86	0.64	1.96
SLGW5	0.046	0.025	<0.05	<0.10	<0.02	0.29	0.07	0.39

The groundwater sampling location with an average concentration of dissolved phosphorus greater than the in-lake sample location (SLIL-B) was SLGW2, which is also the location that exhibited the greatest seepage rate during the spring seepage survey. However, dissolved phosphorus concentrations at all groundwater sampling locations in May were greater than the in-lake dissolved phosphorus concentrations observed in May. In October, dissolved phosphorus was greater at the in-lake sample location (SLIL-B) than all groundwater sample locations.

Soluble phosphorus samples were field-filtered through a 45-micron filter to remove particulates prior to sample preservation.

Dissolved inorganic nitrogen (DIN) concentration, which can be approximated by adding ammonia-nitrogen to nitrate-nitrogen, showed a consistent seasonal pattern. These concentrations were greater in autumn than in the spring at all groundwater sampling locations. Dissolved inorganic nitrogen concentrations were much higher at SLGW1 than the other four stations during both seasons; however, this location also had the lowest seepage rates.

2.7 Sediment Coring and Phosphorus Fractionation

2.7.1 Technical Approach

Seven sediment core samples were collected from Silver Lake on May 5, 2022 for sediment phosphorus fractionation analysis to determine the potential impact of internal nutrient recycling on water quality within Silver Lake. Undisturbed and uncontaminated cores of approximately 20 centimeters were collected in water depths greater than 35 feet using a gravity corer deployed from the survey vessel. Each sediment core was extruded through the top of the upright corer, where a sharp, clean blade was used to separate the material into 2-4 cm sections.

A sediment core collected from Silver Lake in May 2022.

Sectioned sample material was sent to BEC's sediment laboratory in Edina, Minnesota, and analyzed for the following parameters:

- iron-bound phosphorus
- aluminum-bound phosphorus
- calcium-bound phosphorus
- organically-bound phosphorus

- percent water
- loss on ignition-organic carbon content
- density

These data were used in tandem with water quality, biological, and hydrologic data to estimate internal phosphorus loading (i.e., loading from the sediments) in Silver Lake.

2.7.2 Analytical Results

Sediment core analysis indicated that mobile (iron-bound) phosphorous was present in the Silver Lake sediments, with highest levels typically found in the upper two to four centimeters (0.06 to 0.13 feet) of sediment (**Figure 14**).

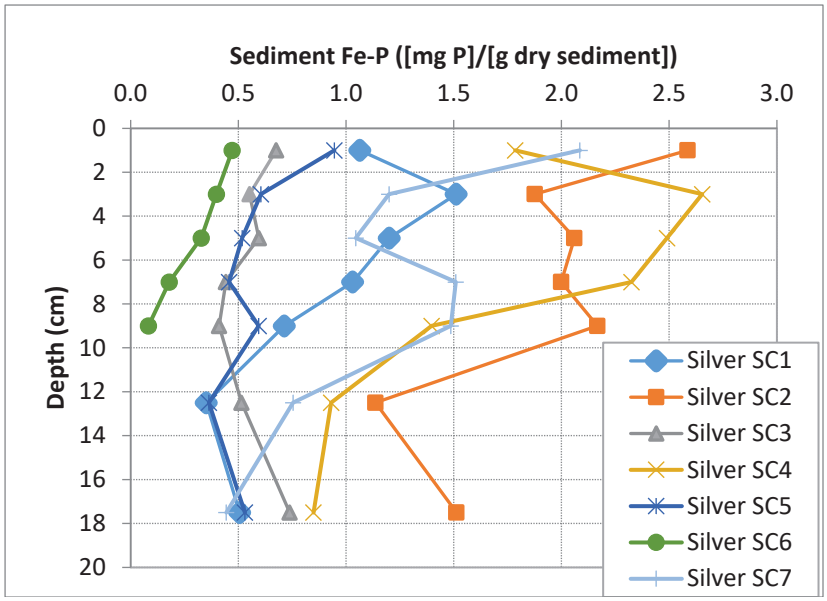


Figure 14. Sediment Phosphorus in Silver Lake Cores

Generally, sediment cores collected from greater depths (e.g., SC2, SC4, SC7) of the Lake tended to have the highest levels of mobile phosphorus. Mobile phosphorus is the most readily released under low dissolved oxygen conditions.

Organic phosphorus constituted a lesser proportion of the total phosphorus measured in Silver Lake sediments (**Figure 15**). As with mobile phosphorus, this tended to be highest in the uppermost sediments and more prevalent in cores collected from greater water depths. Organic phosphorus also provides a source of internal phosphorus loading, as decay processes result in release from the sediments.

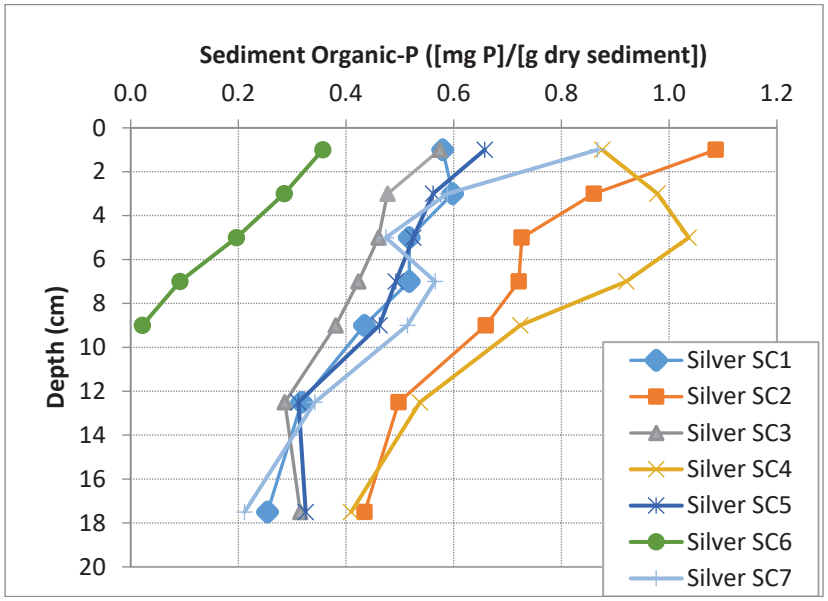


Figure 15. Organic Phosphorus in Silver Lake Cores

Aluminum-bound phosphorus was also present; however, this fraction is generally considered to be permanently bound and therefore not subject to release.

Full results of the sediment phosphorus fractionation analysis can be found in **Appendix B**.

2.8 Trophic State

2.8.1 Technical Approach

The trophic state of a water body is a measure of its productivity. Nutrient-poor waterbodies are classified as oligotrophic and tend to support little primary production (plants or algae). The low respiration rates in oligotrophic waterbodies generally support adequate levels of dissolved oxygen for aquatic life use throughout most or all of the water column. As nutrient levels increase, a waterbody may move into higher (more productive) trophic states, sequentially mesotrophic, eutrophic, and hypereutrophic. These states are accompanied by increasing rooted plant and/or algae growth and sedimentation rates. Eutrophication can be greatly accelerated through human-induced sediment and nutrient loading from the watershed (cultural eutrophication).

Carlson (1977) developed a Trophic State Index (TSI) to standardize and facilitate communication with the public regarding the trophic status of lakes and ponds. The TSI scale was first derived for Secchi disk transparency but additional parameters, such as total phosphorus and chlorophyll a were also incorporated. In practice, the TSI scale extends from 0 (nutrient-poor) to 100 (extremely fertile) and corresponds to the traditional trophic state categories, as follows: oligotrophic ponds less than 40, mesotrophic ponds between 40 and 50, eutrophic ponds between 50 and 70, and hypereutrophic ponds above 70.

The measured values for Secchi depth, chlorophyll a, and total phosphorus at Silver Lake were transformed into TSI scores using equations presented by Carlson and Simpson (1996) to facilitate discussion of its trophic state. It should be noted that single measurements or even multiple measurements from a single year are unlikely to sufficiently account for the expected natural variation of the TSI. Nor can limited data be used to infer trends in the trophic state of a water body. That said, the TSI does provide a useful tool for describing the probable trophic state, especially when interpreted in the context of additional data pertaining to observed aquatic vegetation and algal growth in the lake.

2.8.2 Analytical Results

Based on chlorophyll *a* levels from this study, the median TSI for Silver Lake was 48.8, which suggests that the current trophic state of the lake is likely to be mesotrophic. However, individual measurements of chlorophyll a over the course of this study would result in TSI values as high as 55.1 (eutrophic) and as low as 44.4 (mesotrophic).

When the TSI is calculated for phosphorus, the median value is 49.4, which supports a classification of Silver Lake as mesotrophic. The TSI value for phosphorus was much more variable than chlorophyll a, ranging from a minimum value of 20.0 (oligotrophic) to a maximum value of 87.0 (hypereutrophic).

Finally, based on median Secchi depth, the TSI would be 48.0, which supports a mesotrophic classification. However, TSI values based on individual Secchi depth measurements would range from 44.2 (mesotrophic) to 60.0 (eutrophic).

In the context of the TSI analysis and supporting information, Silver Lake appears to be a mesotrophic water body as of 2022. This aligns with observations of other water quality conditions in the lake, including hypolimnetic anoxia in summer.

Although trophic state is ultimately not itself a measure of water quality, it does provide a helpful construct for understanding how nutrient enrichment affects certain uses of a water body. For instance, mesotrophic conditions may be associated with undesirable levels of metals (iron and manganese), taste and odor compounds, and/or turbidity in drinking water reservoirs (**Figure 16**).

Trophic State	Oligotrophic	Mesotrophic	Eutrophic	Hypereutrophic
TSI	<40	40-50	50-70	70+
Typical Attributes	Clear water. Dissolved oxygen adequate in most of the hypolimnion throughout the year. Water may be suitable for an unfiltered drinking water supply.	Moderately clear water. Anoxic conditions more likely to develop in the hypolimnion during summer. In drinking water supplies, iron, manganese, and taste and odor problems may arise or worsen. Filtration likely to be needed.	Water clarity may be restricted by algae blooms. Cyanobacteria may become dominant. Anoxic conditions develop throughout the hypolimnion each summer. In drinking water supplies, severe episodes of taste and odor problems are possible.	Water clarity is severely limited by dense and persistent algal growth. Anoxic conditions likely to develop for extended periods, sometimes in shallow water. Water supply operation becomes difficult or cost-ineffective due to duration and severity of algae blooms and unfavorable water chemistry.
Adapted from Carlson and Simpson (1996)				

Figure 16. Trophic State of Silver Lake

2.9 Quality Assurance/Quality Control

To ensure collection of high-quality data that met the data quality objectives of this study, Quality Assurance/Quality Control (QA/QC) measures and checks were integrated into the execution of field, laboratory, and desktop analytical portions of this project, as follows:

- Duplicate field and laboratory water quality and discharge measurements were conducted to assess the relative percent difference (RPD) between two measurements at the same location. Laboratory duplicate samples were submitted as blind duplicates to prevent bias.

- Contract laboratories also completed internal QA/QC measures to assess precision and accuracy of laboratory results.

Water quality and discharge data collected as part of this project generally met the QA/QC criteria with regard to precision, accuracy and completeness of the data collected. In cases of deviation from QA/QC criteria, the reason for and nature of the deviation were assessed to determine whether the data would still be able to meet project data quality objectives. Data not meeting data quality objectives were retained as provisional but excluded from quantitative analyses. Therefore, the dataset used to develop this report is believed to be of sufficient quality to achieve project goals.

Field measurements and laboratory results that deviated from QA/QC criteria are summarized in **Appendix C**.

3.0 Water Quality Modeling

3.1 Approach

A custom lake water quality model was developed for Silver Lake to improve the understanding of how nutrients that enter Silver Lake affect the abundance of phytoplankton in the lake. The model is based on the Minlake model, originally developed by the University of Minnesota's St. Anthony Falls Hydraulic Laboratory (Riley and Stefan 1987), but has been updated to improve the handling of phytoplankton and nutrient components. The lake model is one-dimensional, meaning that the lake is divided into vertical layers. This allows the model to track the exchange of water from the lake bottom to the surface and evaluate the depth of the lake where inflows mix (also known as the surface mixed layer). The model also takes into account inputs that enter into and outputs that exit from the one-dimensional modeling domain.

Two- or three-dimensional lake models could also be developed for Silver Lake but were beyond the scope of this study. These would involve development of modeling grids that allow for the introduction of spatial resolution in water quality and phytoplankton conditions. While these models could be helpful at some point in the future to consider how water quality and phytoplankton vary across different parts of the lake, they are more computationally complex and generally require more spatially detailed data inputs to effectively calibrate and take full advantage of the model's power.

The main components of the one-dimensional model developed for Silver Lake include:

- Water balance: inflows, outflows, direct precipitation, evaporation, and fluctuating water levels.
- External loads of nitrogen and phosphorus: from lake inflows and atmospheric deposition (often with rain).
- Internal load of nitrogen and phosphorus: nitrogen and phosphorus release from lake sediments when oxygen is low.
- Losses of phosphorus and nitrogen: settling of nitrogen and phosphorus particles, outflowing water with phosphorus and nitrogen, and nitrate adsorption of lake sediments.
- Nutrient transformation in-lake: phosphorus and nitrogen bound by organic matter decays into available forms of phosphate and nitrate plus ammonia. Phytoplankton also take-up phosphate and nitrate and ammonia and release organic nitrogen and organic phosphorus when the phytoplankton dies. This is often referred to as nutrient cycling.
- Lake temperature: the model also calculates lake water temperature, and this has an effect on all the processes described above.

The primary goal of this effort was to understand those factors that determine the abundance of phytoplankton in Silver Lake. The availability of phosphorus and nitrogen (e.g., the limiting nutrients) control phytoplankton growth. The magnitude of external (groundwater, surface water inflows, and atmospheric deposition) loads and the degree that internal loads (phosphorus and nitrogen from the lake bottom) mix with the surface of Silver Lake dictate the availability of phosphorus and nitrogen. A lake model is useful in that the relative effects of these different loads on phytoplankton growth can be distinguished.

3.2 Model Calibration

The lake model incorporates coefficients, which describe lake processes that can vary from lake to lake. Differences may be biological (e.g., phytoplankton types), chemical (e.g., organic or inorganic forms), or physical (e.g., watercolor and light penetration). The process of model calibration involves the tuning of these coefficients to optimize model prediction of factors like nitrogen, phosphorus, phytoplankton (measured as chlorophyll a), and lake temperature. Once the model is calibrated, the effects of different management actions can then be predicted.

Examples of the calibration outcome for Silver Lake are provided in **Figure 17** for nutrients and **Figure 18** for phytoplankton (chlorophyll a). Additional calibration outputs are provided in **Appendix D**.

The calibration for total phosphorus indicates good agreement with most of the measured values, except for the extreme high (May 23) and low (August 31) points (**Figure 17**). The calibrated model accurately predicts the general decline in phosphorus over most of the growing season as well as the subsequent increase in September and October, when the mixing depth increases, bringing nutrients up to the surface from bottom waters. There is also good agreement between measured and modeled values for total nitrogen, except for the extreme low (April 28) and the August 31 points (**Figure 17**).

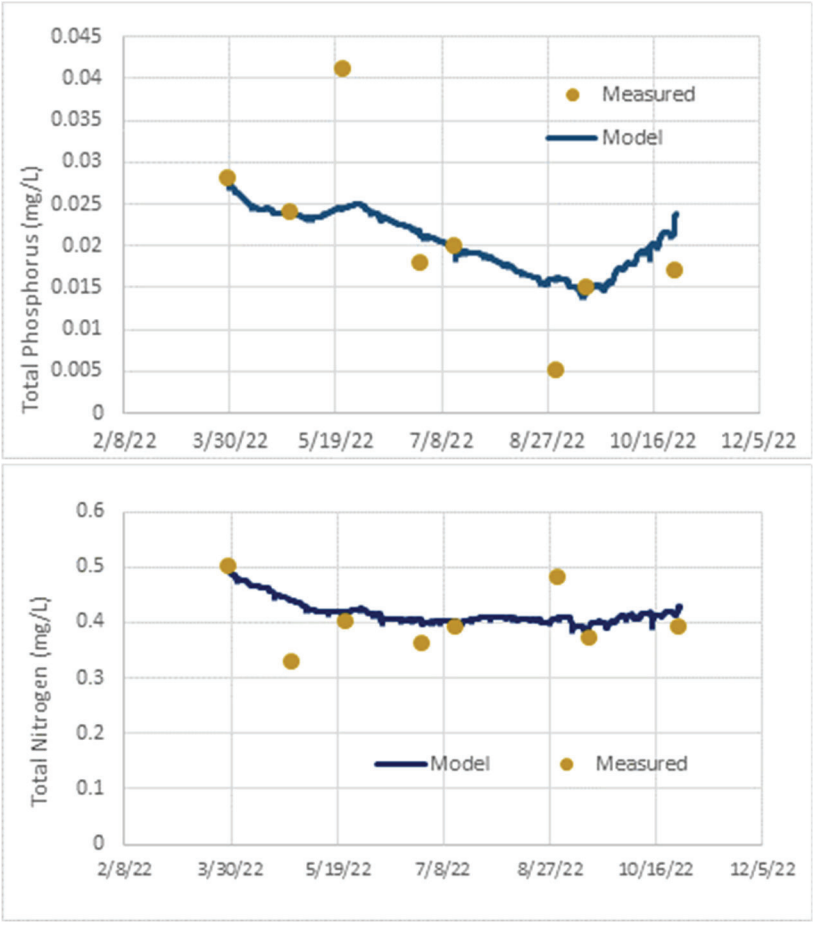


Figure 17. Nutrient Calibrations

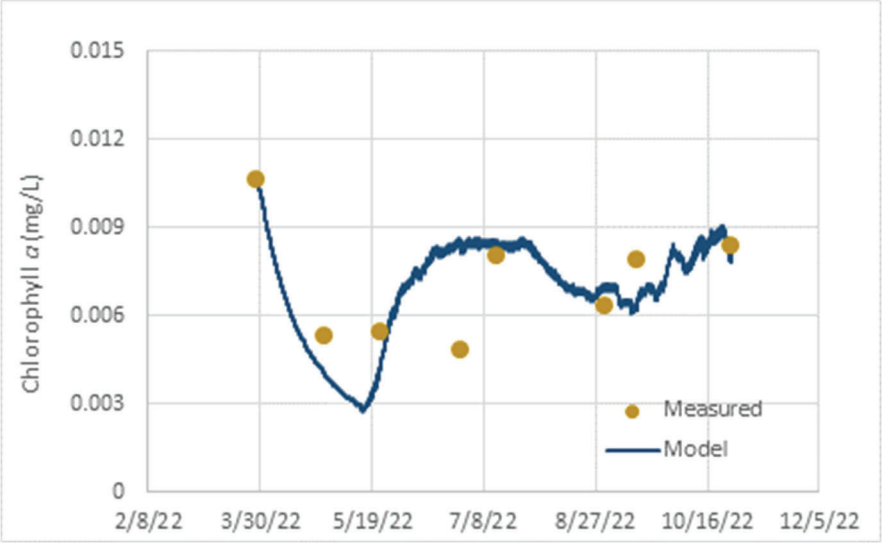


Figure 18. Chlorophyll a Calibration

The chlorophyll a calibration is also in good agreement with laboratory-measured values (**Figure 18**). In the spring, with low water temperatures and co-limitation by phosphorus and nitrogen, phytoplankton populations declined. The model then indicates that nutrient release from dead and decaying phytoplankton led to a rebound in phytoplankton growth in late May. By mid-July and during dry conditions with diminished inflows and strong thermal stratification in the lake, excess phosphorus in surface waters became depleted, leading to population decline. Toward the end of August, the model indicates that nutrient-rich bottom waters began to mix closer to the surface, making both phosphorus and nitrogen more available to phytoplankton, thereby spurring a resurgence of phytoplankton growth.

Nitrogen-fixing, filamentous cyanobacteria with specialized heterocyst cells.

As alluded to above, nutrient limitation plays a critical role in determining the growth of phytoplankton, along with other environmental factors, such as light and temperature. Under ideal conditions, where these factors are minimally limiting, phytoplankton populations can double in one day. This condition would be represented by a value of 1 for both nitrogen and phosphorus in **Figure 19**. At Silver Lake, it can be seen that phosphorus and nitrogen both remain below 1, meaning that concentrations of these nutrients are limiting phytoplankton growth. Additionally, the model illustrates that, over the course of 2022, phosphorus was sometimes limiting relative to nitrogen and vice versa. Nitrogen was limiting from mid-April to mid-July and phosphorus was limiting from mid-July to mid-October. When the nitrogen and phosphorus lines cross, such as occurs in mid-April, mid-July, and early October both

nutrients are co-limiting and the addition of either one will allow increased growth of phytoplankton.

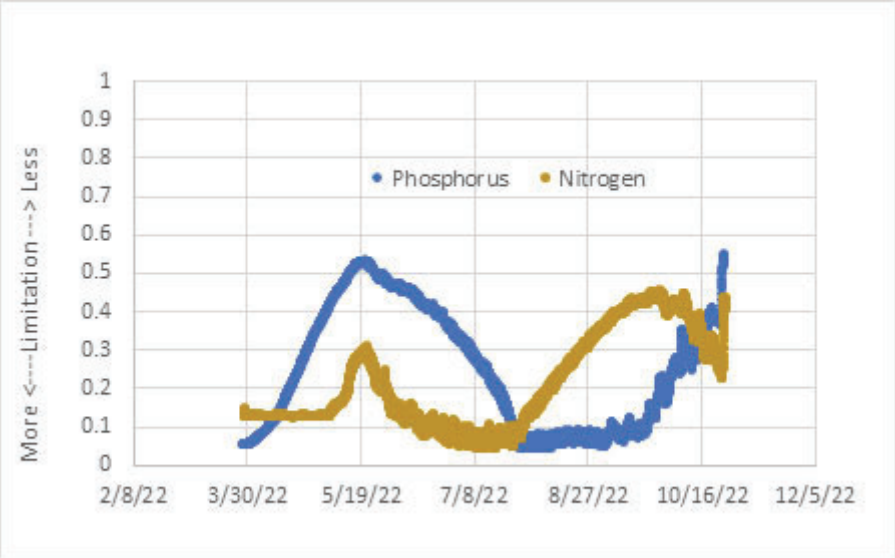


Figure 19. Demonstration of Nutrient Limitation at Silver Lake

Of note, certain taxa of cyanobacteria are able to fix nitrogen from the atmosphere. These include some of the most commonly observed phytoplankton at Silver Lake, such as *Aphanizomenon flos-aquae* and *Dolichospermum planctonicum*. Nitrogen-fixing cyanobacteria produce large, specialized cells, called heterocysts, that convert gas-phase elemental nitrogen (N_2) into bioavailable ammonia nitrogen. These nitrogen-fixing cyanobacteria often do well when nitrogen becomes the limiting nutrient because they can supply their own.

When nutrients enter the lake, they may be taken up by phytoplankton. As phytoplankton cells die, they settle to the lake bottom, taking much of the nutrients with them. This leads to accumulation of nutrients in bottom sediments. This is why nutrient concentrations in lake surface waters tend to be lower than the concentrations that enter from external sources. Deep lakes with long residence times like Silver Lake are particularly efficient at taking nutrient inputs from all sources and sequestering them in the bottom sediments. For example, the average summer total phosphorus concentration in the surface of Silver Lake in 2022 was 0.021 mg/L while the total phosphorus concentration of Tubbs Meadow Brook at SLT-1 for the same period was 0.122 mg/L, Little Brook at SLT-2 was 0.056 mg/L, Mirage Brook at SLT-3 was 0.028 mg/L, and East Monponsett Pond was 0.037 mg/L. The closer the inflow concentration is to the lake concentration, the less impact it tends to have on in-lake concentrations even if the rate of the inflow is large. This is because inflows also push out water (through the outlet) and nutrients in that water. Although the one-dimensional lake model used in this study does not take into account the proximity of the inflow location to the outlet, it is able to integrate the overall mechanisms. This allows it to isolate the effect of each nutrient source separately on phosphorus and nitrogen concentrations in Silver Lake surface waters.

Another key important attribute of lakes and especially deep ones like Silver Lake, is that warm water rises to the surface while cold water tends to sink and remain at the bottom during the

growing season (**Figure 20**). Over time, this temperature differential grows, allowing the lake to separate into relatively stable layers (thermal stratification). This phenomenon limits vertical mixing of lake water during most of the summer, which in turn limits the rate of phosphorus and nitrogen mixing from bottom waters into the surface. As the sun angle diminishes and cooler air temperatures arrive in late summer and autumn, the thermal stratification of the lake begins to erode and mixing of bottom waters toward the surface tends to increase. Wind events hasten this erosion and allow larger exchanges of nutrients between the surface and bottom of the lake.

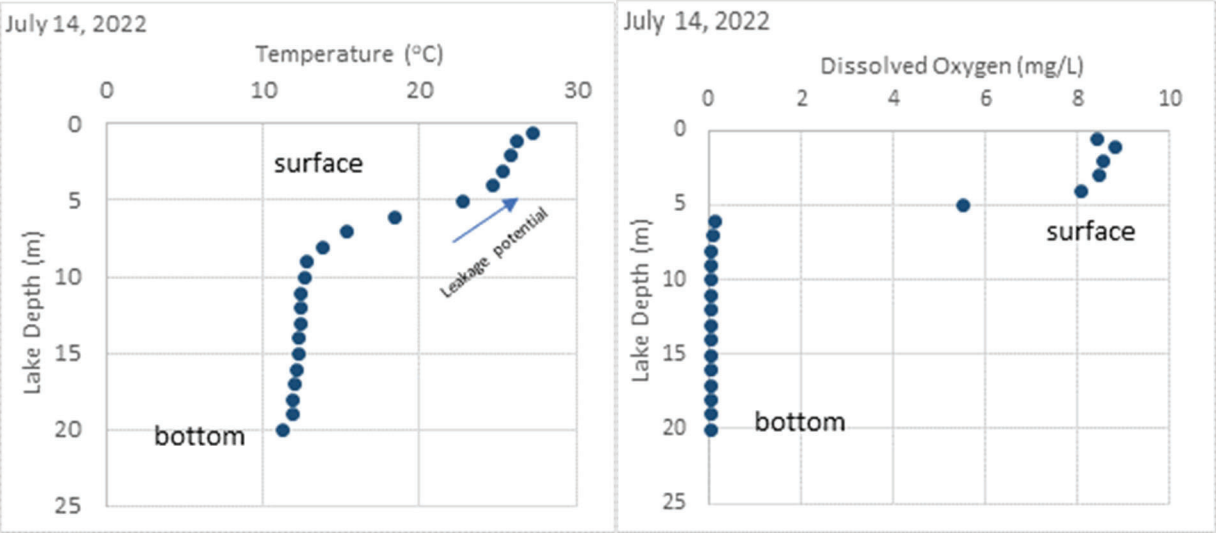


Figure 20. Silver Lake Temperature and Dissolved Oxygen Profiles on July 14, 2022

Thermal stratification reduces lake mixing and dissolved oxygen in bottom waters becomes consumed over time, even though concentrations remain high in surface waters, as seen in vertical profiles from July 2022 (**Figure 20**). The low dissolved oxygen in bottom waters causes a chemical change in the sediments, which leads to the release of phosphate and ammonia-nitrogen. The substantial amount of phosphorus and nitrogen release from sediments at Silver Lake is evident in the measured and modeled profiles depicted in **Figure 21**. However, at Silver Lake, the model's advection-dispersion process generates very little movement of water from bottom waters to the lake surface until the end of August. Therefore, even though there is a significant amount of internal loading occurring at the height of summer, the model suggests that it does not become fully available to phytoplankton until later in the season.

Table M below shows the total phosphorus and total nitrogen balances for the modeled period in Silver Lake in 2022 (March 29 through October 26). Loads that are sources to the lake include: internal loading from lake bottom sediment, atmospheric deposition on the lake surface, groundwater inputs, and surface inflows such as water contributed by East Monponsett Pond diversions and the tributary discharges. Losses are simpler and result from settling of particles (with phosphorus and nitrogen attached) and algae to the lake bottom as well as phosphorus and nitrogen that physically exits the lake via surface outflows or groundwater outseepage.

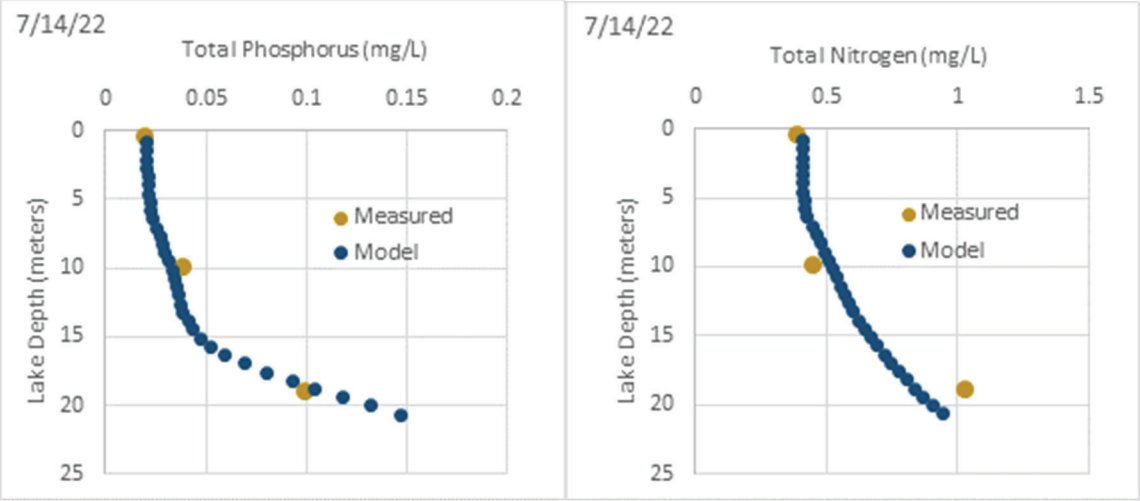


Figure 21. Silver Lake Phosphorus and Nitrogen Profiles on July 14, 2022

Table M. Silver Lake Nutrient Loads and Losses

Source or Sink		Phosphorus		Nitrogen	
		(kg)	%	(kg)	%
Loads	Internal (Sediments)	631	83%	1399	34%
	Atmospheric Deposition	6	1%	1185	28%
	Groundwater	1	0.2%	22	1%
	Surface Inflows	125	16%	1569	38%
	Total Loads	**763**	**100%**	**4175**	**100%**
Losses	Outflow	87	23%	1678	40%
	Settling	284	77%	2486	60%
	Total Losses	**372**	**100%**	**4164**	**100%**
	Net Loads - Losses	391	-	11	-

The concentration of mobile (iron-bound) phosphorus in Silver Lake sediment is very high, so it is not surprising that the internal loading rate identified by the model is significant (83% of total phosphorus loading). Early in the summer, this internal loading does not appear to notably affect lake surface concentrations because the released phosphorus is mostly trapped below the thermocline of Silver Lake. However, as thermal stratification breaks down in late summer and autumn, the phosphorus released from Silver Lake sediments is more likely to mix into surface waters.

Nitrogen loading from lake sediments also appears to be substantial and contributes approximately 34% of the total nitrogen load to the lake, although atmospheric deposition (dust or rain that falls directly into the lake) is also a significant source of nitrogen. Nitrogen deposition rates in the region are 194 times greater than phosphorus (Yang et al., 1996).

Surface inflows accounted for 16% of phosphorus and 38% of nitrogen loads to Silver Lake. Surface inflows are directed to the surface layer of the lake where phytoplankton have the most potential for growth.

The influence of diversion inflows compared to natural inflows to Silver Lake is evident in **Figure 22**. The magnitude of the steep rises and declines in inflow from the East Monponsett Pond diversion dominate the flow series. It can also be seen that inflows in the spring helped to maintain modeled phosphorus concentrations in Silver Lake surface water at approximately 0.025 mg/L. However, once the inflows dropped toward the end May, so too did total phosphorus concentrations in the surface waters of Silver Lake. This loss of phosphorus was due to the uptake of phosphorus by phytoplankton and settling to the lake bottom over the course of the dry summer months. In September, phosphorus concentrations began to move upward even before diversion flows were released from East Monponsett Pond into Silver Lake. This demonstrates that changes in autumn phosphorus concentrations were due largely to the mixing of internally sourced phosphorus into the surface waters of Silver Lake.

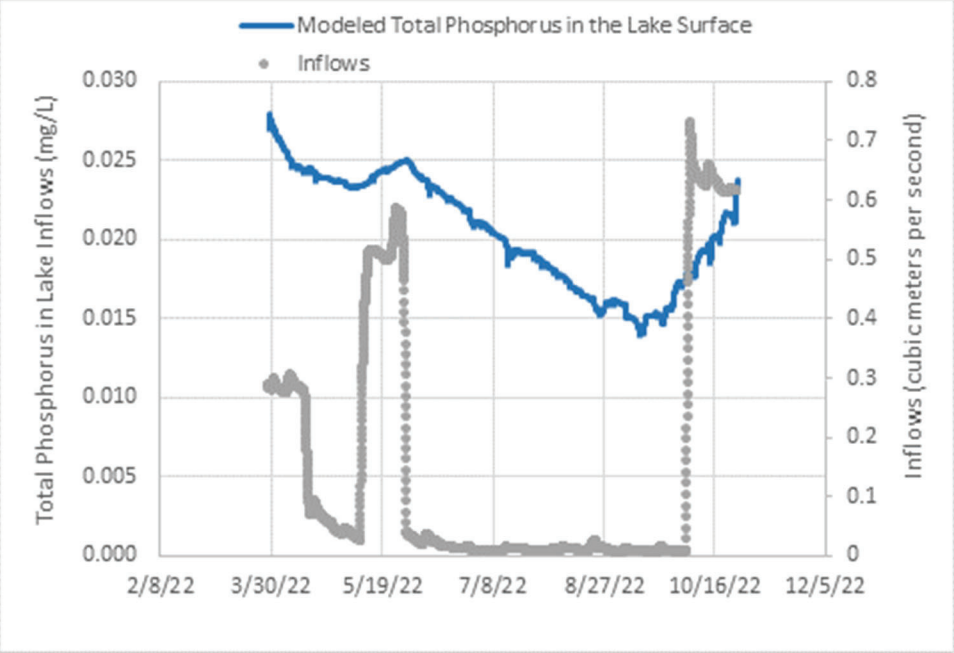


Figure 22. Modeled Surface Phosphorus and Measured Inflows

3.3 Load Reduction Scenarios

The primary benefit of a calibrated lake model is the ability to explore load reduction scenarios to predict water quality response. Two substantial load reduction scenarios were modeled for this project. The first contemplated the elimination of internal phosphorus loading from the sediments. The second involve the cessation of diversions from East Monponsett Pond. The scenarios and their outcomes are described further in this section.

Scenario 1: Internal Load Reduction

Figures 23 and 24 show the projected result of large-scale internal phosphorus load reduction. A scenario like this would result through implementation of a sediment-dose nutrient inactivation treatment to transform mobile iron-bound phosphorus to more environmentally stable fractions, such as aluminum-bound phosphorus. Early in the season, the treatment has limited impact on phosphorus or phytoplankton growth in surface waters. However, from late August through October phosphorus concentrations are prevented from rising when bottom waters begin to mix with the surface. This also reduces the modeled phytoplankton growth during this same period, leading to decline in phytoplankton population. Although not explicitly modeled, it is likely that internal load reduction would have more benefit than that shown in **Figure 23** as internal loading during the winter months would also be prevented.

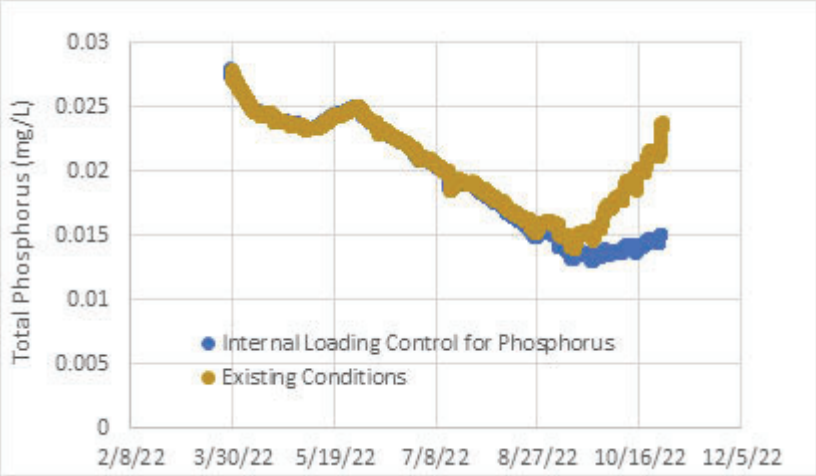


Figure 23. Impact of Internal Loading Control on Surface Phosphorus in Silver Lake

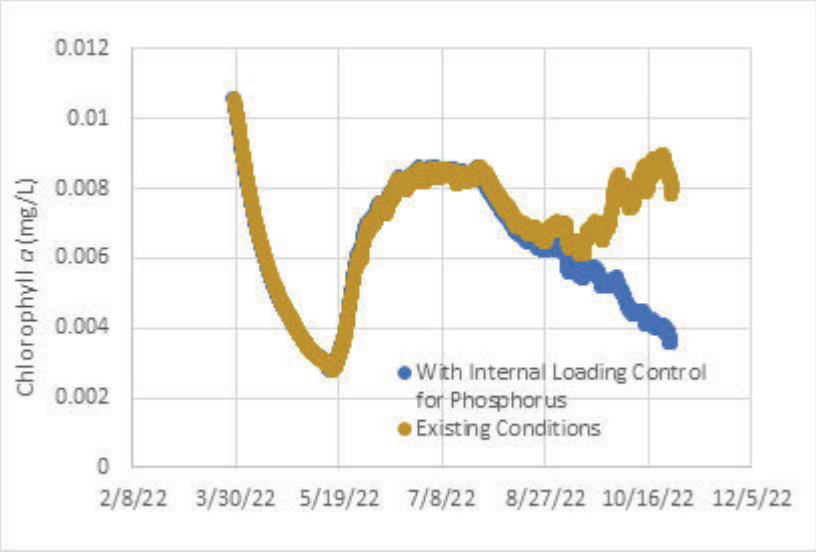


Figure 24. Impact of Internal Loading Control on Surface Chlorophyll a in Silver Lake

Scenario 2: External Load Reduction through Elimination of Diversions

East Monponsett Pond was the largest source of external nitrogen and phosphorus loads to Silver Lake during the modeled period in 2022. If East Monponsett Pond diversions to Silver Lake were eliminated and water withdrawals were not also reduced, this would result in a significant reduction of nutrient loading. However, it would also reduce losses out of Silver Lake, due to reduced outflows. Additionally, the water level of Silver Lake would be reduced by approximately 0.2 meters (8 inches) over the course of the modeling period, meaning that the Jones River at SLT-D would be without flow for a longer duration. The result is that the net water quality benefit of eliminating the East Monponsett Pond diversions is small, at least for the modeled period (**Figures 25 through 27**). While total phosphorus and total nitrogen concentrations in the surface waters of Silver Lake do decrease slightly during most of the modeling period, the reductions do not lead to notable decreases in phytoplankton. In fact, the model predicts that phytoplankton would have actually increased above existing conditions late in the year.

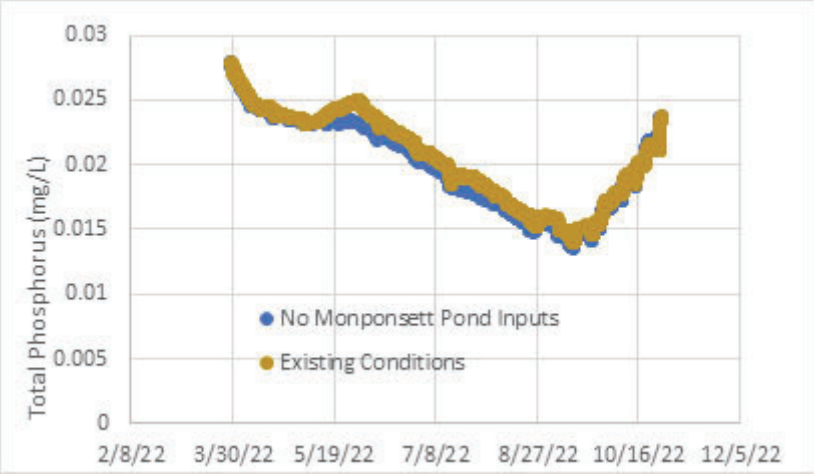


Figure 25. Impact of Diversion Elimination on Surface Phosphorus in Silver Lake

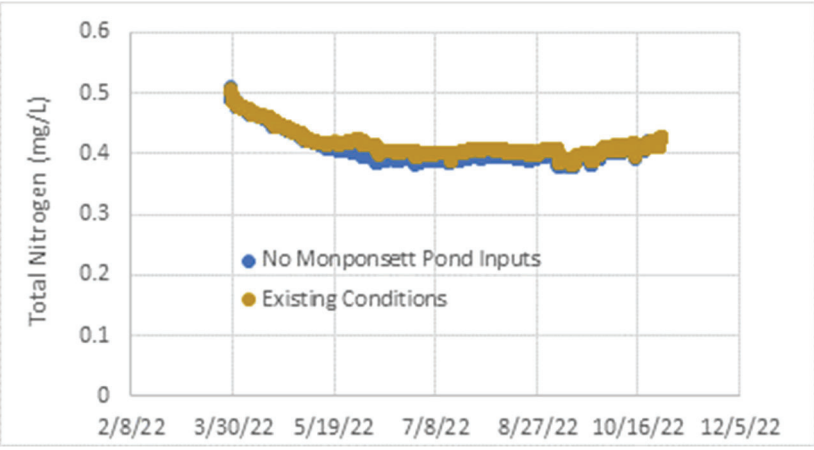


Figure 26. Impact of Diversion Elimination on Surface Nitrogen in Silver Lake

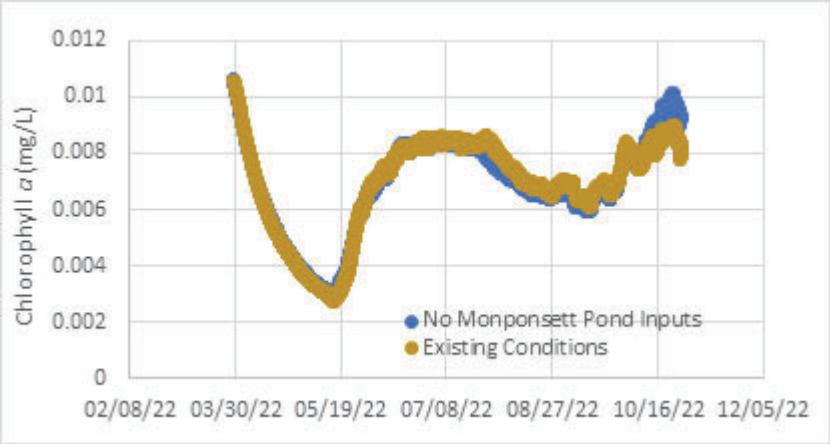


Figure 27. Impact of Diversion Elimination on Surface Chlorophyll a in Silver Lake

4.0 Overall Assessment of Silver Lake

Although the primary focus of the Silver Lake Water Quality Monitoring Program was to document baseline conditions in Silver Lake, results were also applied to assess the ability of the water body to support these uses (Table N). For informational purposes TRC evaluated the results of the Silver Lake Water Quality Monitoring Program using MassDEP's weight-of-evidence approach described in the Consolidated Assessment and Listing Methodology (MassDEP 2022b). Preliminary use support findings for Silver Lake suggest:

- Aquatic Life use is impaired due to the following causes:
  - Non-native plants
  - Dissolved oxygen (Silver Lake is already listed for this [MassDEP 2021b])
  - Total phosphorus
- Primary Contact Recreation use is impaired – due to the following causes
  - Harmful algal blooms
- Aesthetics use is supported
- Secondary Contact Recreation use is supported (note that recreation on Silver Lake is prohibited due to its use as a drinking water supply reservoir).

Silver Lake's suitability for use as a Public Water Supply (PWS) is based on the quality of finished water, which was beyond the scope of this study and therefore was not evaluated. The MassDEP's Drinking Water Program (DWP) has primacy for implementing the provisions of the Federal Safe Drinking Water Act (SDWA) and enforcing standards related to finished water quality.

Definitive water quality assessments for surface water use support (e.g., aquatic life, primary/secondary contact recreation, and aesthetics) with external data are performed by MassDEP's Watershed Planning Program (WPP) as required by Sections 305(b), 314 and 303(d) and are reported every two years in the Integrated List of Waters Report.

Solving the Problems

Table N. Potential Silver Lake Impairments by Designated Use

Use	Cause	Silver Lake Water Quality Monitoring Program Results	CALM Thresholds	Notes
Aquatic Life	Dissolved oxygen	Anoxic conditions affected more than 50% of Silver Lake.	Oxygen depletion exceeds 10% of lake area.	Already listed by MassDEP for this impairment (MassDEP 2021b).
	Non-native plants	Three non-native aquatic plant species were present in Silver Lake.	Non-native aquatic plant species present.	Species observed included Eurasian milfoil, fanwort, and variable-leaf milfoil.

Table N. Potential Silver Lake Impairments by Designated Use

Use	Cause	Silver Lake Water Quality Monitoring Program Results	CALM Thresholds	Notes
	Total phosphorus	Average total phosphorus was 0.049 mg/L.	Average total phosphorus exceeds Gold Book standard of 0.025 mg/L.	Target of 0.018 mg/L set for the Monponsett Ponds.
Aesthetics	None	Algae and aquatic macrophytes present.	Algae: 20 days of public health advisories. Aquatic macrophytes: Dense or very dense beds exceed 25% of the lake area.	
Primary Contact Recreation	Harmful algal blooms	Cyanobacteria cell counts as high as 33,600/mL. Microcystin concentrations measured as high as 12.6 µg/L.	Exceedance of MDPH public health advisory level (70,000 cells/mL or 8 µg/L microcystins).	Primary contact recreation prohibited at Silver Lake.
Secondary Contact Recreation	None	*E. coli* present at low numbers in some samples and not detected in others.	Geomean exceeds 630 colonies/100 mL.	Secondary contact recreation restricted at Silver Lake.
Public Water Supply	Not assessed	No results from this program.	Not assessed under CALM.	

Although Silver Lake is actively used as a water supply reservoir, its suitability for use as a Public Water Supply would be based on the quality of finished water under the current regulatory framework, not ambient in-lake water quality. No measurements of finished water for public distribution were made as a part of this study. Therefore, PWS use was not assessed for Silver Lake.

5.0 Recommendations

Silver Lake faces multiple management issues, some of which rise to the level of water quality impairments and the mitigation of risk to the PWS. The development of an appropriate management response is needed to address these observed issues and improve water quality in Silver Lake and associated waterbodies. Although localized approaches may be useful for ensuring the quality of raw or finished water from the point of the potable water intake to the distribution system, a regional large-scale and comprehensive approach will be needed to achieve lake-wide and associated waterbody improvements in water quality.

The following are recommended next steps toward improvement of in-lake water quality.

Model alternative management scenarios

Although this study modeled the outcomes of two individual load reduction scenarios, other load reduction scenarios or combinations of load reduction strategies could also be modeled to help identify viable management approaches going forward.

Prior reports on water quantity (e.g., Horsley Witten Group 2016) may serve as one potential source of useful management scenarios to model for their impact on water quality. For example, a similar no-diversion scenario could be modeled but with withdrawals restricted to the level identified (50% to 90% reduction) to sustain the minimum flows needed to meet most or all identified fish passage goals. This could potentially provide water quality benefits to Silver Lake by allowing water levels to remain above the outlet elevation for a longer period of time, thereby increasing the flushing of nutrients from the lake and also providing a flow benefit to the Jones River.

Another possible water management scenario could be to limit diversions from East Monponsett Pond to a reduced period (December to April, compared to the current October to May window). This would test the water quality impact of diversions that are more seasonally limited.

Alternatively, a set of scenarios could be modeled whereby reductions in diversions and water withdrawals are iteratively paired with management of internal phosphorus loading to optimize the water quality benefit to Silver Lake while allowing a modified but continued operation of the system for water supply purposes.

These scenarios could be evaluated using the existing calibrated water quality model for the 2022 period. However, if paired with additional data collection or linked with a hydrologic model, the water quality model could also potentially be recalibrated and run for a longer duration, which would allow the evaluation of water quality impacts over more than a single season.

Develop a lake management plan for Silver Lake

A number of management options are available to address elevated nutrient levels and address potential future changes in water quality that may impact public water supply uses. In addition to modifying the management of diversions, water withdrawals, and downstream releases, **Table O** presents a list of in-lake and near-lake management options that could be evaluated for potential use at Silver Lake, if scaled appropriately. These include biological, chemical, and physical approaches.

In lake management approaches should be coupled with measures to address watershed sources. Surface inflows account for 16% of the phosphorus load and 38% of the nitrogen load. Residential development (primarily single- family residential) and the associated road networks is the major developed land use in the watershed accounting for about 17% of the watershed landuse. Low density residential development is concentrated on the east, west and south sides of the lake. Commercial land use, while limited in the watershed, exist to the east, west and south. Approximately 4 % of the watershed is comprised of agricultural land use with the balance undeveloped or forested. There is a strong link between impervious land cover and surface water quality. Impervious cover includes land surfaces that prevent the infiltration of water into the ground, such as paved roads and parking lots, and roofs. The Towns of Halifax, Pembroke and Kingston are all regulated for stormwater runoff through the Phase II MS4 permit program and the Monponsett Ponds require excessive phosphorus loads to be addressed in accordance with the TMDL (MassDEP 2022a).

Table O. Potential Management Options to Consider at Silver Lake

Type	Option*	Primary Target	Brief Description
Biological	Biomanipulation	Harmful algal blooms	Alteration of food webs to favor a desired management outcome. Typically accomplished through stocking or removal.
	Plant Competition	Non-native plants	Planting of desired species to outcompete or prevent the reestablishment of a nuisance plant.
Chemical	Algaecides	Harmful algal blooms	Treatment with a chemical that kills algal cells.
	Barley Straw or Extract	Harmful algal blooms	Addition of barley straw or extract to inhibit the growth of algae.
	Hypolimnetic Oxygenation	Dissolved oxygen Nutrients	Addition of oxygen to bottom waters to improved dissolved oxygen and immobilize nutrients or other contaminants so that they remain bound in the sediments.
	Nutrient Filtration	Nutrients	Installation of removable biochar or proprietary media in incoming source of external loading to adsorb the targeted nutrients. Nutrients are permanently removed from the system when filters are replaced
	Nutrient Inactivation: In-Lake	Nutrients	Injection of a chemical flocculent (e.g., alum) or other formulation that preferentially binds phosphorus and renders it unavailable for biological uptake. Treatment is applied directly to the lake and becomes incorporated into the sediments.
	Nutrient Inactivation: Dosing Station	Nutrients	Similar to in-lake nutrient inactivation except that the treatment is applied to strip phosphorus from incoming sources of external loading.
Physical	Aeration or Circulation	Dissolved oxygen Harmful algal blooms	Installation of devices that directly aerate the water column and/or induce currents that promote circulation. The three SolarBee circulators installed near the Silver Lake Water Treatment Plant intake are examples of the use of this technique Some devices are designed to break thermal stratification while others are designed to avoid altering stratification.
	Cavitation	Harmful algal blooms	Installation of devices that induce local cavitation, which disrupts algal cells.
	Dilution and Flushing	Harmful algal blooms Nutrients	Dilution involves introduction of cleaner water to reduce concentrations of contaminants. Flushing involves addition of water to flush algae from the system and reduce water residence time.
	Diver Assisted Suction Harvesting	Non-native plants	High efficiency hand harvesting of target species by divers. Harvested plants are fed into a hose and pumped to a surface vessel for temporary storage and dewatering. Harvested biomass is disposed of off-site.
	Dredging	Non-native plants Nutrients	Removal and offsite disposal of nutrient-rich sediments to reduce the rate of internal loading. Can also be used to deepen shallow areas and reduce the density of plant growth or benthic algal mats.

Table O. Potential Management Options to Consider at Silver Lake

Type	Option*	Primary Target	Brief Description
	Fragment Barriers	Non-native plants	Use of floating booms to limit the passage of plant fragments and thereby prevent the spread of infestations.
	Hypolimnetic Withdrawal	Dissolved oxygen Nutrients	Preferential removal of nutrient-rich bottom waters to reduce the area impacted by anoxia and improve water quality.
	Mechanical Harvesting	Non-native plants	Use of an aquatic harvesting machine to cut and remove large areas of aquatic plant biomass. A conveyor system is used to position harvested biomass for temporary storage and dewatering. Harvested biomass is disposed of off-site.
	Sediment Inversion	Nutrients	Similar to dredging, except that sediments are managed in the lake. Clean sediments are extracted and used to bury nutrient-rich surface sediments. This can reduce the rate of internal loading.
	Shading	Harmful algal blooms Non-native plants	Use of opaque materials to reduce light penetration, thereby controlling plant and algal growth.
	Sonication	Harmful algal blooms	Installation of devices that use ultrasound waves to disrupt algal cells.

* Options listed are preliminary and provided as examples. These and potentially other options would need to be fully evaluated through additional analysis to identify appropriate measures.

A lake management plan is needed to select and prioritize the most suitable options, develop cost estimates for the preferred options, identify funding sources, and construct a schedule for implementation. Typically, these plans are developed for five-year periods to allow enough time to design, permit, implement, and evaluate the preferred actions. The five-year planning period also acknowledges the need to adapt and refresh in response to the emergence of new challenges, the development of new technologies, changes in cost and scope of the work, and the potential evolution of legal and regulatory frameworks. The lake management plan may make use of prior studies, the data from this study, supplemental monitoring data and modeling, and stakeholder input to ensure that it is technically feasible, cost-effective, and has community buy-in.

Although localized approaches may be useful for ensuring the quality of raw or finished water from the point of the potable water intake to the distribution system, a regional large-scale and comprehensive approach will be needed to achieve lake-wide and associated waterbody improvements in water quality.

Continue the Silver Lake Water Quality Monitoring Program

Despite the size and regional importance of Silver Lake to both human and natural communities, a comprehensive, long-term water quality dataset has not yet been developed. The current study is a good first step in establishing baseline conditions but more data would be useful in

understanding interannual variability. Furthermore, ongoing water quality monitoring will be needed to document the effectiveness of any management program that is implemented in the future, as well as to identify the long-term trends related to climate change or other broader environmental changes. Additionally, the sharing of water quality data with the public will help to engage the community and encourage more active participation in the management of this important resource. To this end, the continuation of data collection at Silver Lake is recommended at a minimum.

The program could be modified to address key data gaps while also being streamlined to attain the most value from the funds available. The components presented in **Table P** are recommended at a minimum.

Table P. Recommended Monitoring Components at Silver Lake

Component	Approach	Frequency	Locations
Dissolved oxygen	Unattended sensor	Continuous	Two to three arranged vertically at SLIL
	Field-measured vertical profile	Monthly	SLIL
Temperature	Unattended sensor	Continuous	Two to three arranged vertically at SLIL
	Field-measured vertical profile	Monthly	SLIL
Secchi transparency	Field measured	Monthly	SLIL
Chlorophyll a	Laboratory sample	Monthly	SLIL
	Field-measured vertical profile	Monthly	SLIL
Phytoplankton	Laboratory sample	Monthly	SLIL
Cyanotoxins	Laboratory sample	Monthly	SLIL
Total phosphorus	Laboratory sample	Monthly	EPD (or sampling port), SLT-1, SLIL (3), SLT-D
Total nitrogen	Laboratory sample	Monthly	EPD (or sampling port), SLT-1, SLIL (3), SLT-D
Ammonia nitrogen	Laboratory sample	Monthly	EPD (or sampling port), SLT-1, SLIL (3), SLT-D
Aquatic plants	Field mapping	Annually in August	Littoral zone <20 ft deep at normal pool
Discharge	Unattended sensor	Continuous	SLT-1

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7.0 Glossary of Limnological Terms

Abiotic: A term that refers to the nonliving components of an ecosystem (e.g., sunlight, physical and chemical characteristics).

Algae: Typically, microscopic plants that may occur as single-celled organisms, colonies or filaments.

Anoxic: Greatly deficient in oxygen and unable to support most aquatic life forms.

Aquifer: A water-bearing layer of rock (including gravel and sand) that will yield water in usable quantity to a well or spring.

Aquatic plants: A term used to describe a broad group of plants typically found growing in water bodies. Most often applied to submerged, floating, and floating-leaved plants.

Bacteria: Typically, single celled microorganisms multiply by simple division and occur in various forms. Cyanobacteria are a photosynthetic type of bacteria. Some bacteria may cause disease, but many do not and are necessary for fermentation, nitrogen fixation, and decomposition of organic matter.

Bathymetric Map: A map illustrating the bottom contours (topography) and depth of a lake or pond.

Best Management Practices: Any of a number of practices or treatment devices that reduce pollution in runoff via runoff treatment or source control.

Biomass: A term that refers to the weight of biological matter. Standing crop is the amount of biomass (e.g., fish or algae) in a body of water at a given time. Biomass is often measured in grams per square meter of surface.

Biovolume: Analogous to biomass but expressed in terms of volume rather than mass.

Biota: All living organisms in a given area.

Chlorophyll a: A pigment used by higher plants and certain algae for photosynthesis. Measuring the level of this pigment in surface water is one way of describing the productivity of a pond and determining its trophic state (see Eutrophic).

Cultural Eutrophication: The acceleration of the natural eutrophication process caused by human activities, occurring over decades as opposed to thousands of years.

Ecosystem: An interactive community of living organisms, together with the physical and chemical environment they inhabit.

Epilimnion: In a thermally stratified lake, refers to the warmer, well-mixed upper layer of water.

Erosion: A process of breakdown and movement of land surface that is often intensified by human disturbances.

Eutrophic: A trophic state (degree of eutrophication) in which a lake or pond is nutrient rich and sustains high levels of biological productivity. Dense macrophyte growth, fast sediment accumulation, frequent algae blooms, poor water transparency and periodic oxygen depletion in the hypolimnion are common characteristics of eutrophic lakes and ponds.

Eutrophication: The process, or set of processes, driven by nutrient, organic matter, and sediment addition to a pond that leads to increased biological production and decreased volume. The process occurs naturally in all lakes and ponds over thousands of years.

Exotic Species: Species of plants or animals that occur outside of their normal, indigenous ranges and environments. Populations of exotic species may expand rapidly and displace native populations if natural predators, herbivores, or parasites are absent or if conditions are more favorable for the growth of the exotic species than for native species.

Filamentous: A term used to refer to a type of algae that forms long filaments composed of individual cells.

Groundwater: Water found beneath the soil surface and saturating the layer at which it is located.

Habitat: The natural dwelling place of an animal or plant; the type of environment where a particular species is likely to be found.

Herbicide: Any of a class of chemical compounds that produce mortality in plants when applied in sufficient concentrations.

Hypolimnion: In a thermally stratified lake, refers to the cooler, poorly-mixed lower layer of water.

Hypoxic: Lacking sufficient dissolved oxygen to support all but the most tolerant species.

Infiltration Structures: Any of a number of structures used to treat runoff quality or control runoff quantity by infiltrating runoff into the ground. Includes infiltration trenches, dry wells, infiltration basins, and leaching catch basins.

Invasive: Spreading aggressively from the original site of introduction.

Limnology: The study of lakes.

Littoral Zone: The shallow, highly productive area along the shoreline of a lake or pond where rooted aquatic plants grow.

Macroinvertebrates: Aquatic insects, worms, clams, snails and other animals visible without aid of a microscope. They supply a major portion of fish diets and are important consumers of detritus and algae.

Macrophytes: Macroscopic vascular plants present in the littoral zone of lakes and ponds.

Morphology: A term that refers to the depth contours and dimensions (topographic features) of a lake or pond.

Nutrient Limitation: The limitation of growth imposed by the depletion of an essential nutrient.

Nutrients: Elements or chemicals required to sustain life, including nitrogen and phosphorus.

pH: An index derived from the inverse log of the hydrogen ion concentration that ranges from 0 to 14 indicating the relative acidity of a liquid. Solutions with a pH of 7 are considered neutral, while lower values are acidic and higher values are basic.

Photosynthesis: The process by which plants use chlorophyll to convert carbon dioxide, water and sunlight to oxygen and cellular products (carbohydrates).

Phytoplankton: Algae that are buoyant and freely suspended in the water.

Pollutants: Elements and compounds occurring naturally or man-made introduced into the environment at levels in excess of the concentration of chemicals naturally occurring.

Secchi disk: A black and white or all white 20 cm disk attached to a cord used to measure water transparency. The disk is lowered into the water until it is no longer visible (Secchi depth). Secchi depth is generally proportional to the depth of light penetration sufficient to sustain algae growth.

Sediment: Topsoil, sand, minerals, and organic matter washed from the land into water, usually after rain or snowmelt. May also be generated by in-water production of organic matter (algae, plants, etc.).

Septic system: An individual wastewater treatment system that traditionally includes a septic tank for removing solids, and a leachfield for discharging the clarified wastewater to the ground.

Siltation: The process in which inorganic silt settles and accumulates at the bottom of a lake or pond.

Stormwater Runoff: Runoff generated as a result of precipitation or snowmelt.

Temperature Profile: A series of temperature measurements collected at incremental water depths from surface to bottom at a given location.

Thermal Stratification: The process by which a lake or pond forms several distinct thermal layers. The layers include a warmer well-mixed upper layer (epilimnion), a cooler, poorly mixed layer at the bottom (hypolimnion), and a middle layer (metalimnion) that separates the two.

TKN: Total Kjeldahl nitrogen, essentially the sum of ammonia nitrogen and organic forms of nitrogen.

TSS: Total suspended solids, a direct measure of all suspended solid materials in the water.

Turbidity: A measure of the light scattering properties of water; often used more generally to describe water clarity or the relative presence or absence of suspended materials in the water.

Vegetated Buffer: An undisturbed vegetated land area that separates an area of human activity from the adjacent water body; can be effective in reducing runoff velocities and volumes and the removal of sediment and pollutant from runoff.

Water Column: Water in a lake or pond between the interface with the atmosphere at the surface and the interface with the sediment at the bottom.

Water Quality: A term used to reference the general chemical and physical properties of water relative to the requirements of living organisms that depend upon that water.

Watershed: The surrounding land area that drains into a water body via surface runoff or groundwater recharge and discharge.

Zooplankton: Microscopic animals that float or are freely suspended in the water.

Appendix A: Field Guide to the Plants of Silver Lake

Field Guide

to the

Aquatic Macrophytes

of

Silver Lake

Prepared for:
Central Plymouth County Water District Commission
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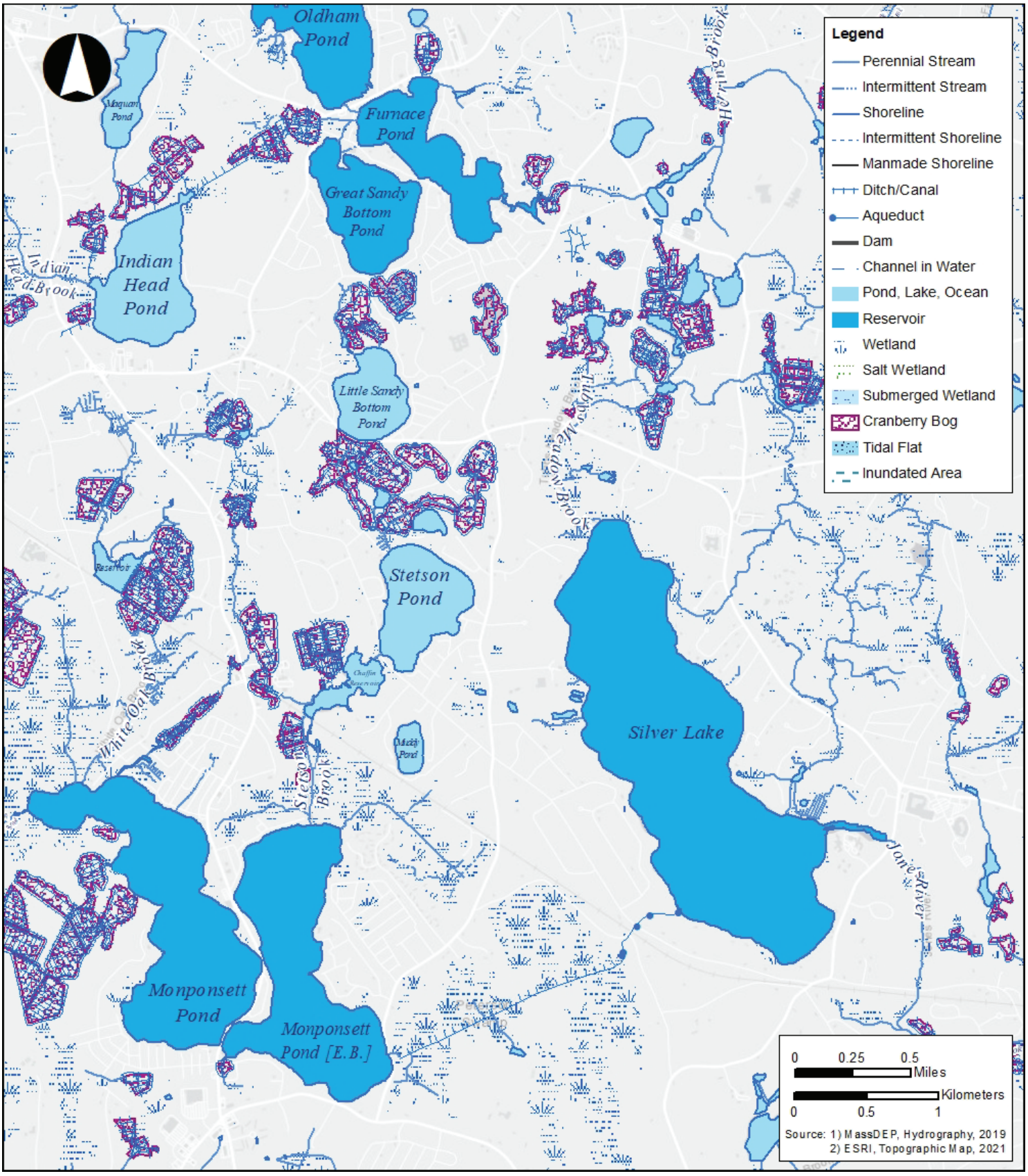
Overview

This field guide includes submerged and floating species observed by ESS Group, LLC during comprehensive surveys of Silver Lake during September and October 2021. Some of the more conspicuous emergent species observed in the reservoir system are also presented. Additionally, this field guide provides information on exotic invasive species that have been observed nearby and may be at higher risk for introduction to the lake system.

Species profiles are presented in alphabetical order by scientific name with key identification features, habitat, and similar species noted. Photos and line drawings, when available, accompany each species account. The distribution of each species within the lake as observed on ESS Surveys is mapped.

All line drawings courtesy of the United States Department of Agriculture USDA-NRCS Plants Database. Photographs are by ESS Group, LLC or in the public domain, unless otherwise noted. The waterbody system map on page 3 was developed by ESS staff with data sources from ESRI and MassDEP.

Silver Lake System Map

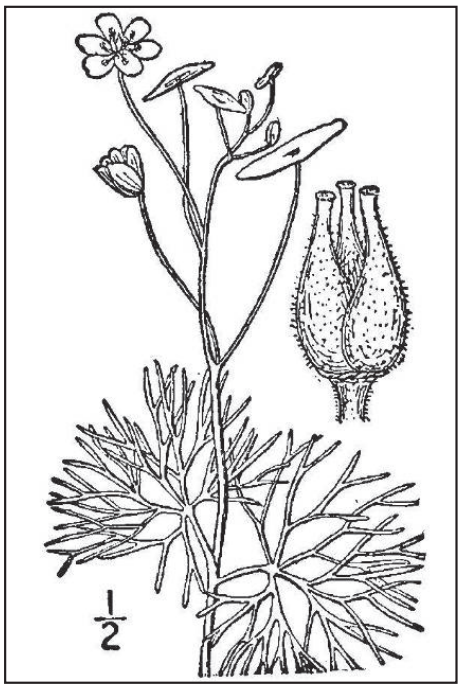


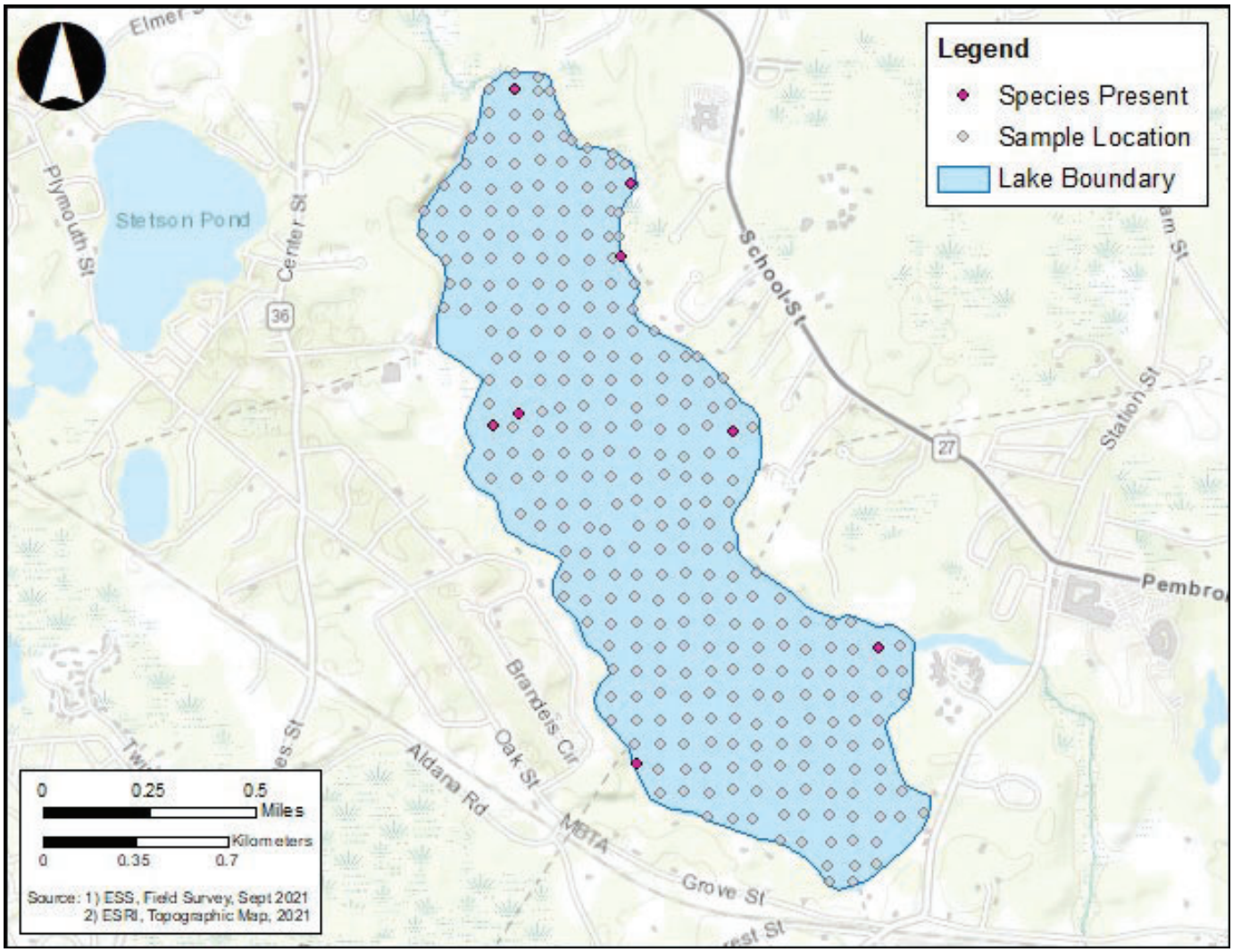
Aquatic Plants of Silver Lake

Cabomba caroliniana – Fanwort

Exotic Invasive

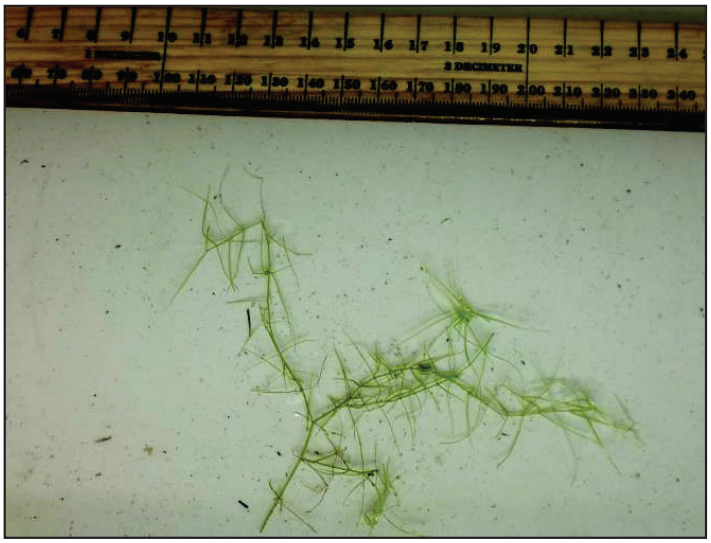
Key Features: Finely dissected, fanlike leaves arranged oppositely on submersed stems. Small, white flowers with small floating leaves emerge in late summer but submersed leaves will remain obvious.
Habitat: Ponds, lakes and other sluggish waters. Can form dense, extensive monocultures.
Growth Type: Submerged
Similar Species: *Ranunculus* spp., *Myriophyllum* spp.

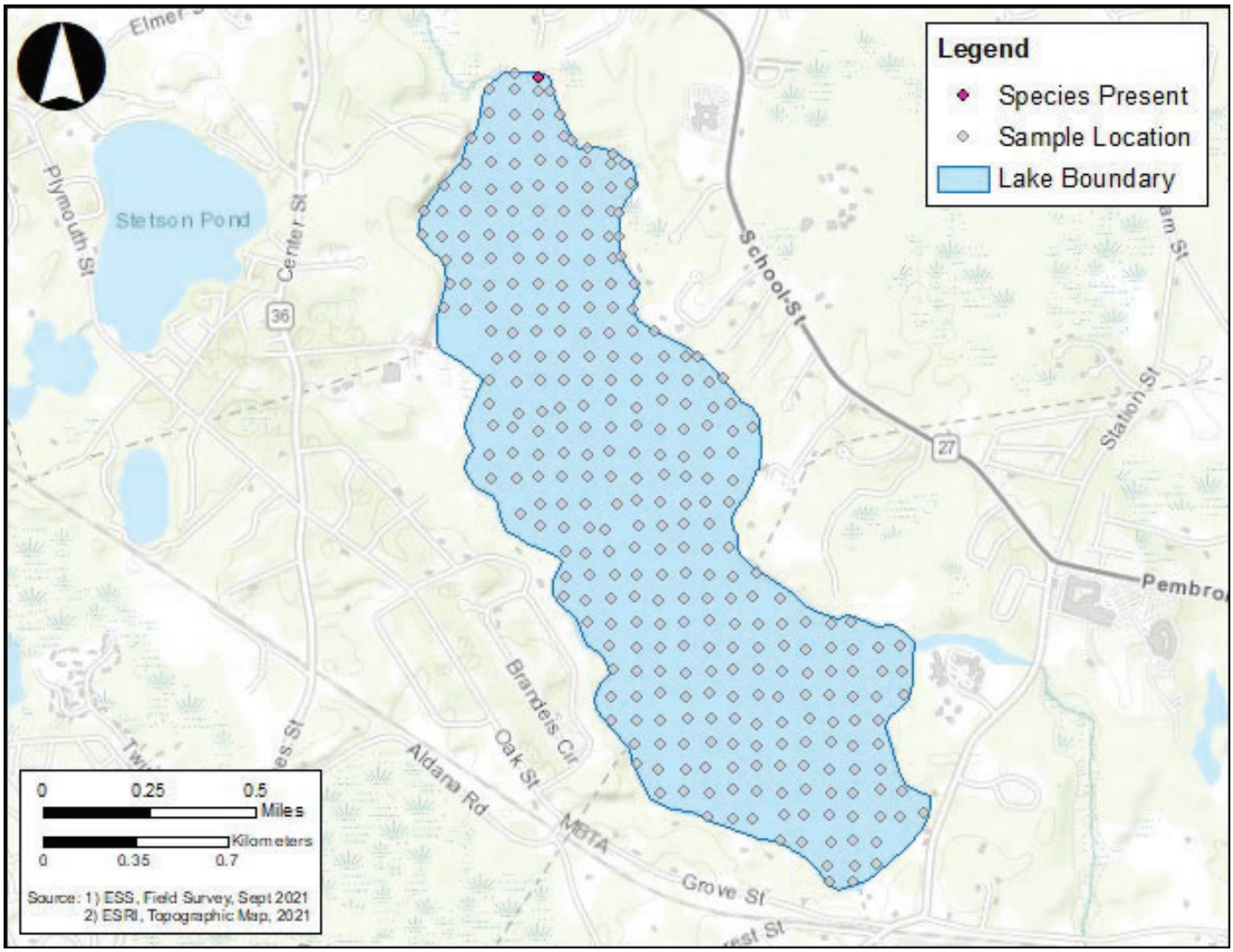




Callitriche heterophylla – Water Starwort **Native**

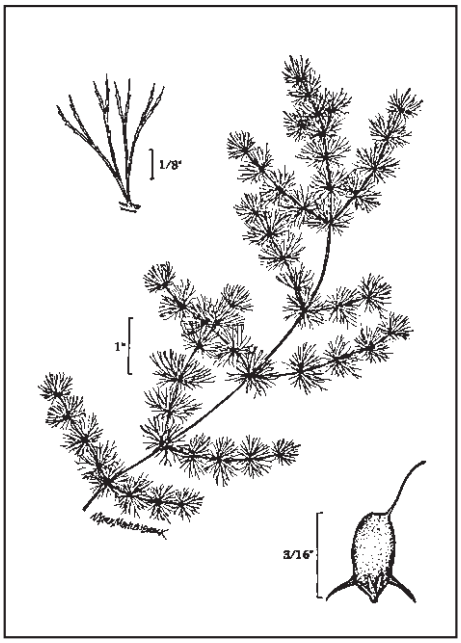
Key Features: Opposite leaves either linear (submersed) or spatulate (floating). Highly variable.
Habitat: Muddy shores and shallow, protected waters of ponds and lakes.
Growth Type: Submerged (dominant), floating-leaved (secondary)
Similar Species: *Potamogeton* spp., *Najas* spp.

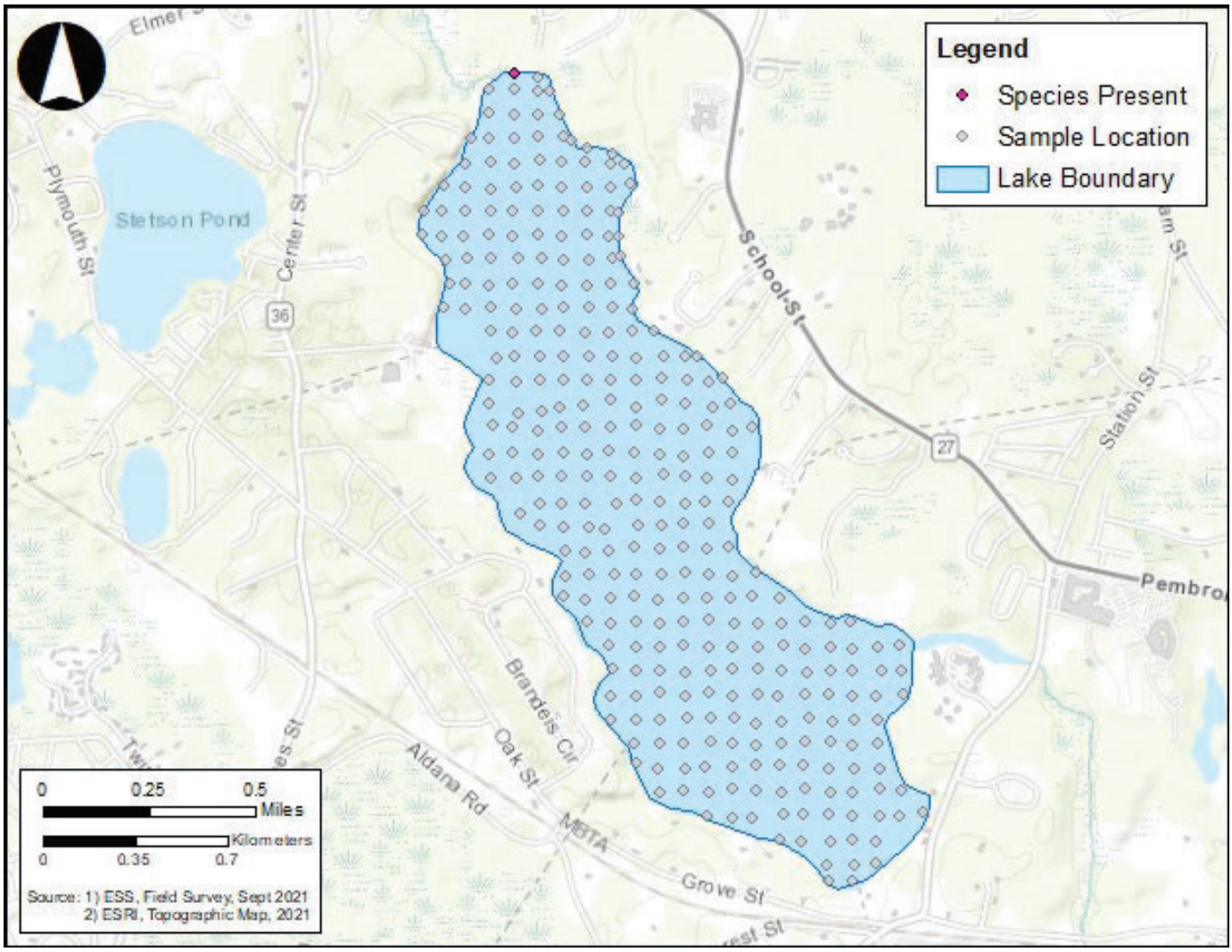




Ceratophyllum demersum – Coontail **Native**

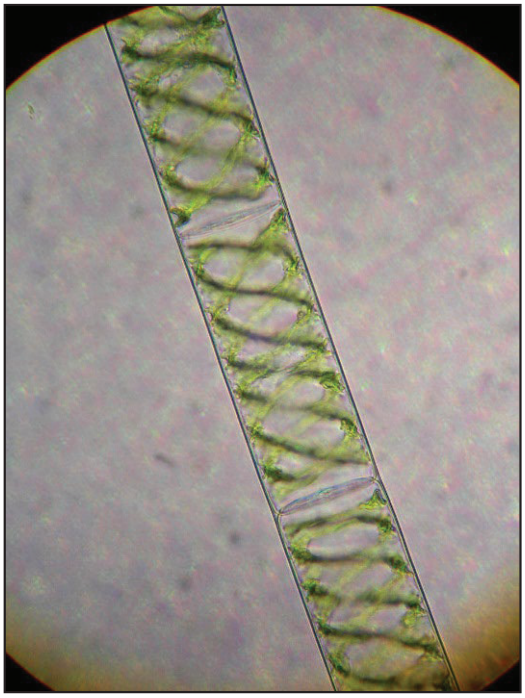
Key Features: Finely dissected, whorled leaves are branched. Leaves often cluster together near the stem tips giving them a look reminiscent of a raccoon tail. Plants are rootless.
Habitat: Ponds, lakes and other sluggish waters. Can grow to nuisance levels.
Growth Type: Submerged
Similar Species: *Myriophyllum* spp.

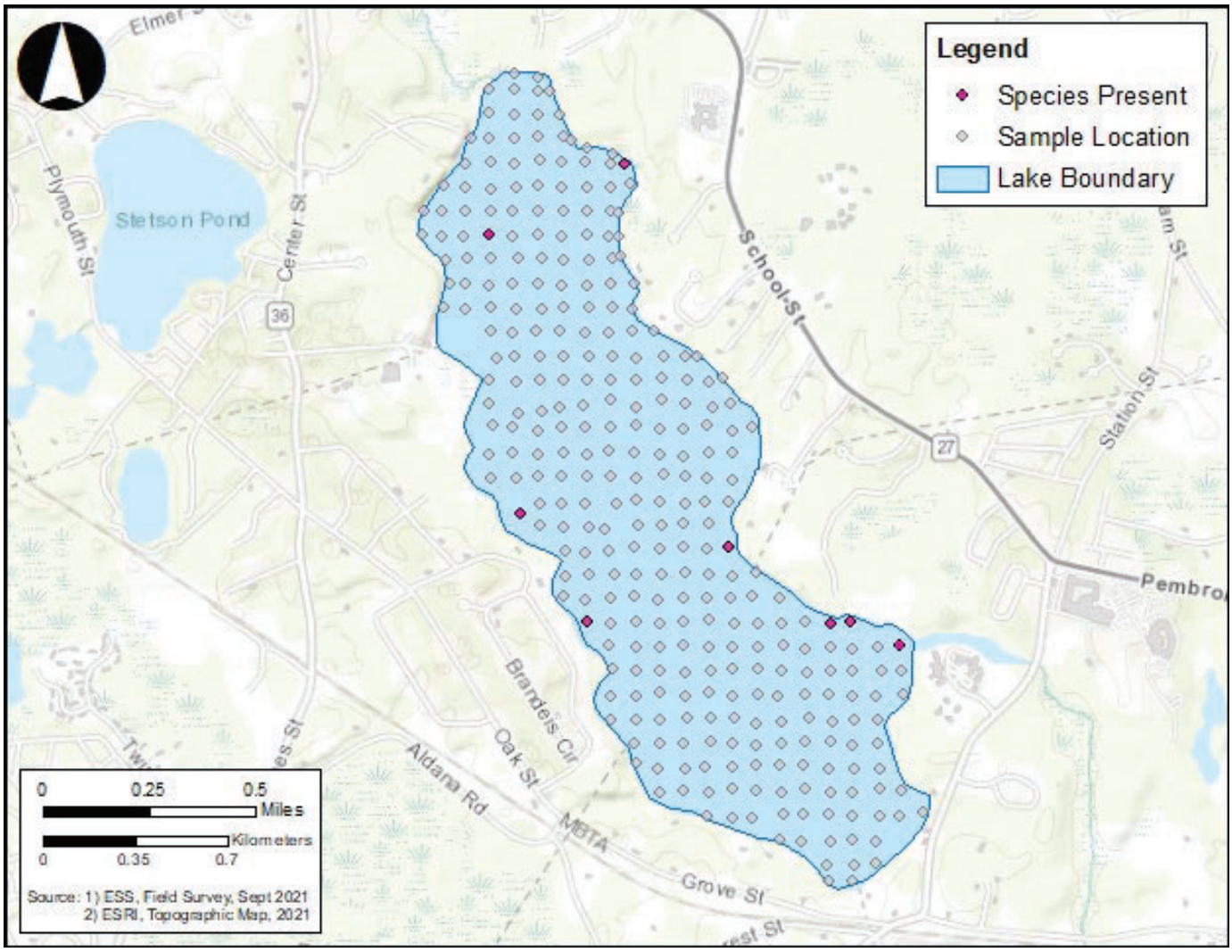




Chlorophyceae spp. – Filamentous Green Algae **Native**

Key Features: Green, cotton-like masses that can either be free-floating or attached to rocks or plants. May feel stringy and/or slimy. The fine green filaments have no flowers, stems, leaves, or roots.
Habitat: Deep to shallow lakes and ponds. Can grow to nuisance levels.
Growth type: Alga
Similar Species: None.

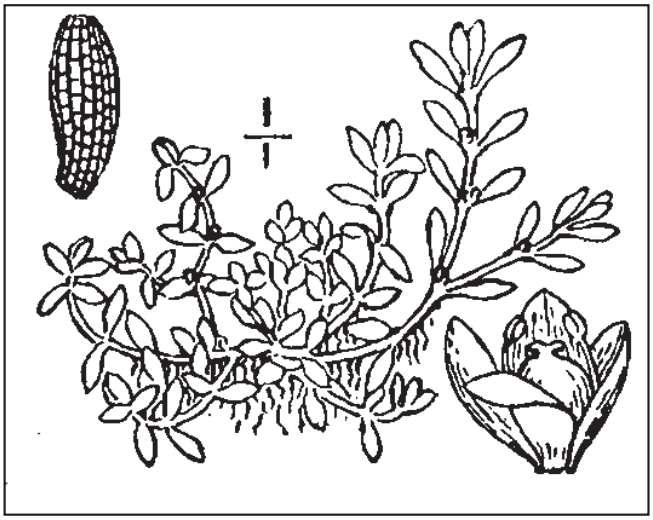


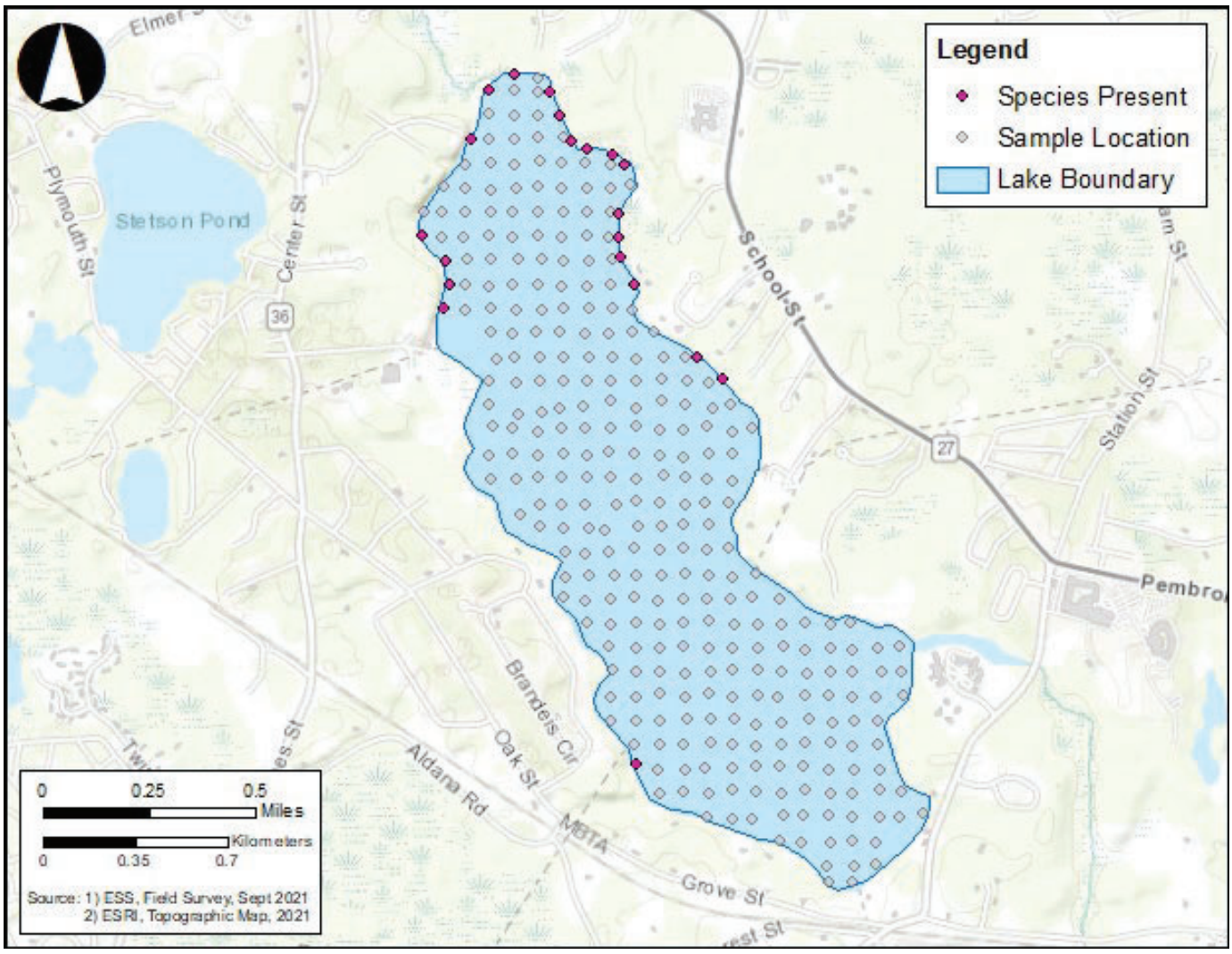


Elatine spp. – Waterwort

Native

Key Features: Tiny plant. Opposite leaves are small and rounded and each pair is offset from the next by 90 degrees.
Habitat: Often found growing in scattered patches on sand or gravel substrates in the shallow littoral zone.
Growth Type: Submerged (dominant), emergent (secondary)
Similar Species: *Gratiola aurea* (submersed form)

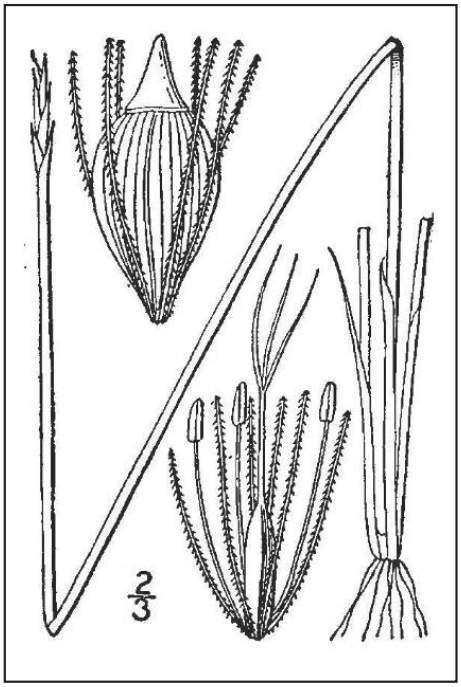


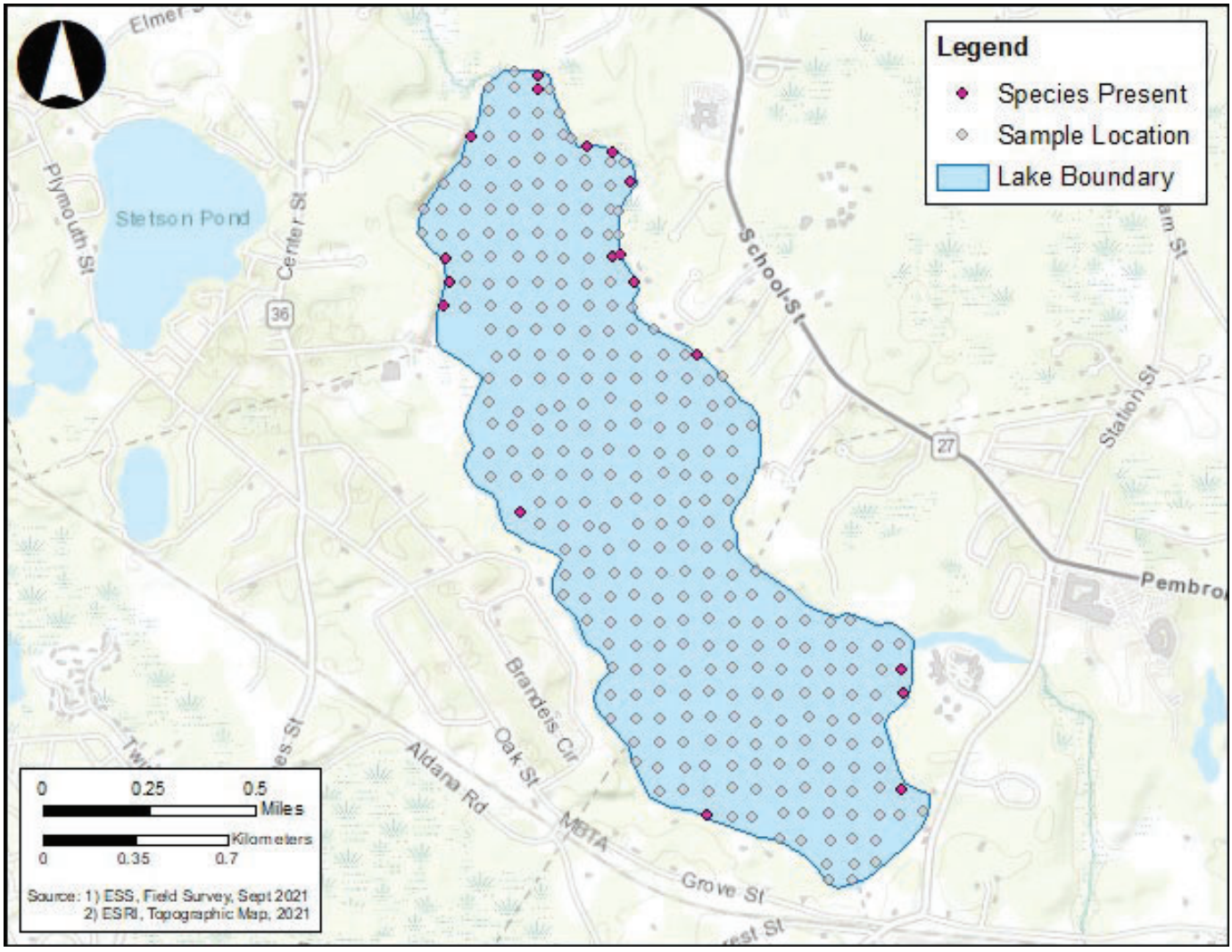


Eleocharis spp./Eleocharis robbinsii – Spikerush/Robbins' Spikerush

Native

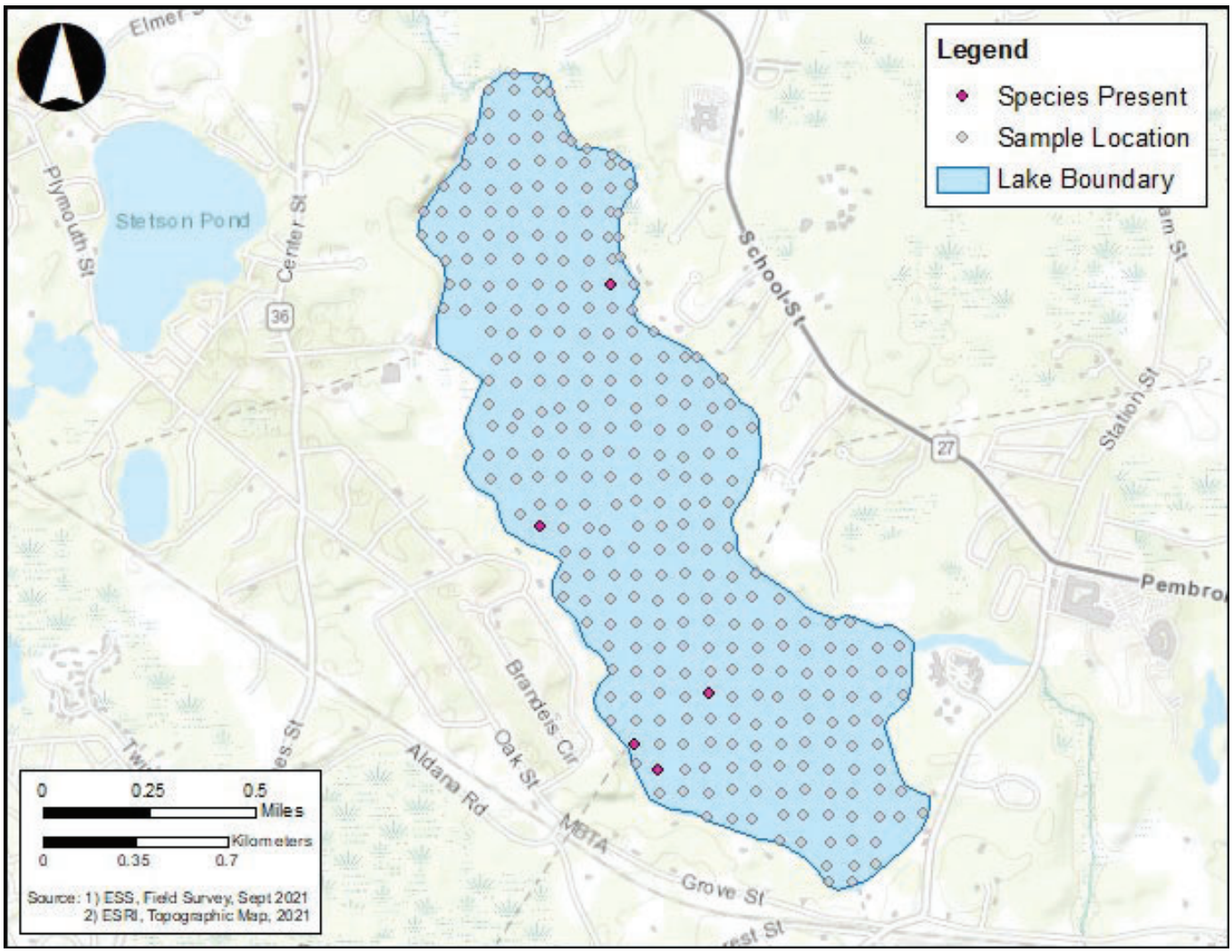
Key Features: Leaves are bladeless sheaths arising from clumps, rhizomes or stolons. Emergent stems may send up a solitary spikelet.
Habitat: Shallow waters and edges of ponds and lakes. Submersed forms may form monoculture or multi-species mats.
Growth Type: Submerged
Similar Species: *Scirpus* spp., *Juncus* spp.





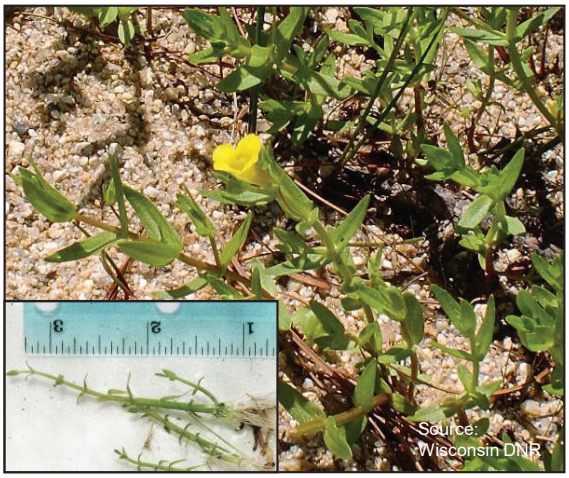
Elodea canadensis – Canadian waterweed **Native**

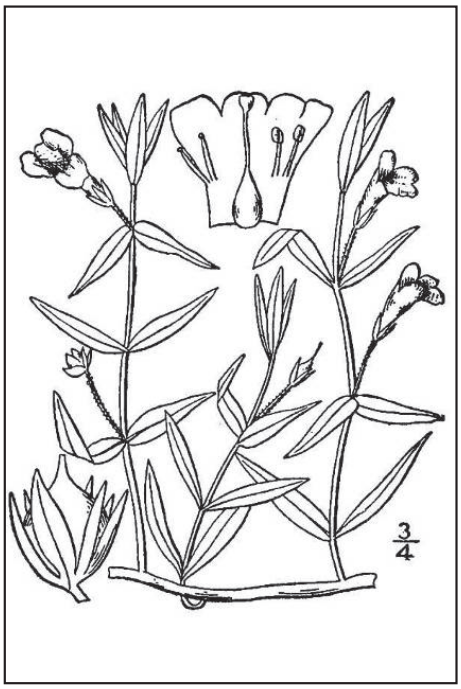
Key Features: Whorls of 3 to 4 leaves with bunching near the stem tips. Leaves are relatively wide and blunt tipped. Small flowers occasionally found arising from long pedicels.
Habitat: Alkaline to circumneutral ponds, lakes and slow streams.
Growth Type: Submerged
Similar Species: *Elodea nuttallii*

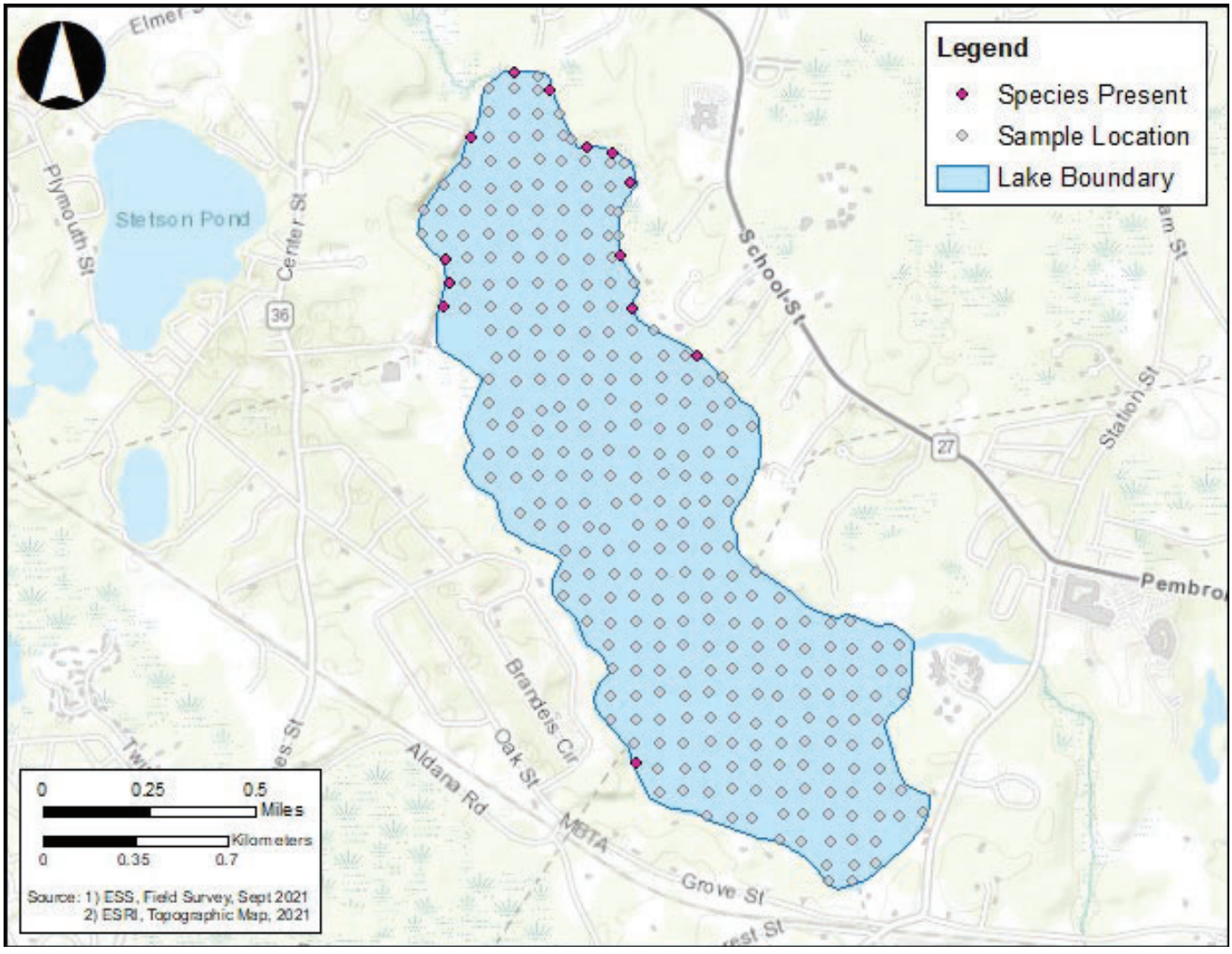


Gratiola aurea – Golden Hedge-hyssop **Native**

Key Features: Fertile emergent form has opposite, entire leaves without petioles. Flowers produced in July and August are bright yellow. Sterile submersed form (inset below) has small pointed leaves, with each pair offset at 90 degrees from neighboring pairs.
Habitat: Shores and shallow edges of lakes and ponds, most often in sand or gravel. other sluggish waters. Often associates with *Eleocharis sp*., *Elatine sp*., and *Isoetes sp*.
Growth Type: Submerged (dominant), emergent (secondary)
Similar Species: *Elatine* spp. (submersed form only)



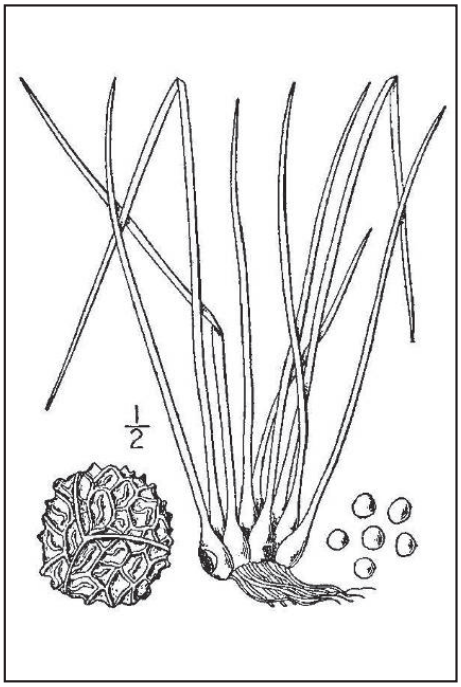


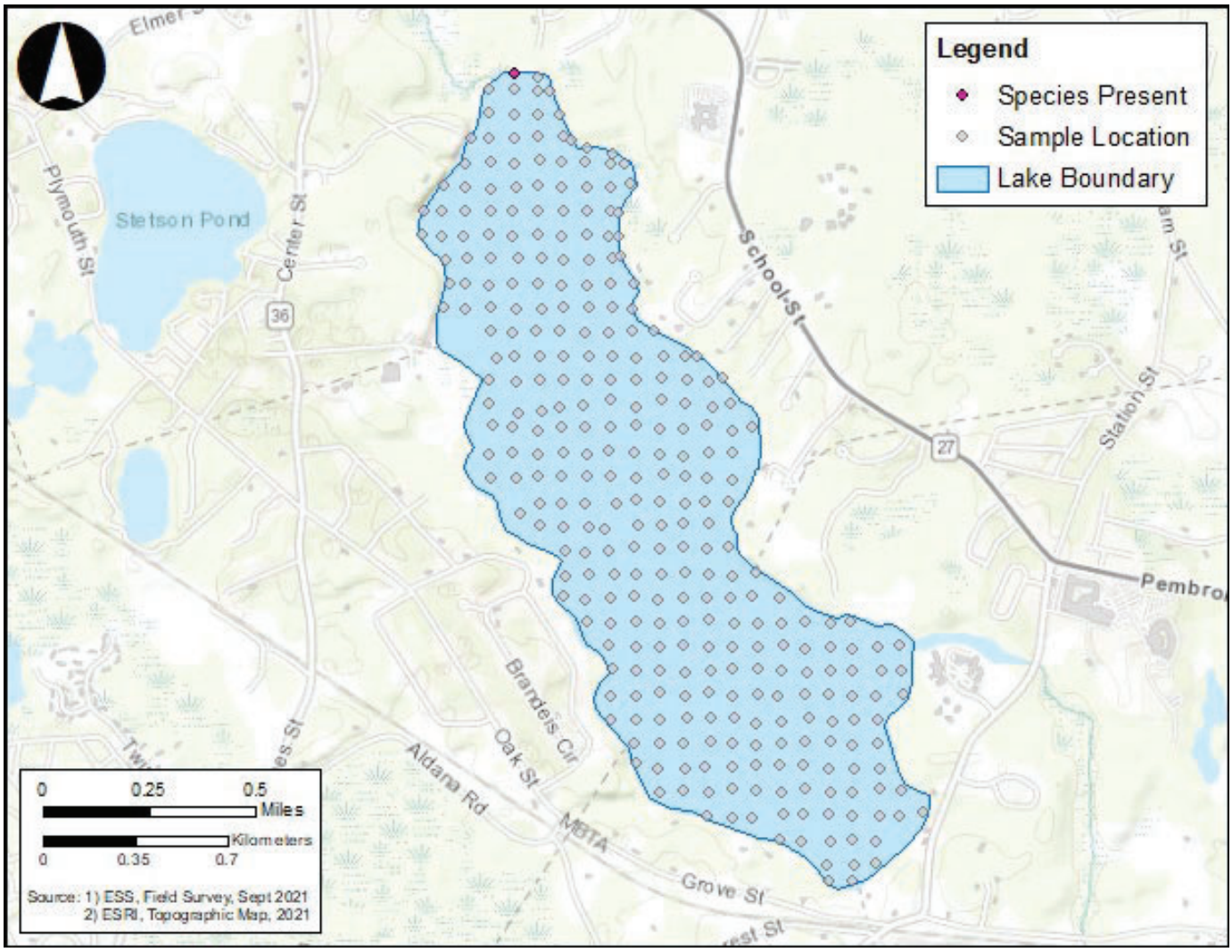


Isoetes sp. – Quillwort

Native

Key Features: Sharply pointed leaves arise from a dense basal clump and are enlarged at the base. Small spores may be found within the enlarged base of the plant. Roots are *not* septate (marked by transverse lines).
Habitat: Shores and shallow edges of lakes and ponds.
Growth Type: Submerged
Similar Species: *Eriocaulon* spp.

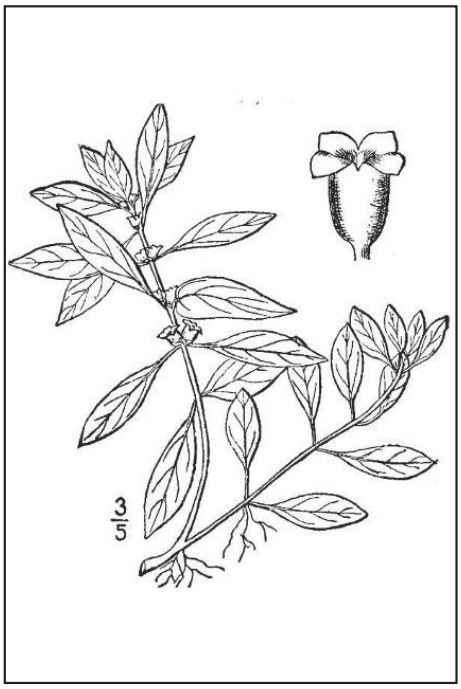


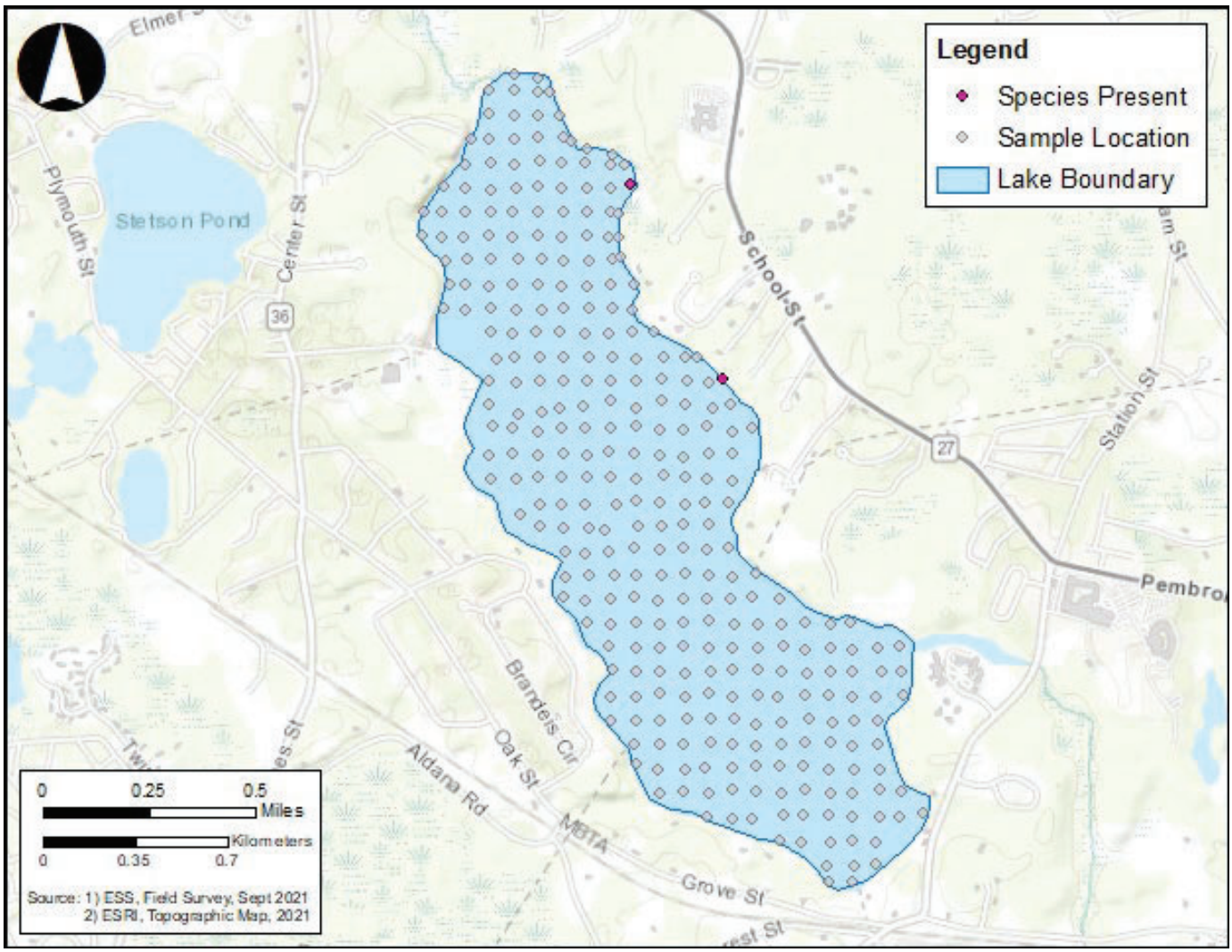


Ludwigia palustris – Marsh Seedbox

Native

Key Features: Opposite, spatulate leaves. Plant may be entirely submerged or emergent.
Habitat: Pond and lake margins. Often found in small groups or as single plant
Growth Type: Submerged (dominant), emergent (secondary)
Similar Species: None.

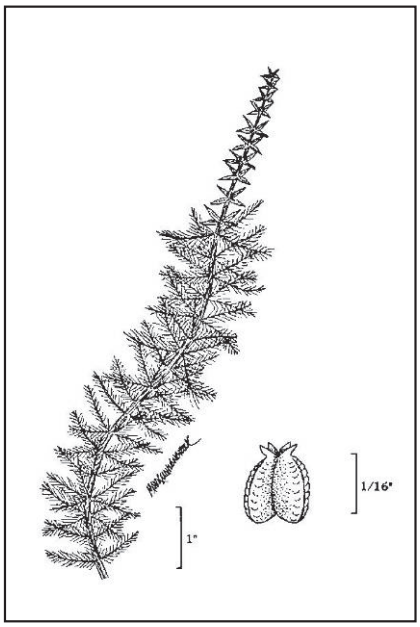


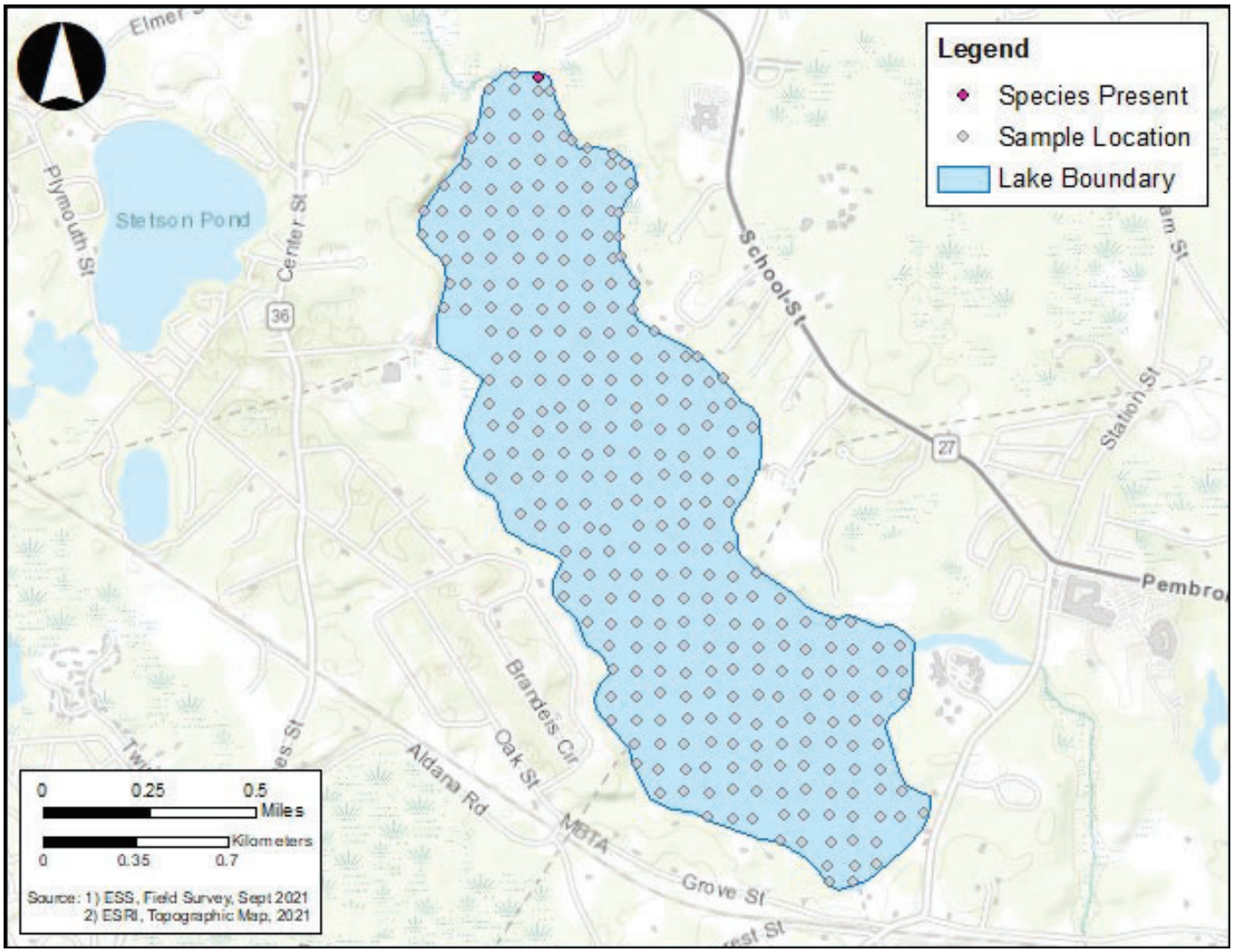


Myriophyllum heterophyllum – Variable-leaf Milfoil

Exotic Invasive

Key Features: Finely dissected, feathery leaves arranged in whorls of 4-6 on submersed stems. Emergent stems form comblike or serrated bracts that are larger than the flowers and look very different from the submersed leaves in August and September. Stems can grow more than 10 feet long.
Habitat: Shallow edges and quiet waters of protected coves and stream outlets. Can form dense, extensive monocultures.
Growth Type: Submerged
Similar Species: *Myriophyllum* spp.

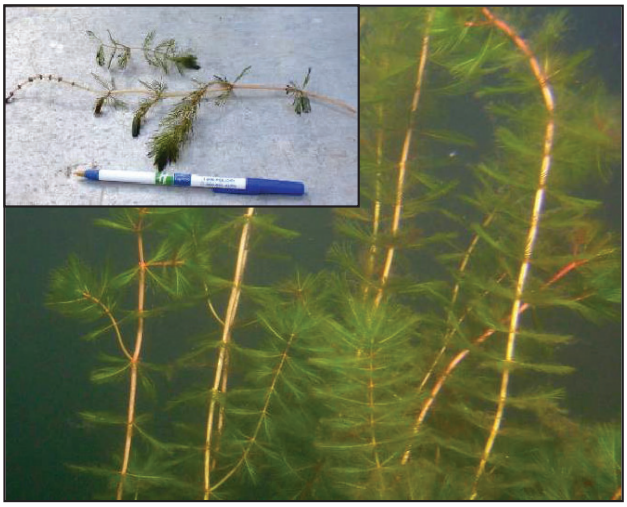


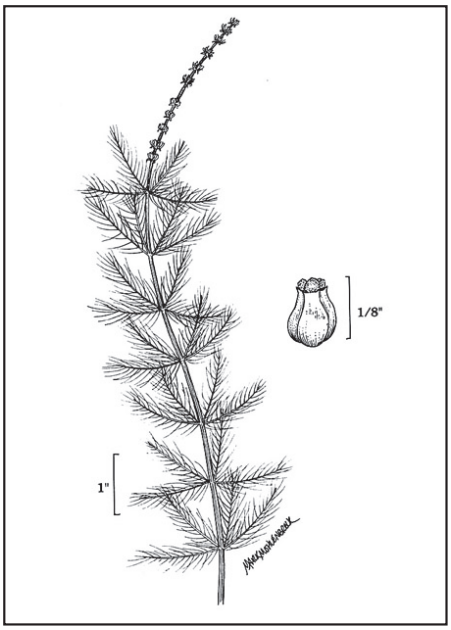


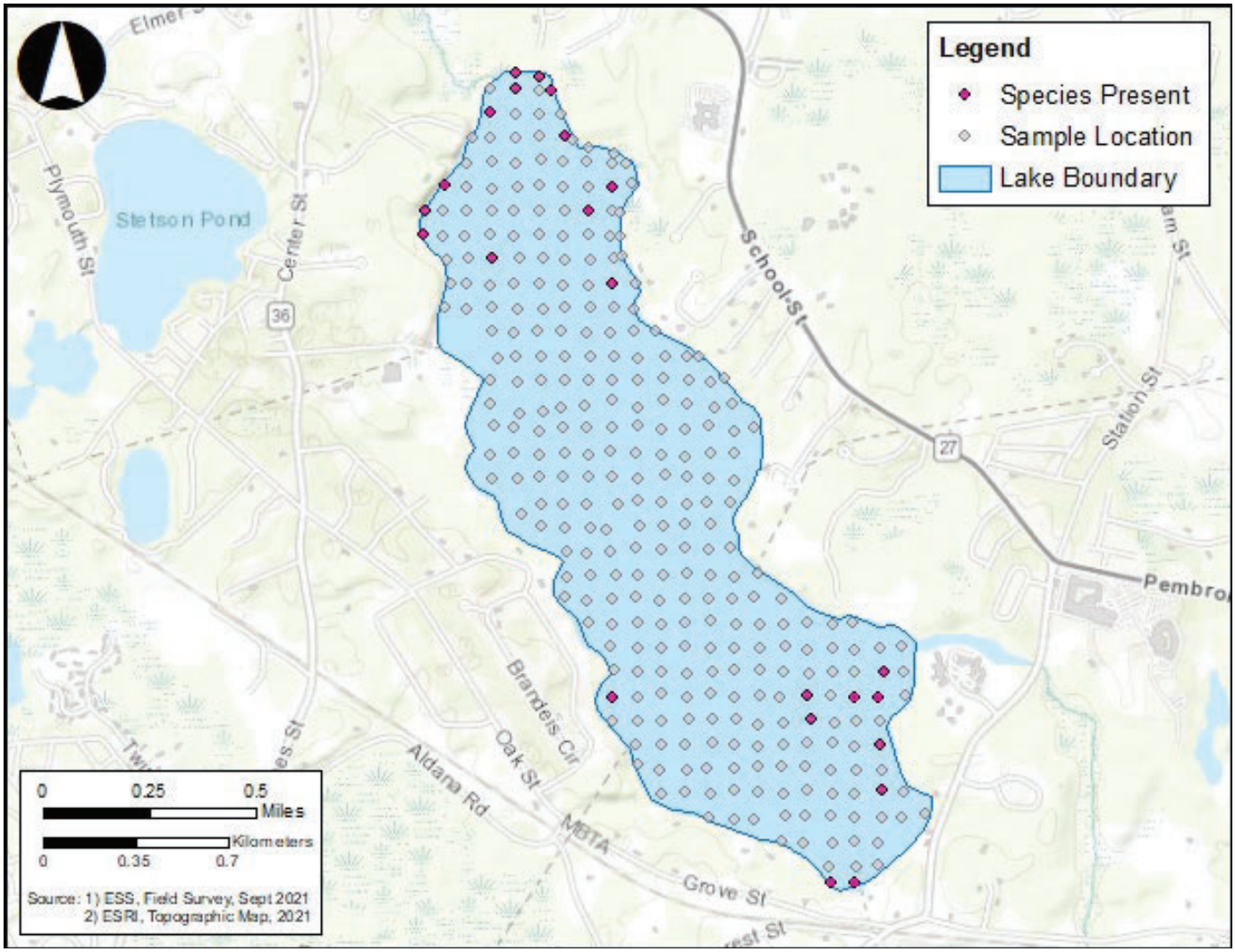
Myriophyllum spicatum – Eurasian Milfoil

Exotic Invasive

Key Features: Finely dissected leaves arranged in whorls of 3-6 on submersed stems. Leaves appear truncated, as if tips were clipped with scissors. Emergent stems with flowers larger than tiny bracts in August and September (inset below). Stems can grow more than 10 feet long.
Habitat: Ponds, lakes, and other sluggish waters. Can form dense, extensive monocultures.
Growth Type: Submerged
Similar Species: *Myriophyllum* spp.



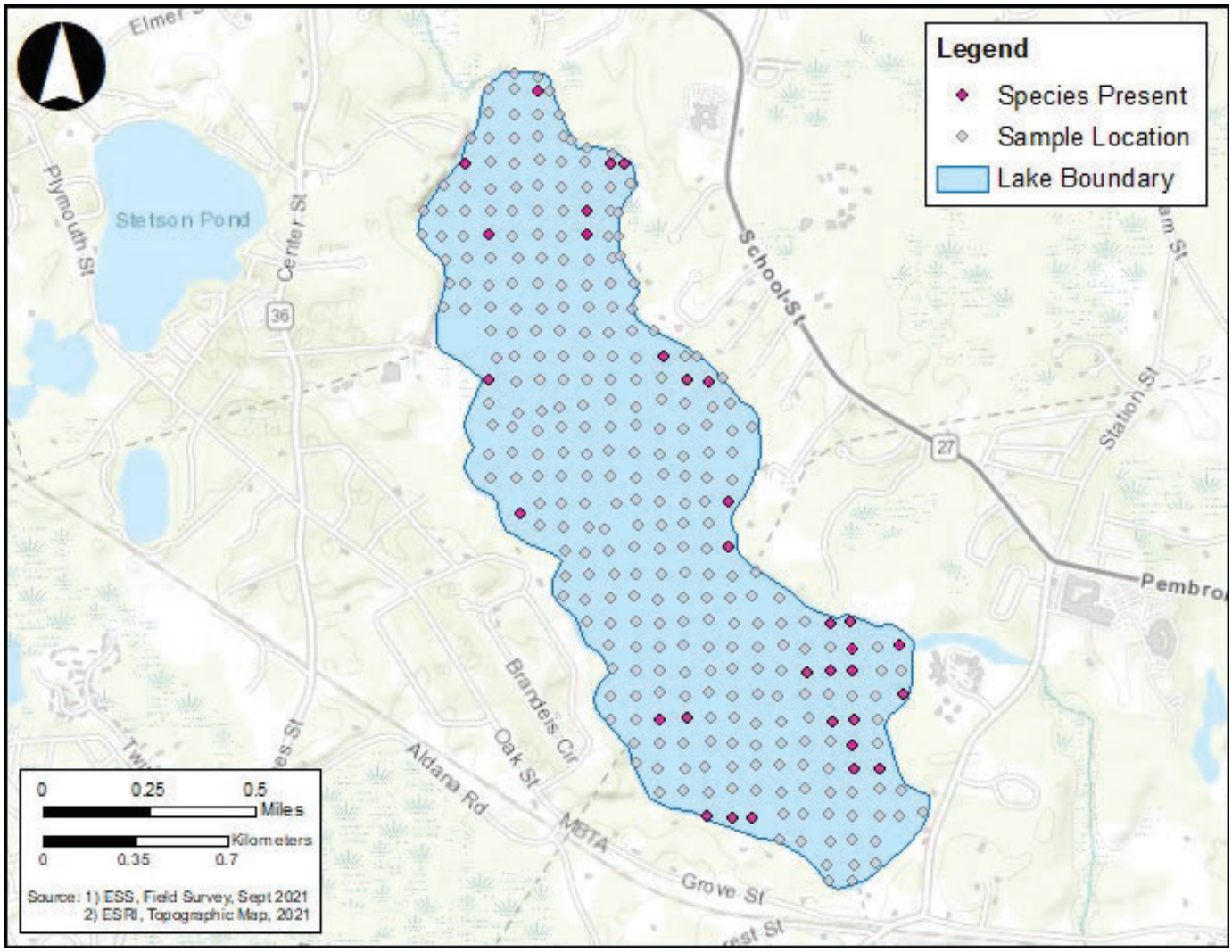




Nitella spp. – Stonewort

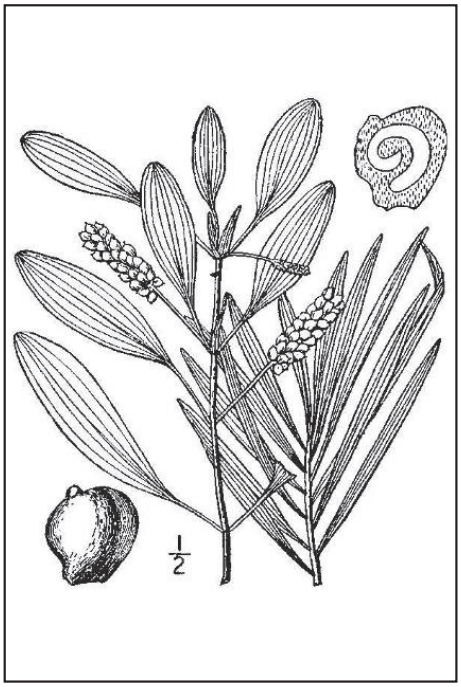
Native

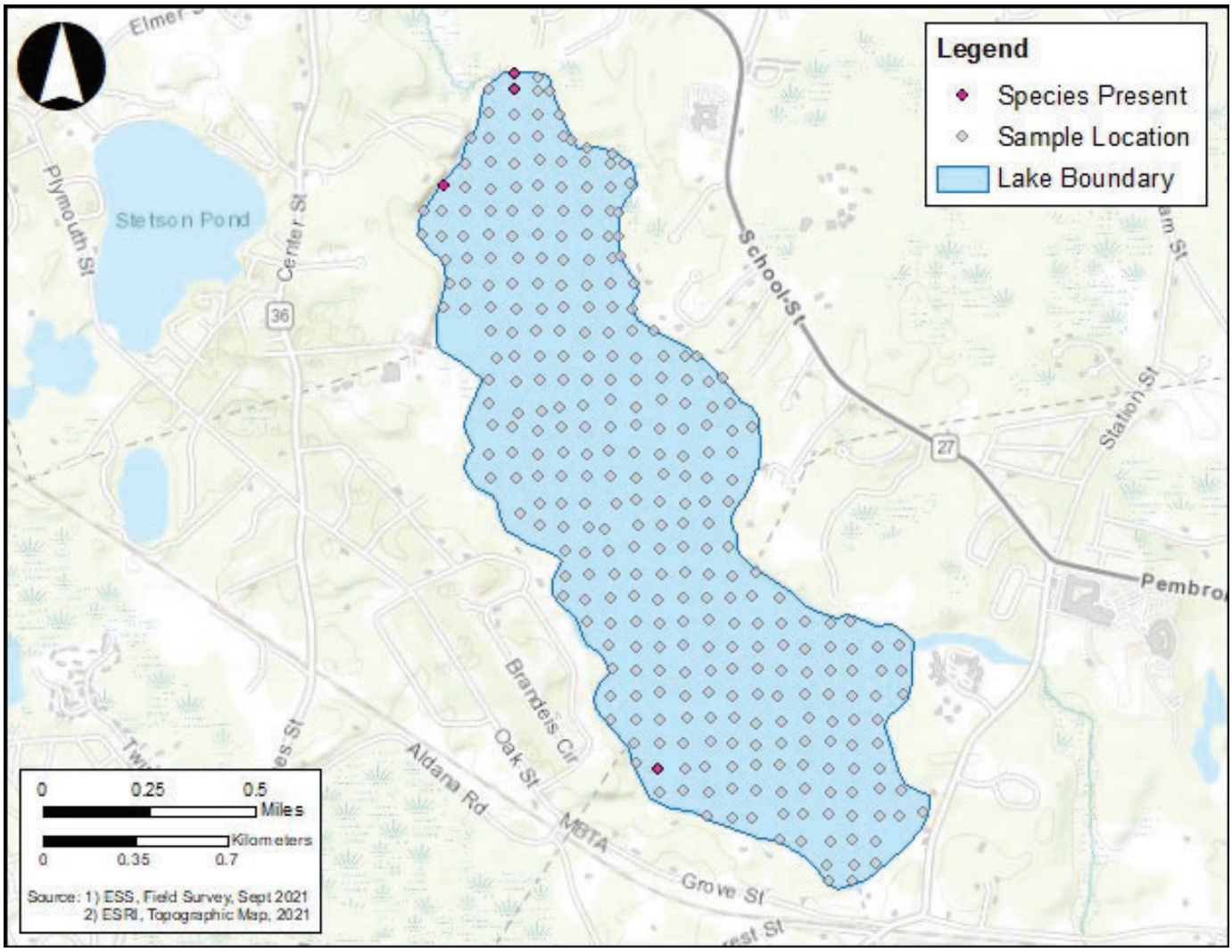
Key Features: Low-growing macroalga with whorled branchlets. Does not releases a pungent odor when crushed.
Habitat: Prefers circumneutral to acid ponds and lakes. Often grows at greater depths than vascular plants but can also be found in shallow water.
Growth Type: Alga
Similar Species: *Chara* spp.



Potamogeton epihydrus – Floating-leaf Pondweed **Native**

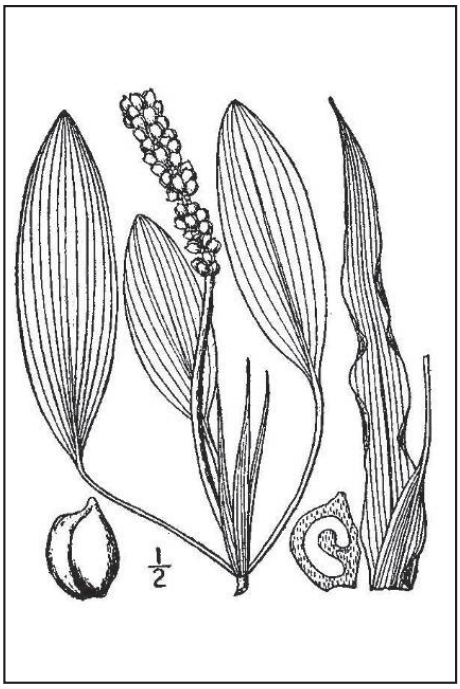
Key Features: Floating leaves up to 3¼" long are oblong, rounded at the tip, and set off from the stem by a long petiole. Submersed leaves are ribbonlike and have wide central strip of lacunae that appears lighter than the leaf edges.
Habitat: Shallow waters of ponds and lakes.
Growth Type: Floating-leaved (dominant), submerged (secondary)
Similar Species: *Potamogeton nodosus*, *P. robbinsii* (submersed leaves)

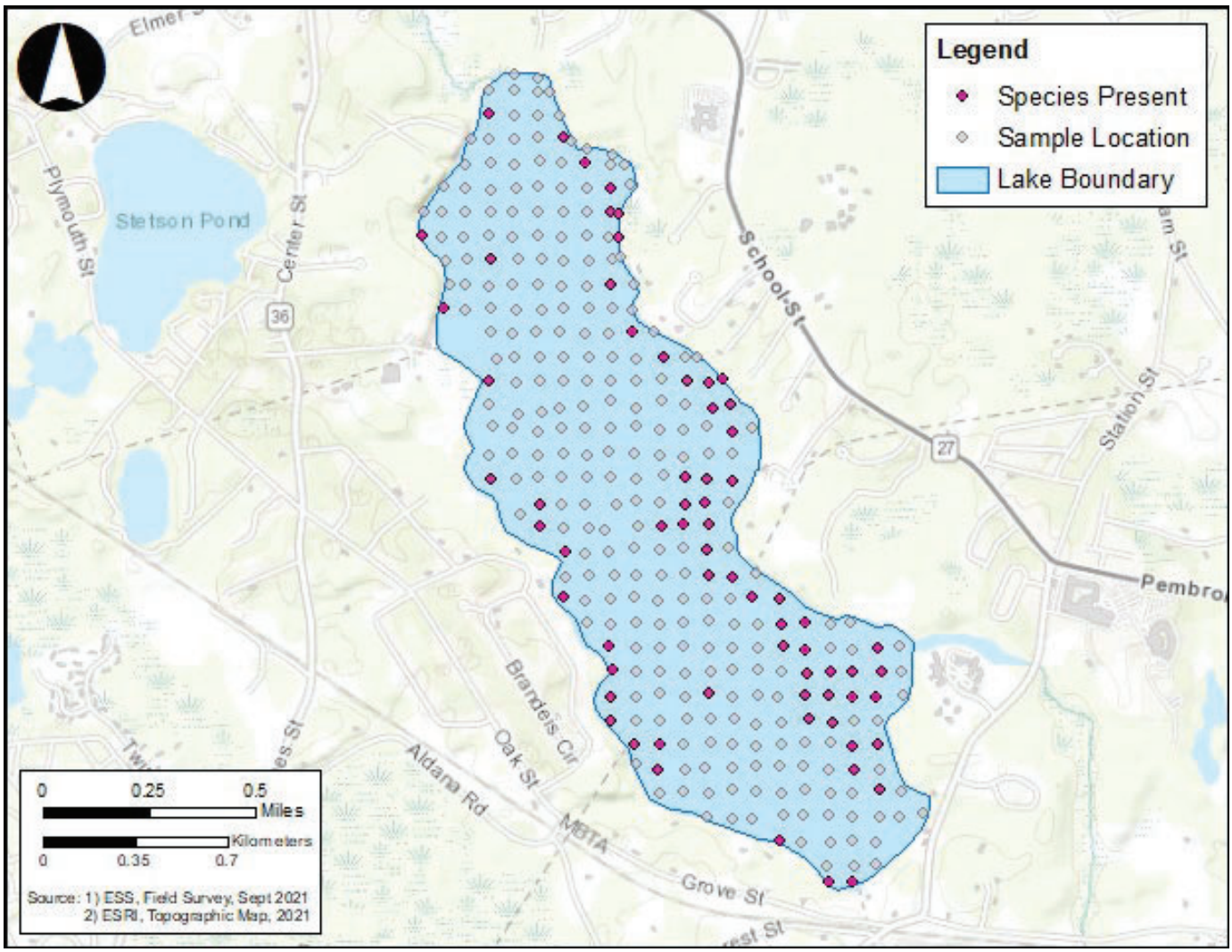




Potamogeton perfoliatus – Clasping-Leaf Pondweed **Native**

Key Features: Leaves are circular to ovate and clearly clasp the stem. Leaf edges are wavy but entire (not serrated). Floating leaves are absent.
Habitat: Shallow waters of ponds and lakes.
Growth Type: Submerged
Similar Species: *Potamogeton crispus*



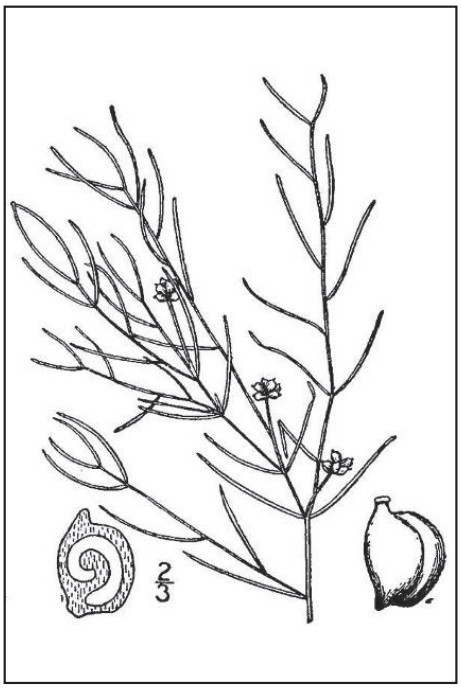


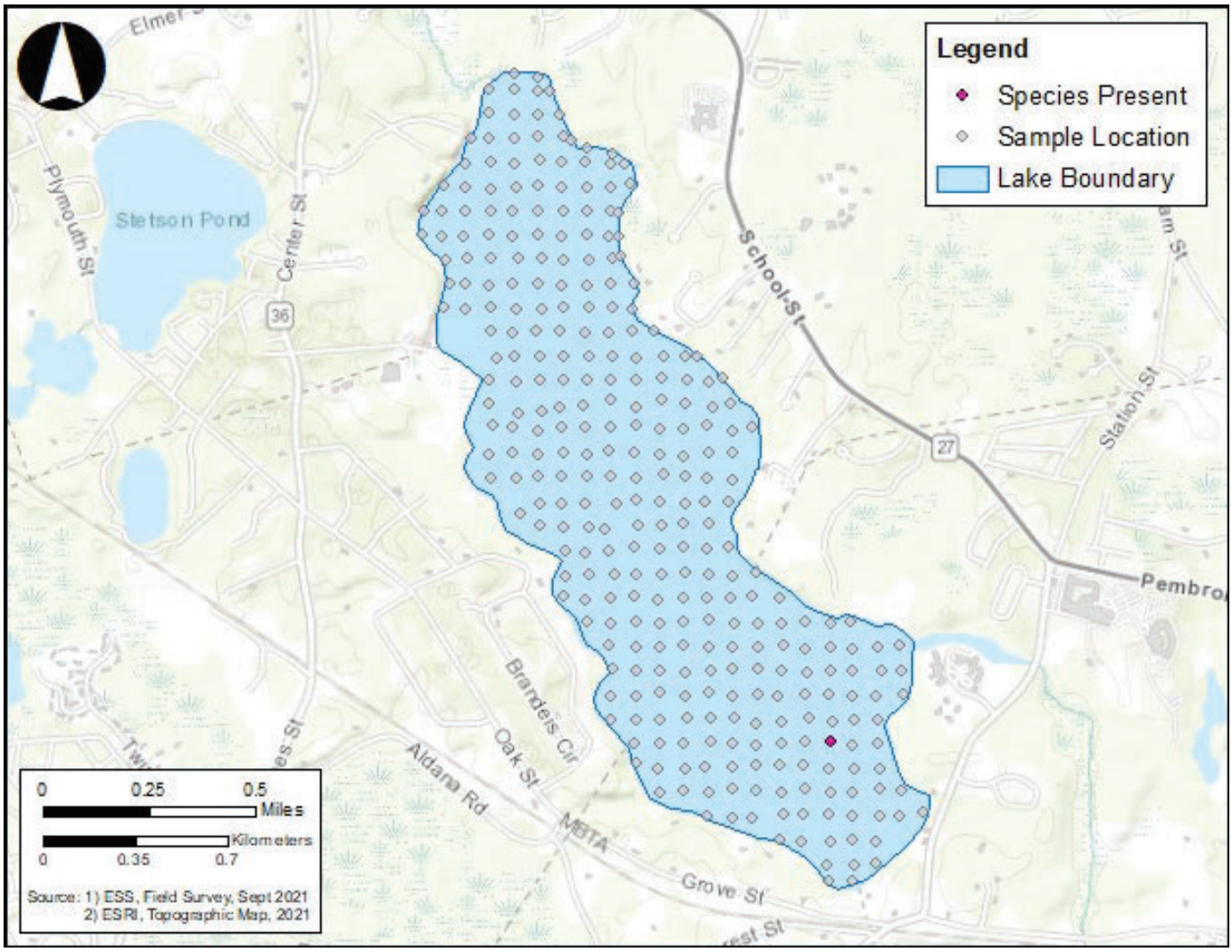
Potamogeton pusillus – Thinleaf Pondweed

Native

Key Features: No floating leaves. Submersed leaves are thin.
Habitat: Shallow waters of lakes and ponds.
Growth Type: Submerged
Similar Species: *Potamogeton bicupulatus*, *P. spirillus* (submersed leaves)


Source: Christian Fischer

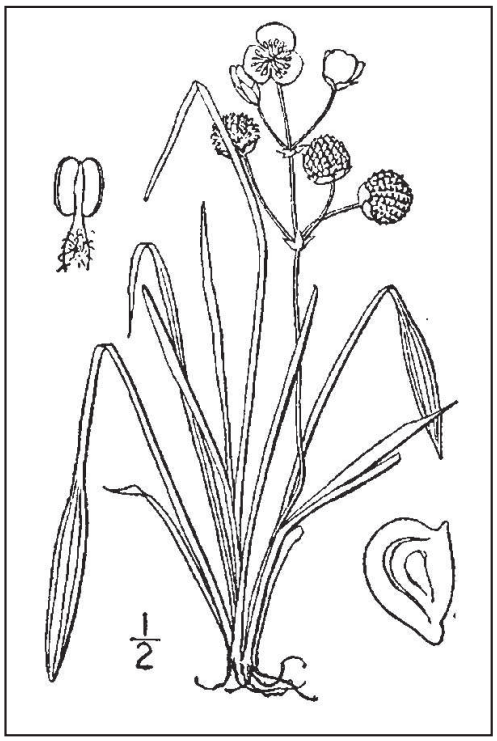


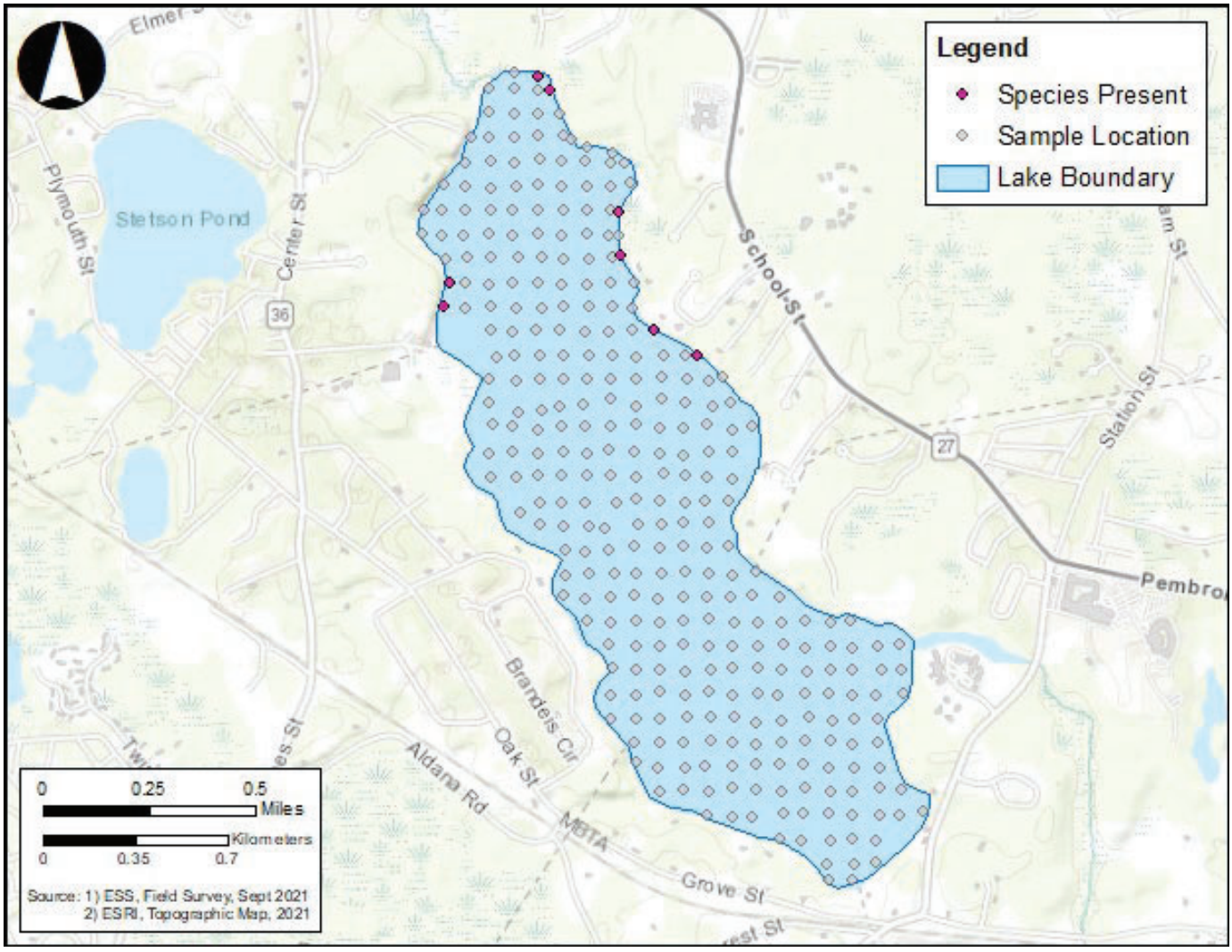


Sagittaria sp. – Arrowhead

Native

Key Features: Leaf blades can be heart or lance shaped. The fruit is dry, usually 1-seeded, does not split open at maturity. Leaves may be submerged or emergent, depending on the specific species.
Habitat: Shorelines and along shallow areas of lakes, ponds, and rivers
Growth Type: Emergent (primary), submerged (secondary)
Similar Species: *Pontederia cordata, Sparganium* ssp.

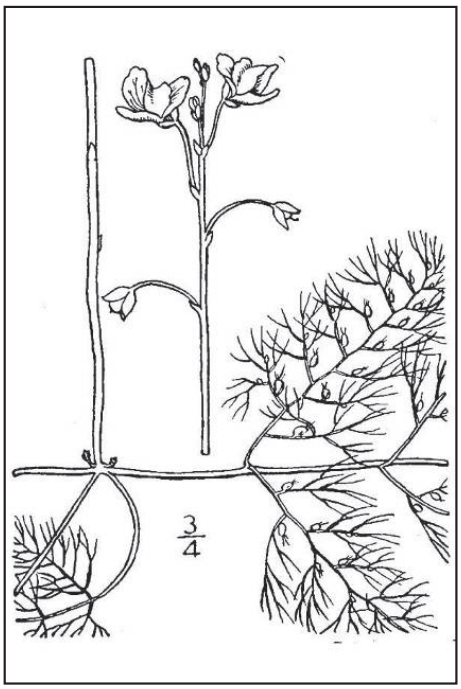


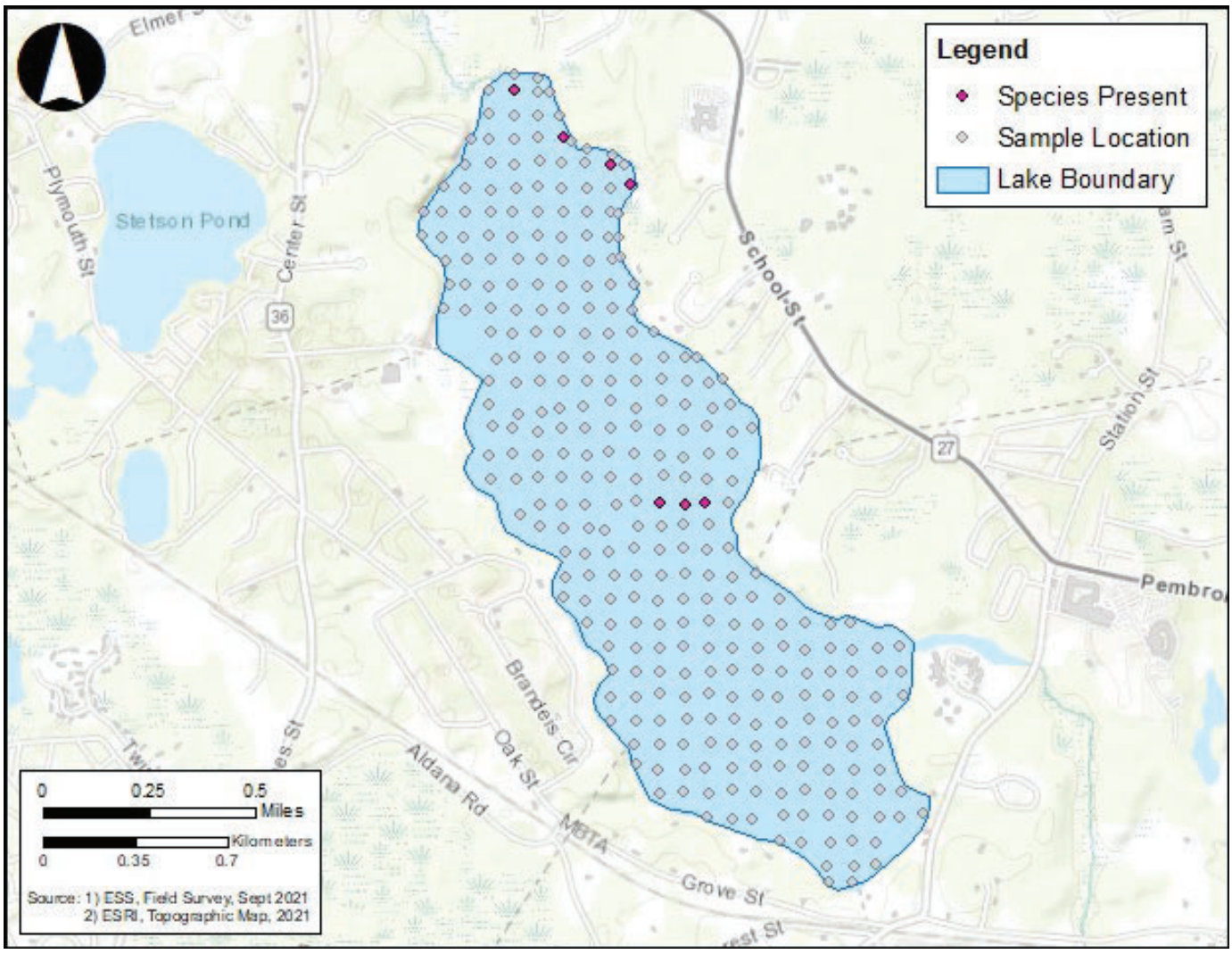


Utricularia macrorhiza – Common Bladderwort

Native

Key Features: Bladders occur with leaves. Leaves are relatively large, finely dissected, and branch 6 or more times. Flowers, when they appear, are bright yellow. Larger than other bladderworts – stems may be several feet long.
Habitat: Shallow waters of ponds, lakes, and sluggish streams.
Growth Type: Submerged
Similar Species: *Utricularia* spp.

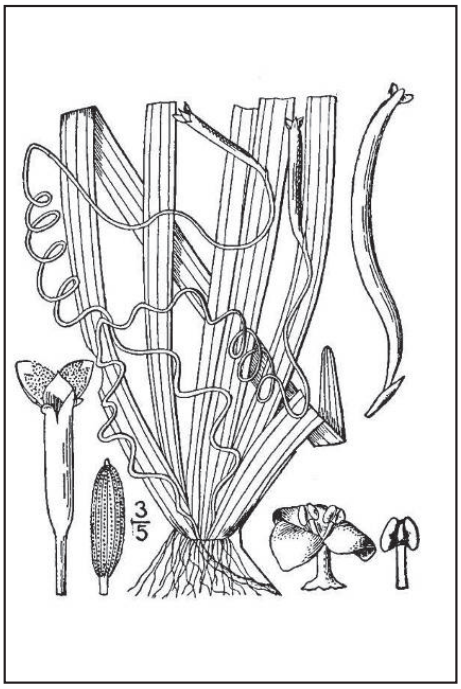


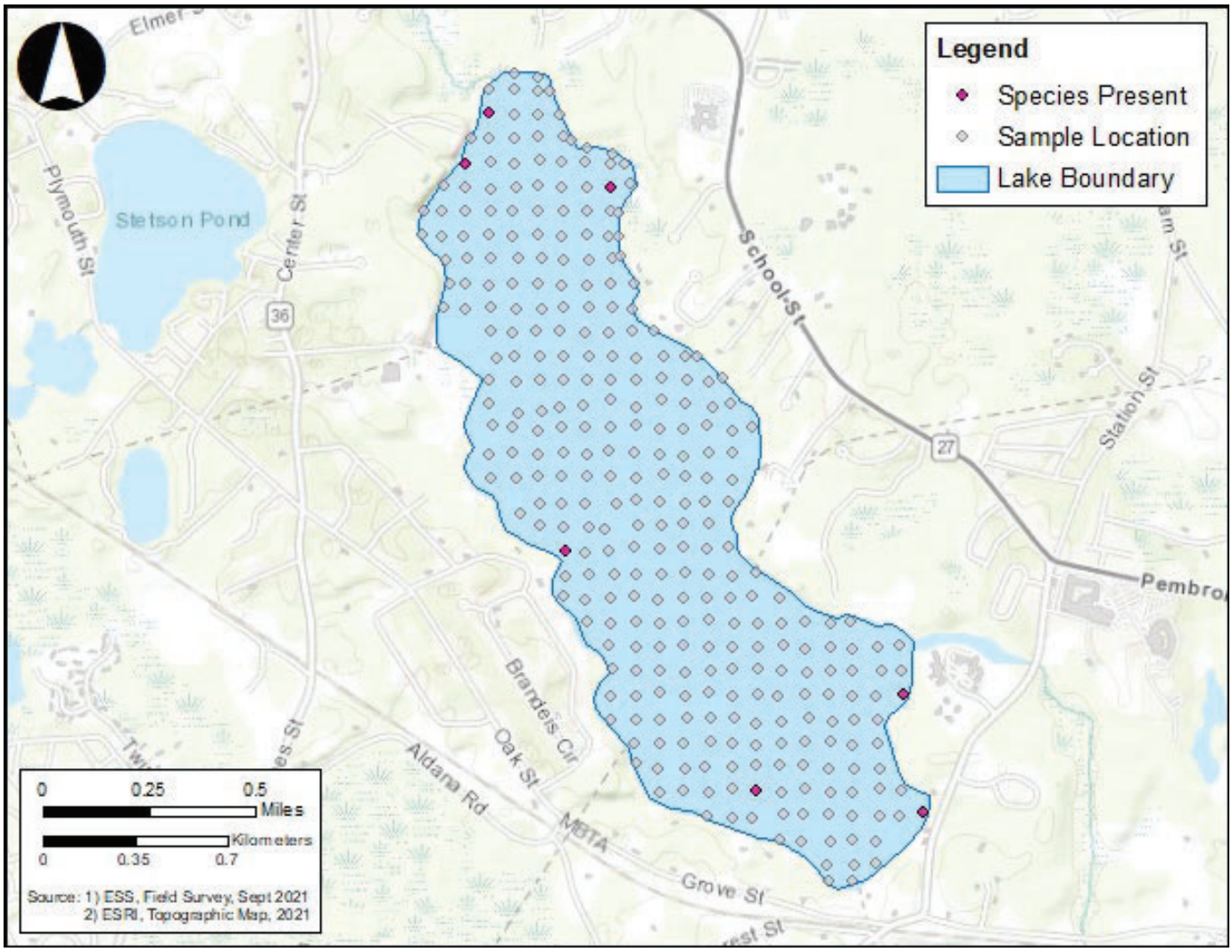


Vallisneria americana – Water Celery

Native

Key Features: Long, flimsy, strap-like basal leaves may be accompanied by coiled fruiting stems reaching to the water surface. When held up to the sunlight, two distinctive venation patterns can be seen on the center and edges of the leaf. In addition to reproduction through seeds, also spreads by rhizomes and turions to form colonies. Leaves are flat (not keeled).
Habitat: Ponds, lakes and sluggish streams, often in large beds.
Growth Type: Submerged
Similar Species: *Sparganium* spp.





Potential Invaders to the Silver Lake System

REPORT IF OBSERVED

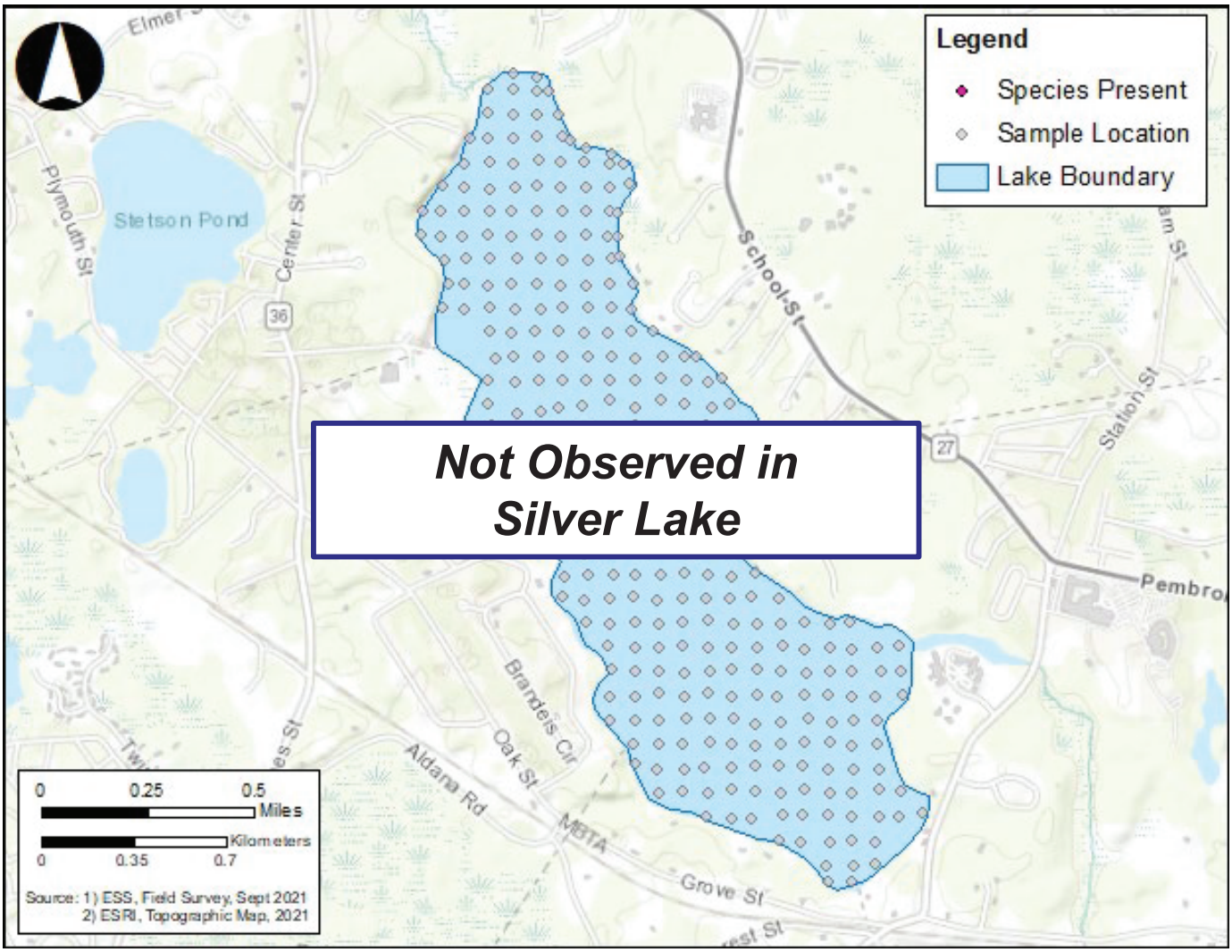
Egeria densa – Brazilian Elodea

Exotic Invasive

Key Features: Trailing stems up to 6 feet long, producing roots at intervals along the stem. Broad, pointed-leaves are whorled in groups of four to eight, with each leaf 1–4 cm long and 2–5 mm across. Flowers are 2–20 mm in diameter, with three broad, rounded, white petals.
Habitat: Grows in lakes and ponds in water up to 16 feet deep. Can form dense, extensive monocultures.
Growth Type: Submerged
Similar Species: *Elodea nuttallii, E. canadensis.*


Source: Kristian Peters
(CC BY-SA 3.0)


Source: Lara Gudmundsdottir
(CC BY-SA 4.0)

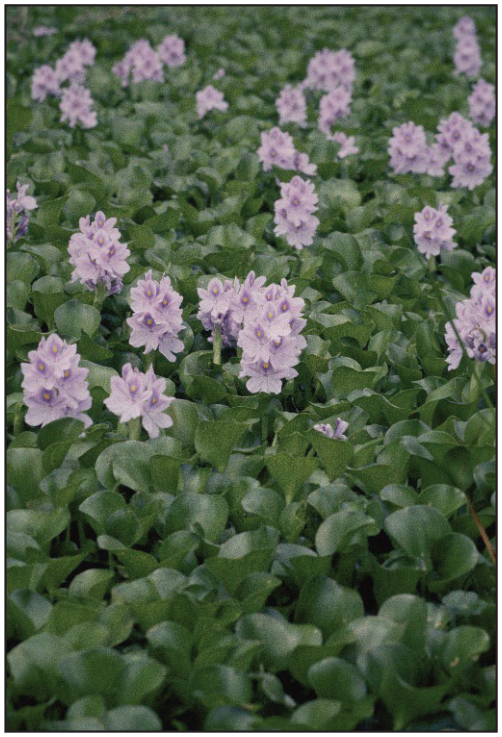


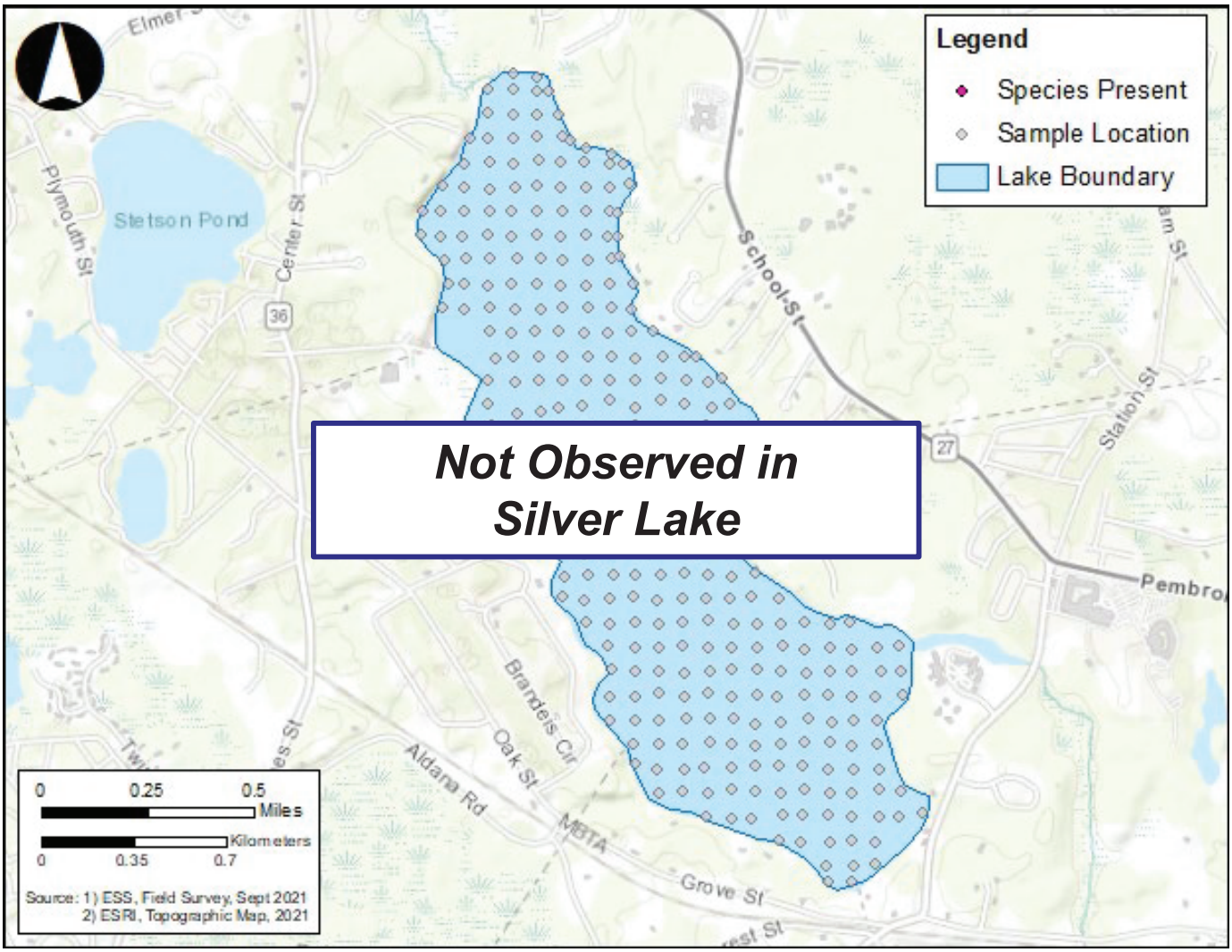
Not Observed in Silver Lake

Eichhornia crassipes – Water Hyacinth

Exotic Invasive

Key Features: Thick, glossy, oval-shaped leaves float above the water surface and range from 10 to 20 cm across. Long, spongy, bulbous stems float on the water and may rise above the surface of the water as much as 3 feet. Feathery, freely hanging roots are purple-black. An erect stalk supports a single spike of 8-15 lavender to pink flowers. Each flower has six petals.
Habitat: Slow-moving waters of lakes and ponds. Can form dense, extensive monocultures.
Growth Type: Floating-leaved
Similar Species: None.

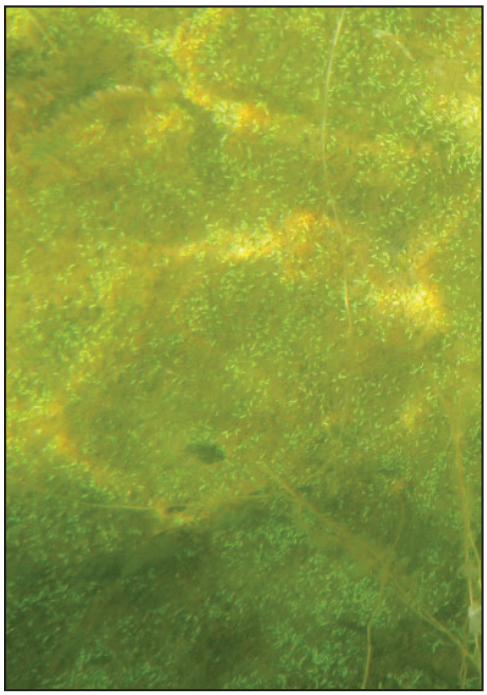


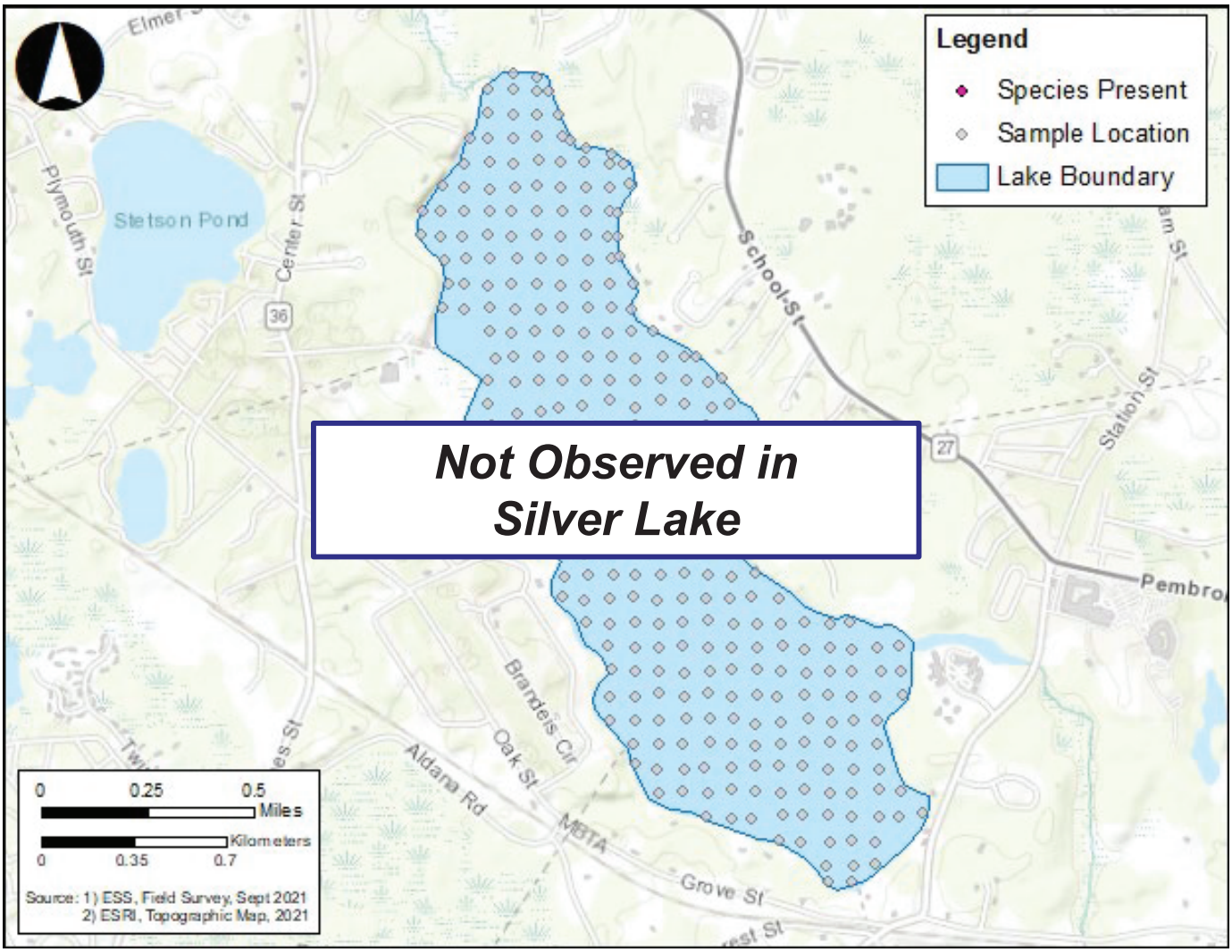


Glossostigma cleistanthum – Mud-mat

Exotic Invasive

Key Features: Mat-forming plant with small, spatula-shaped leaves. Leaves are opposite, 1-3 cm long, with two leaves per node along the stem. Tiny, pastel, bell shaped flowers arise from the leaf axils. Flowers are produced on emergent and submergent plants. Emergent plants are annual while submergent plants are perennial and will remain green throughout the winter.
Habitat: Shallow shores of rivers, lakes, or ponds.
Growth Type: Submerged (dominant), emergent (secondary)
Similar Species: *Elatine* spp., *Gratiola aurea.*



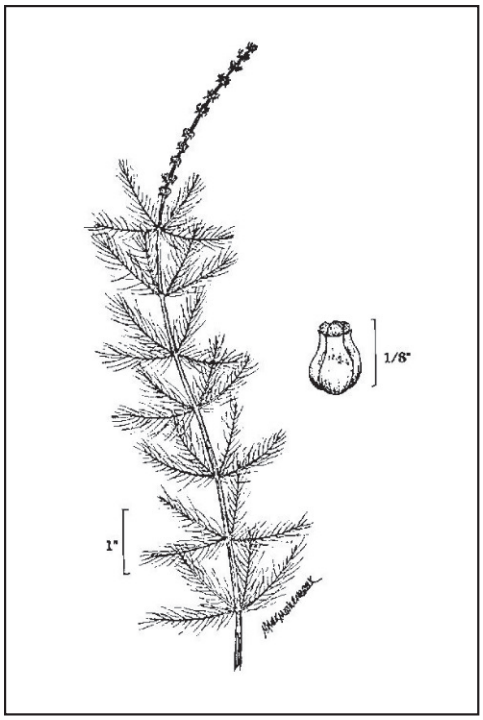


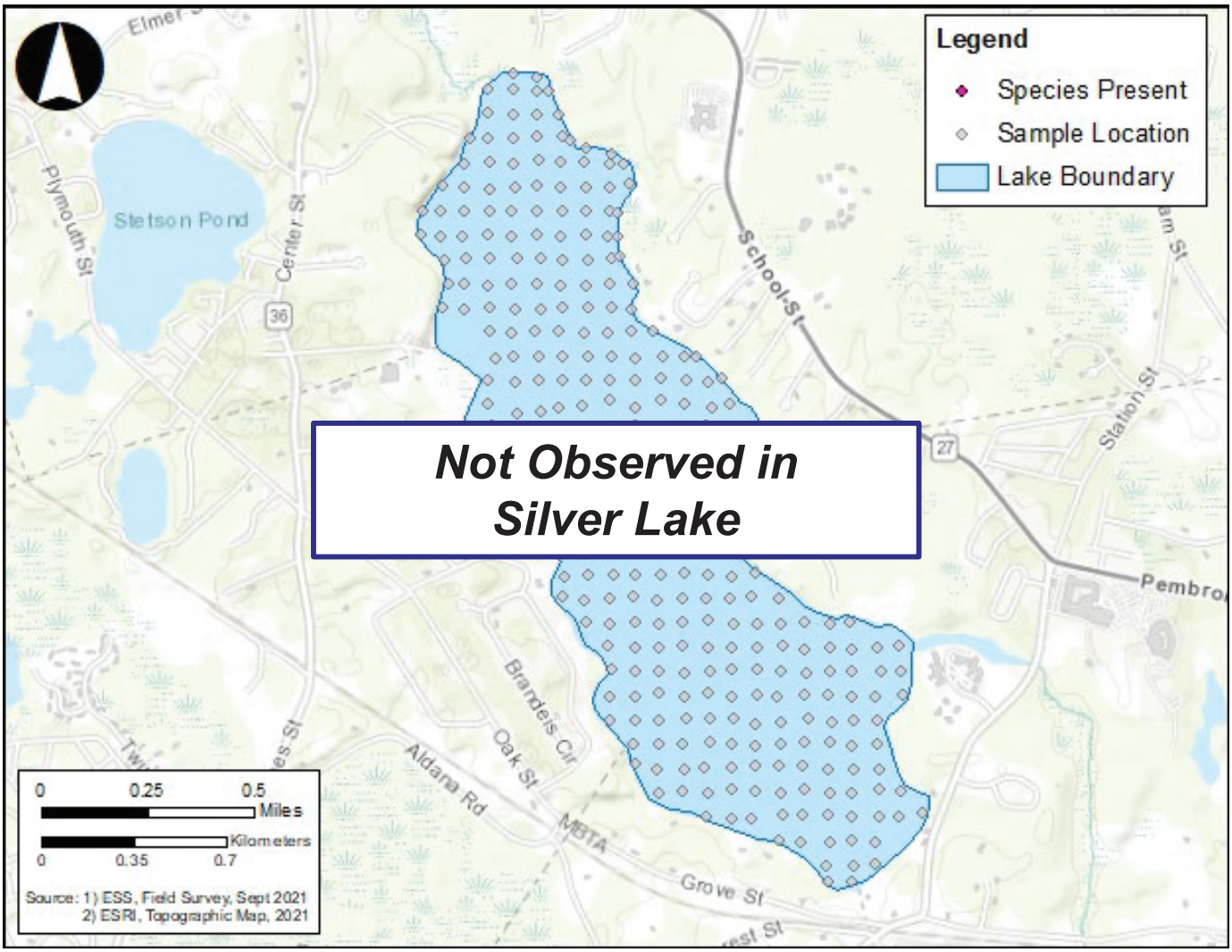
Not Observed in Silver Lake

Myriophyllum aquaticum – Parrot Feather

Exotic Invasive

Key Features: Feathery leaves are arranged in whorls of 4-6 on submersed stems. Submerged leaves are 0.5 to 3.5 cm long and have 20 to 30 divisions per leaf. Emergent leaves are 2 to 5 cm long and have 6 to 18 divisions per leaf. Emergent stems and leaves can grow up to one foot above the water surface and resemble small fir trees (leaves darker green than submergent leaves). Small flowers on axils of emergent leaves are pinkish-white.
Habitat: Shallow edges and quiet waters of protected coves and stream outlets. Can form dense, extensive monocultures.
Growth Type: Submerged (dominant), emergent (secondary)
Similar Species: *Myriophyllum* spp.



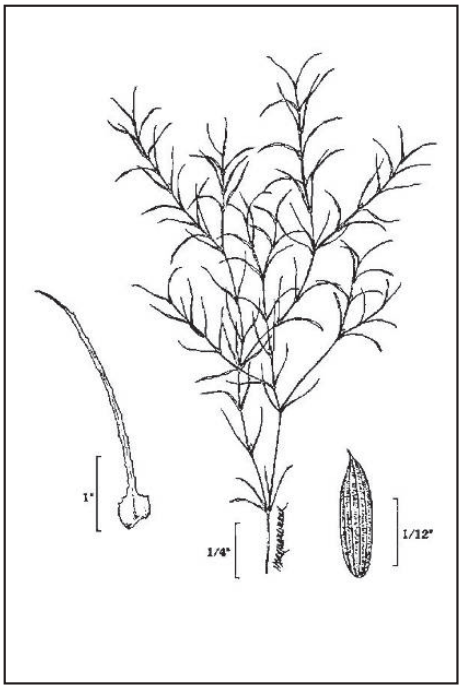


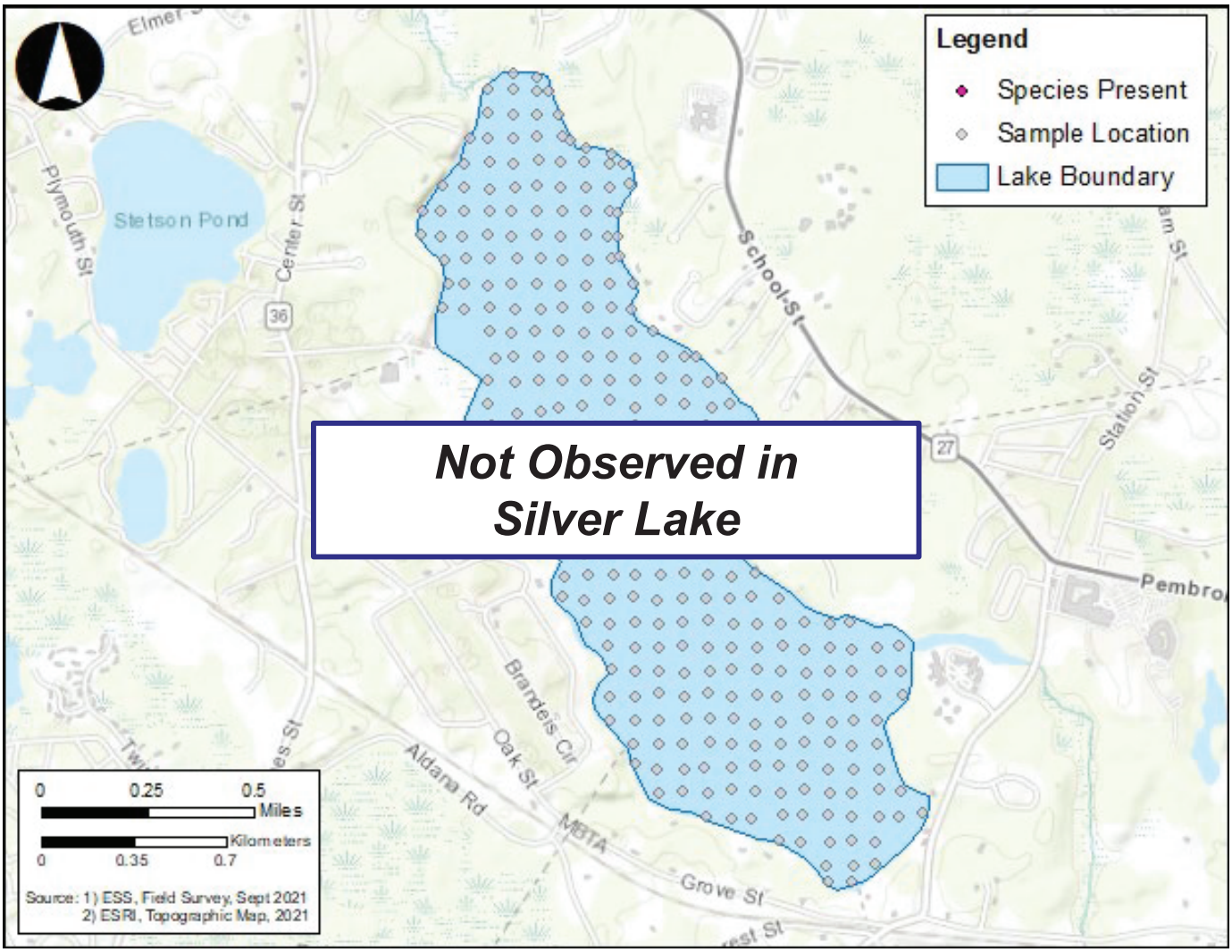
Not Observed in Silver Lake

Najas minor – Brittle Naiad

Exotic Invasive

Key Features: Narrow, opposite leaves with prominent spines along each edge. Spines are small but clearly visible with the naked eye, making the leaf margins appear jagged. Stems are extensively branched and fragment easily.
Habitat: Ponds, lakes, and sluggish streams.
Growth Type: Submerged
Similar Species: *Najas* spp.



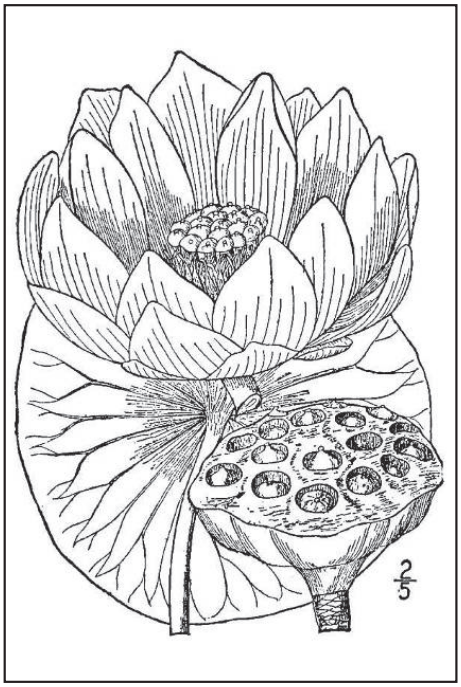


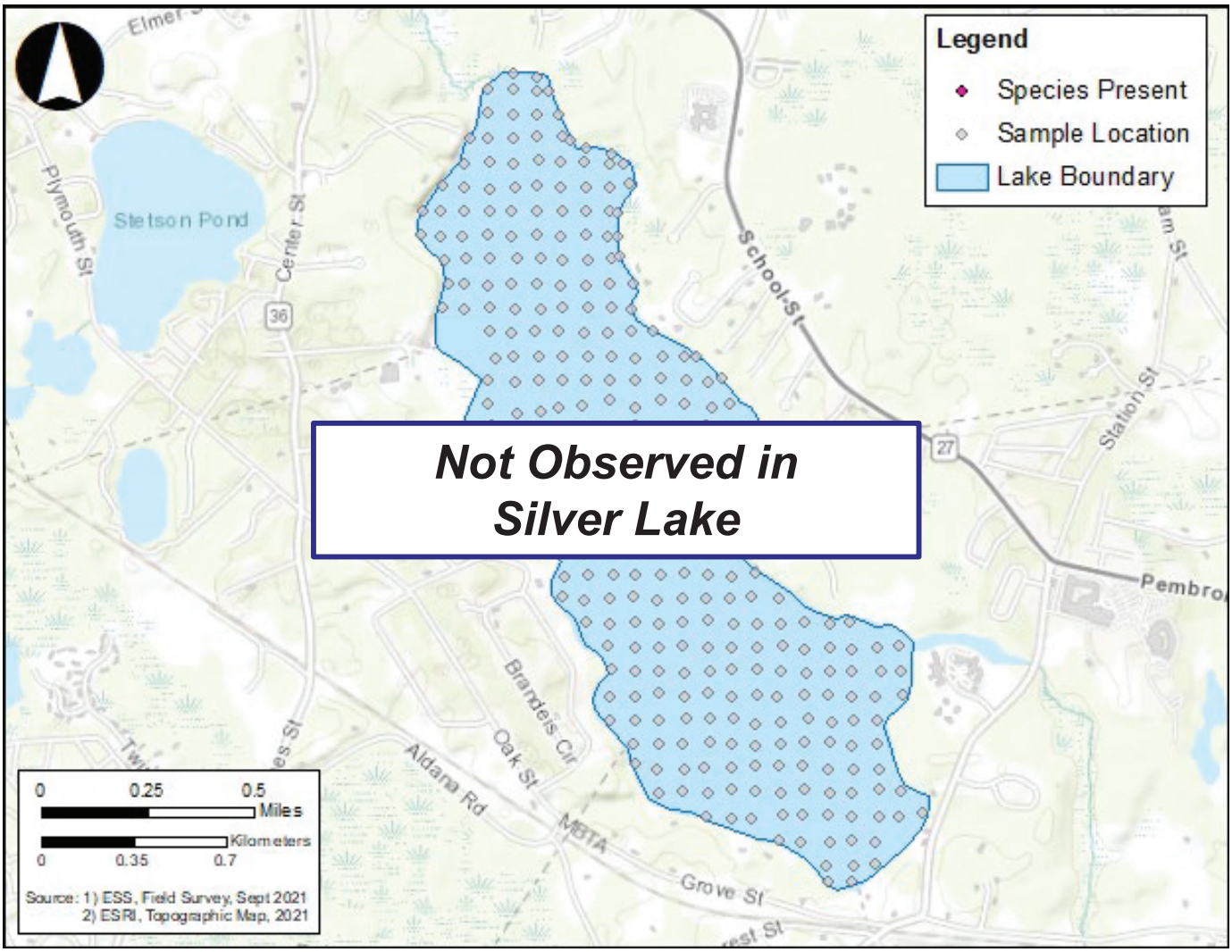
Not Observed in Silver Lake

Nelumbo lutea – American Lotus

Exotic Invasive

Key Features: Large (6-24”) emergent leaves with petiole joining at center of elliptical leaf. Large yellow pale flowers may be present in summer and are followed by distinctive woody seed pods.
Habitat: Shallow waters of ponds, lakes and sluggish streams, especially in organic sediments.
Growth Type: Emergent (primary), floating-leaved (secondary)
Similar Species: *Brasenia schreberi, Nymphaea odorata, Nuphar lutea variegata, Nymphoides peltata*



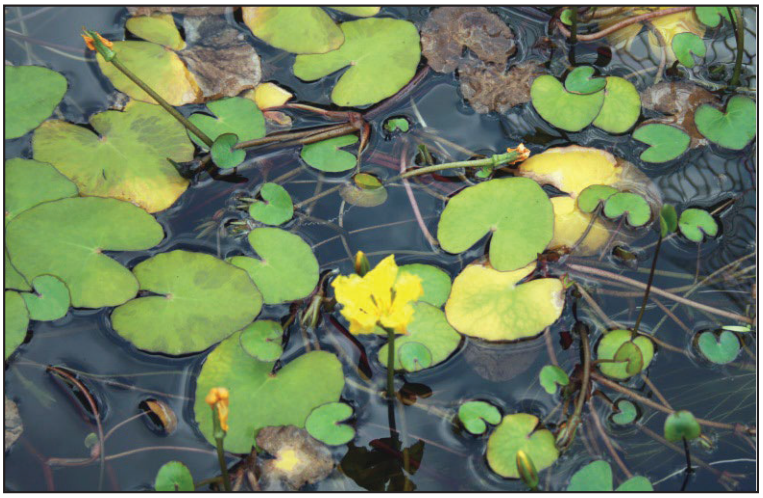


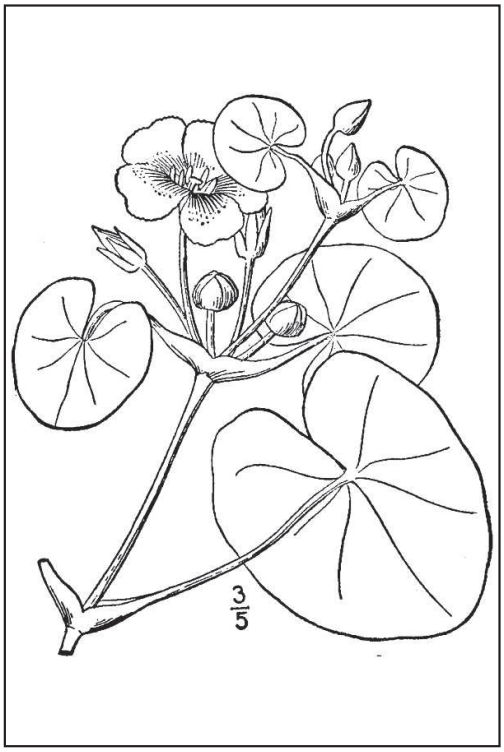
Not Observed in Silver Lake

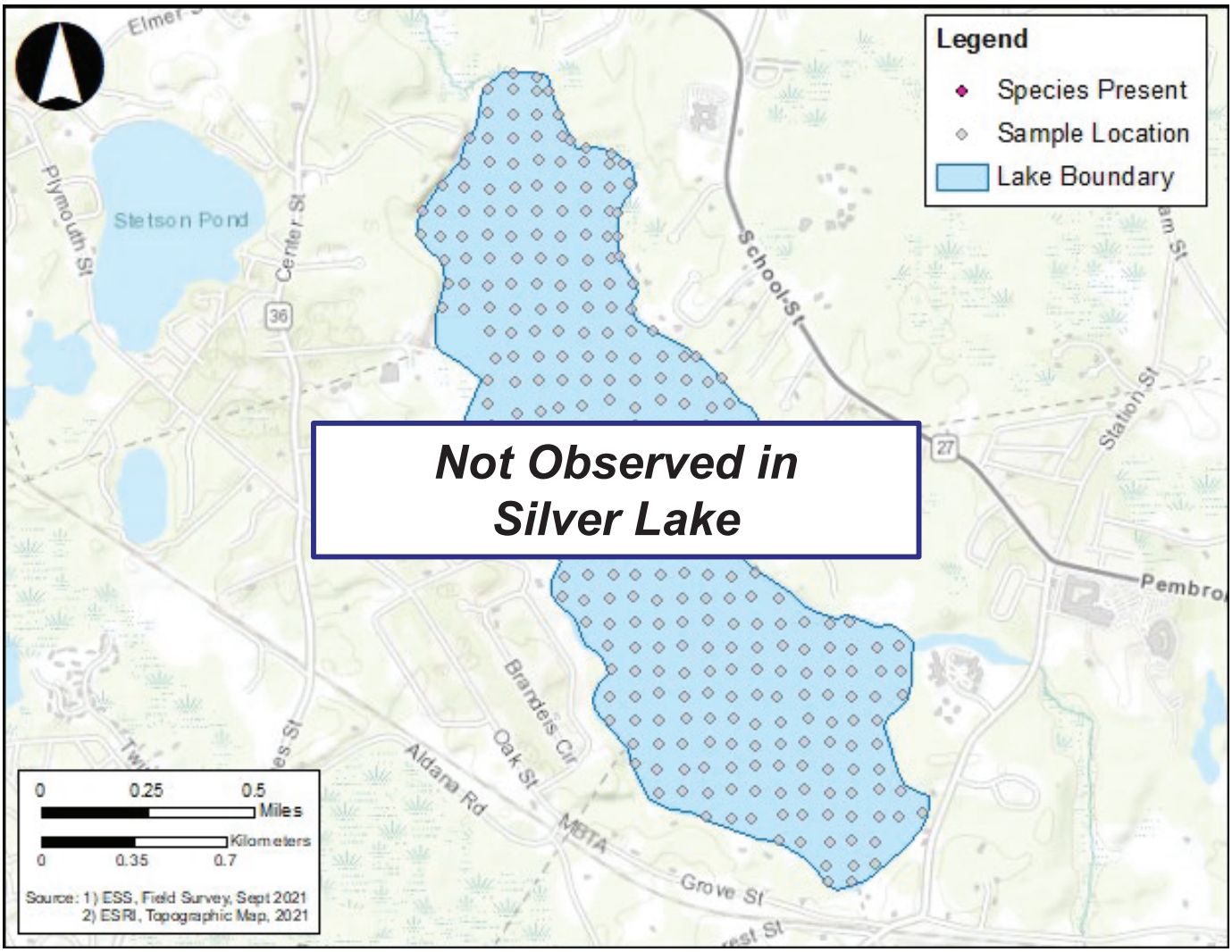
Nymphoides peltata – Yellow Floating Heart

Exotic Invasive

Key Features: Perennial, water lily-like plant that covers water surface with long-stalked heart-shaped leaves. Five-petaled yellow flowers occur on long stalks and rise a few inches above the water.
Habitat: Slow moving rivers, lakes, reservoirs, and ponds. Can form dense, extensive monocultures.
Growth Type: Floating-leaved
Similar Species: *Nuphar lutea variegata*, *Nymphaea odorata*, *Nymphoides cordata.*



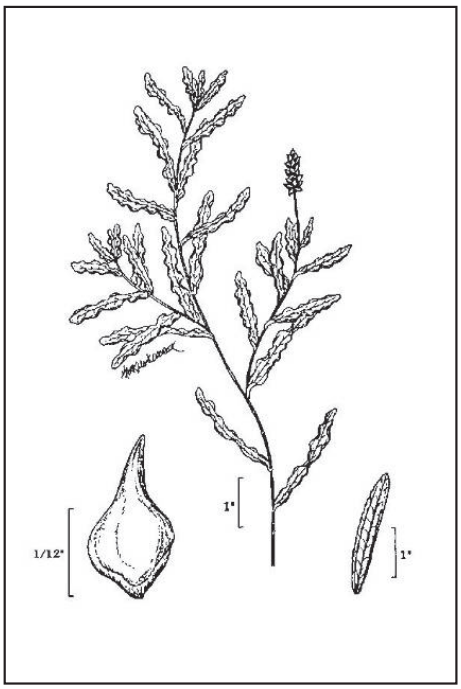


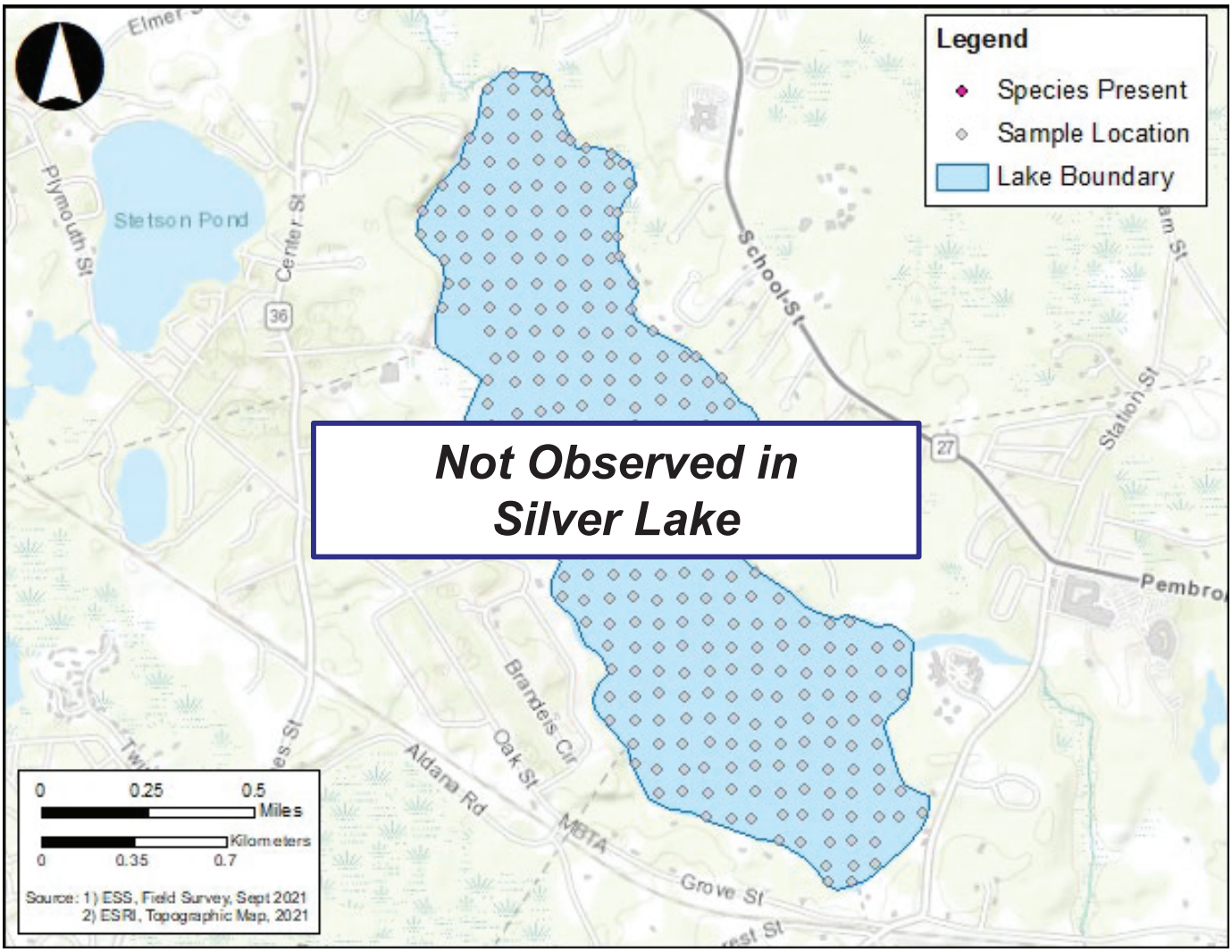


Potamogeton crispus – Curly-leaf Pondweed

Exotic Invasive

Key Features: Leaves are oblong, rounded at apex and are both wavy and serrated along the edges. Pine cone shaped turions may be present at the leaf axils and are very hard. Leaves do not clasp stem.
Habitat: Prefers ponds, lakes and streams with some alkalinity. Can form dense, long-stemmed monocultures early in the growing season (May to June).
Growth Type: Submerged
Similar Species: *Potamogeton perfoliatus*



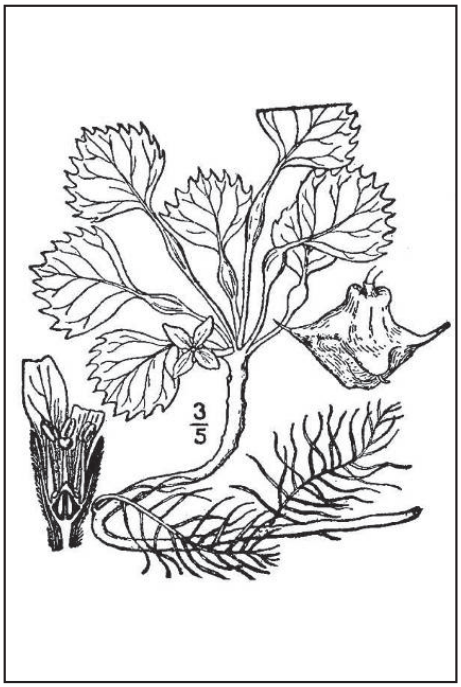


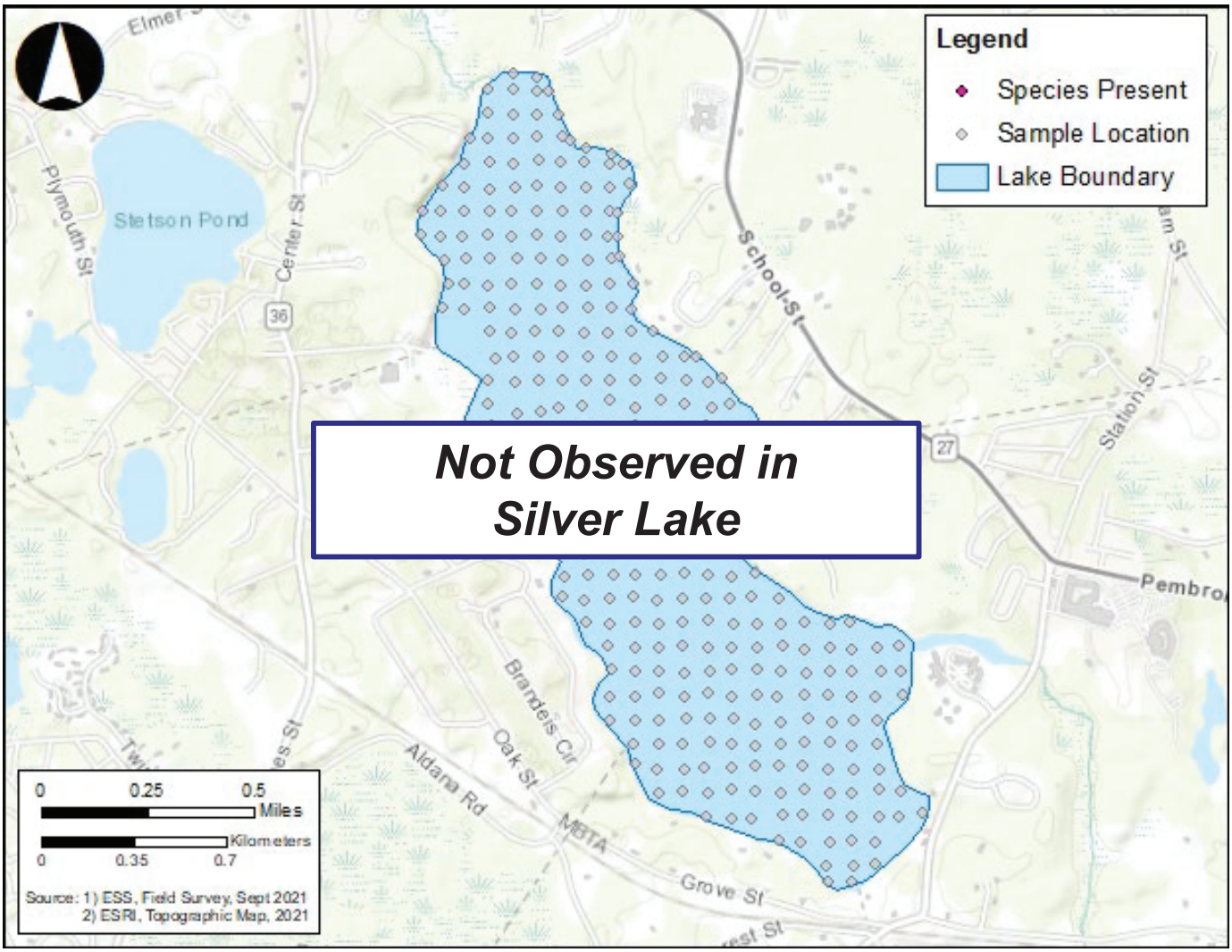
Not Observed in Silver Lake

Trapa natans – Water Chestnut

Exotic Invasive

Key Features: Floating leaves characterized by rosettes of shiny toothed leaves with swollen, air-filled petioles. Submersed leaves are finely divided and whorled around the stem. Floating seeds are set in the summer and are four-barbed and large (see inset).
Habitat: Shallow areas of lakes, ponds and sluggish streams. May quickly form dense monoculture beds.
Growth Type: Floating-leaved
Similar Species: None.



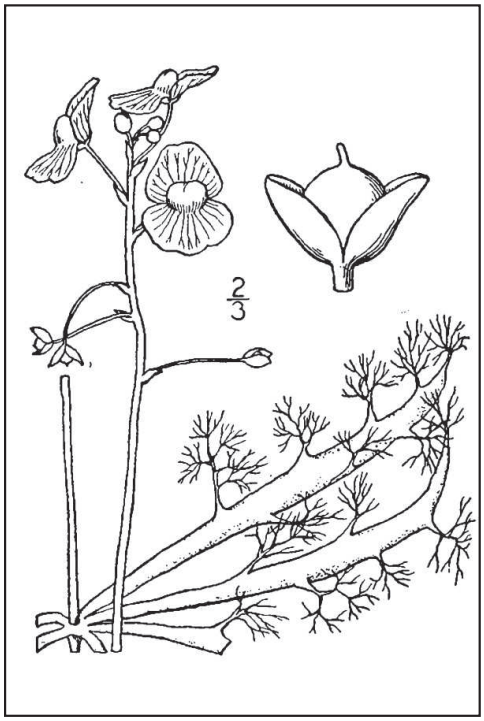


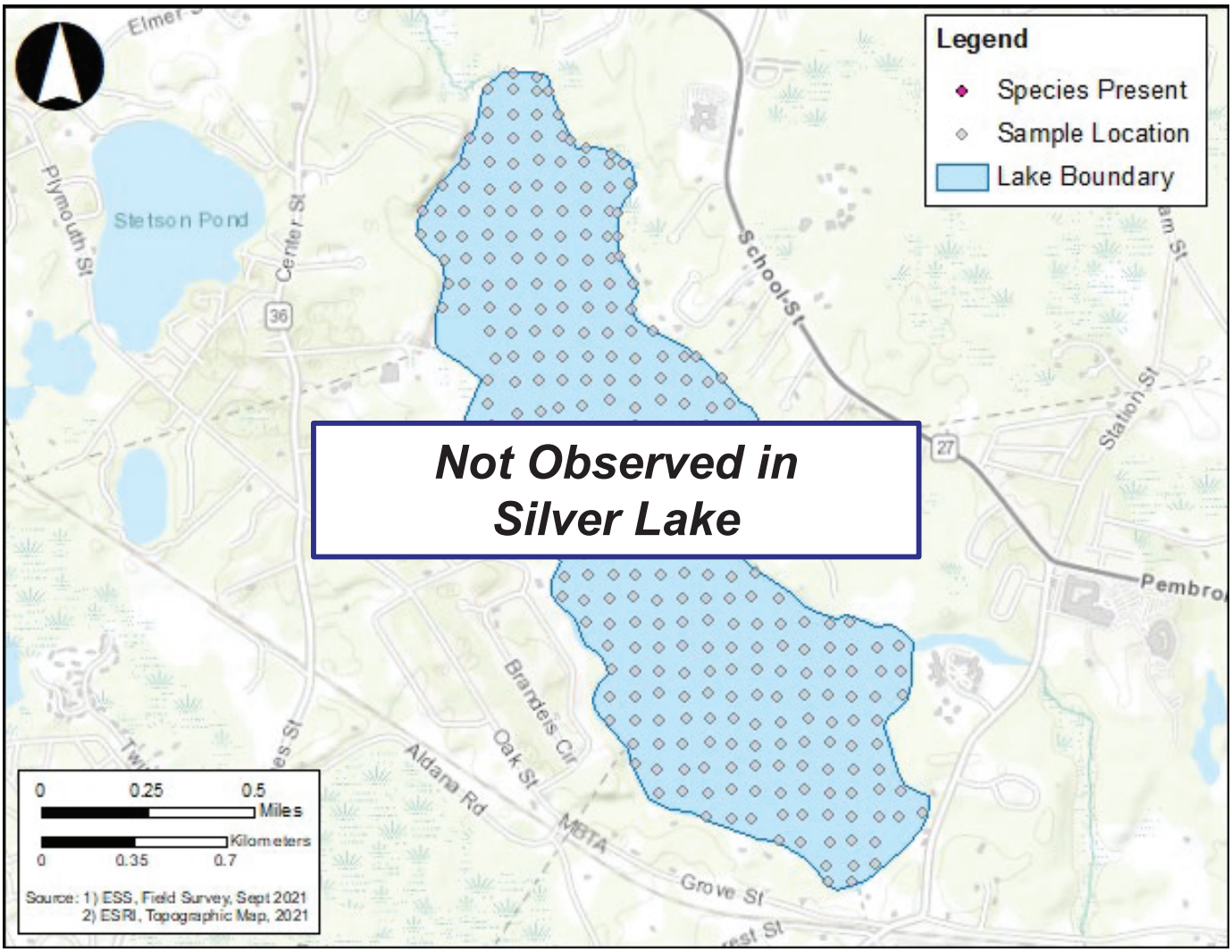
Not Observed in Silver Lake

Utricularia inflata – Swollen Bladderwort

Exotic Invasive

Key Features: Yellow flowers in groups of 3 to 14 with five petals set off by a spoke-like whorl of 4 to 10 wedge-shaped floating leaves, 4 to 9 cm long. Green, highly branched, finely divided underwater leaf-like stems with small seed-like bladders.
Habitat: Shallow waters of ponds and lakes.
Growth Type: Submerged (primary), floating-leaved (secondary)
Similar Species: *Utricularia radiata*.





Aquatic Plant Species Observed in Silver Lake

Common Name	Scientific Name	Dominant Growth Type	Secondary Growth Type	Invasive	Silver Lake
Fanwort	*Cabomba caroliniana*	Submerged		**Exotic Invasive**	**X**
Water Starwort	*Callitriche heterophylla*	Submerged	Floating-leaved		X
Coontail	*Ceratophyllum demersum*	Submerged			X
Filamentous Green Algae	*Chlorophyceae sp.*	Alga			X
Brazilian Elodea	*Egeria densa*	Submerged		**Exotic Invasive**	
Water Hyacinth	*Eichhornia crassipes*	Floating-leaved		**Exotic Invasive**	
Waterwort	*Elatine sp.*	Submerged	Emergent		X
Spikerush/Robbins' Spikerush	*Eleocharis sp./ Eleocharis robbinsii*	Submerged			X
Canadian Waterweed	*Elodea canadensis*	Submerged			X
Mud-mat	*Glossostigma cleistanthum*	Submerged	Emergent	**Exotic Invasive**	
Golden Hedge-hyssop	*Gratiola aurea*	Submerged	Emergent		X
Quillwort	*Isoetes sp.*	Submerged			X
Seedbox	*Ludwigia palustris*	Submerged	Emergent		X
Parrot Feather	*Myriophyllum aquaticum*	Submerged	Emergent	**Exotic Invasive**	
Variable-leaf milfoil	*Myriophyllum heterophyllum*	Submerged		**Exotic Invasive**	**X**
Eurasian milfoil	*Myriophyllum spicatum*	Submerged		**Exotic Invasive**	**X**
Brittle Naiad	*Najas minor*	Submerged		**Exotic Invasive**	
American Lotus	*Nelumbo lutea*	Emergent	Floating-leaved	**Exotic Invasive**	
Stonewort	*Nitella sp.*	Alga			X
Yellow Floating Heart	*Nymphoides peltata*	Floating-leaved		**Exotic Invasive**	
Curly-leaf pondweed	*Potamogeton crispus*	Submerged		**Exotic Invasive**	
Floating-leaf Pondweed	*Potamogeton epihydrus*	Floating-leaved	Submerged		X
Clasping-Leaf Pondweed	*Potamogeton perfoliatus*	Submerged			X
Thinleaf Pondweed	*Potamogeton pusillus*	Submerged			X
Arrowhead	*Sagittaria sp.*	Emergent	Submerged		X
Water Chestnut	*Trapa natans*	Floating-leaved		**Exotic Invasive**	
Inflated Bladderwort	*Utricularia inflata*	Submerged	Floating-leaved	**Exotic Invasive**	
Common bladderwort	*Utricularia macrorhiza*	Submerged			X
Water Celery	*Vallisneria americana*	Submerged			X

Appendix B: Laboratory Reports

ANALYTICAL REPORT

Lab Number:	L2147815
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE
Project Number:	C633-000
Report Date:	09/14/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE
Project Number: C633-000

Lab Number: L2147815
Report Date: 09/14/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2147815-01	SL1L-S	WATER	MA	09/07/21 12:00	09/07/21

Project Name:	SILVER LAKE	**Lab Number:**	L2147815
Project Number:	C633-000	**Report Date:**	09/14/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 09/14/21

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE
Project Number: C633-000

Lab Number: L2147815
Report Date: 09/14/21

SAMPLE RESULTS

Lab ID: L2147815-01
Client ID: SL1L-S
Sample Location: MA

Sample Depth:
Matrix: Water

Date Collected: 09/07/21 12:00
Date Received: 09/07/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	09/07/21 16:16	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	4.68		mg/m3	2.00	NA	1	09/08/21 07:00	09/08/21 08:15	121,10200H	MT

Project Name: SILVER LAKE
Project Number: C633-000
Lab Number: L2147815
Report Date: 09/14/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1543681-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	09/07/21 16:16	121,9223B	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1543879-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	09/08/21 07:00	09/08/21 08:15	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE
Project Number: C633-000

Lab Number: L2147815
Report Date: 09/14/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1543879-2 QC Sample: L2147815-01 Client ID: SL1L-S						
Chlorophyll A	4.68	4.89	mg/m3	4		35

Project Name: SILVER LAKE
Project Number: C633-000

Lab Number: L2147815
Report Date: 09/14/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2147815-01A	Bacteria Cup Na2S2O3 preserved	A	NA		3.2	Y	Absent		E-COLI-QT(.33)
L2147815-01B	Bacteria Cup Na2S2O3 preserved	A	NA		3.2	Y	Absent		E-COLI-QT(.33)
L2147815-01C	Brown Plastic 1000ml unpreserved	A	NA		3.2	Y	Absent		CHLORO-A(1)
L2147815-01D	Brown Plastic 1000ml unpreserved	A	NA		3.2	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE	**Lab Number:**	L2147815
Project Number:	C633-000	**Report Date:**	09/14/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2147815
Project Number:	C633-000	**Report Date:**	09/14/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2147815
Project Number:	C633-000	**Report Date:**	09/14/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2147815
Project Number:	C633-000	**Report Date:**	09/14/21

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE _____ OF _____

ALPHA ANALYTICAL
6 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 9/7/21

ALPHA Job #: L2147815

Client Information

Client: ESS Group
Address: 10 Hemingway Dr
E. Prov, RI
Phone:
Email: mproko@essgroup.com

Additional Project Information:

Project Information

Project Name: Silver Lake
Project Location: MA
Project #: C633-000
Project Manager: Matt Ladewig
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods
☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	ANALYSIS: E. Coli	ANALYSIS: Chlorophyll A	SAMPLE INFO: Filtration ☐ Field ☒ Lab to do; Preservation ☐ Lab to do	Sample Comments	TOTAL # BOTTLES
47815-01	SLIL-S	9-7-21	1200	SW	MP	X	X			

Container Type																		
Preservative																		

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
	9-7-21 1215		9/7/21 1315 9/7/21 1440

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L2156208
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE
Project Number:	C663-000
Report Date:	11/12/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2156208
Report Date: 11/12/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2156208-01	SLIL-S	WATER	MA	10/14/21 11:30	10/14/21
L2156208-02	SLIL-2	WATER	MA	10/14/21 11:35	10/14/21

Project Name:	SILVER LAKE	**Lab Number:**	L2156208
Project Number:	C663-000	**Report Date:**	11/12/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE	**Lab Number:**	L2156208
Project Number:	C663-000	**Report Date:**	11/12/21

Case Narrative (continued)

Report Revision

November 12, 2021: The E. Coli result has been corrected on L2156208-02.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/12/21

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2156208
Report Date: 11/12/21

SAMPLE RESULTS

Lab ID: L2156208-01
Client ID: SLIL-S
Sample Location: MA

Sample Depth:
Matrix: Water

Date Collected: 10/14/21 11:30
Date Received: 10/14/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	10/14/21 18:52	121,9223B	TL
General Chemistry - Westborough Lab										
Chlorophyll A	6.53		mg/m3	2.00	NA	1	10/15/21 08:10	10/15/21 10:20	121,10200H	MT

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2156208
Report Date: 11/12/21

SAMPLE RESULTS

Lab ID: L2156208-02
Client ID: SLIL-2
Sample Location: MA

Sample Depth:
Matrix: Water

Date Collected: 10/14/21 11:35
Date Received: 10/14/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	10/14/21 18:52	121,9223B	TL
General Chemistry - Westborough Lab										
Chlorophyll A	6.01		mg/m3	2.00	NA	1	10/15/21 08:10	10/15/21 10:20	121,10200H	MT

Project Name: SILVER LAKE
Project Number: C663-000
Lab Number: L2156208
Report Date: 11/12/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-02 Batch: WG1558855-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	10/14/21 18:52	121,9223B	TL
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1559262-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	10/15/21 08:10	10/15/21 10:20	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2156208
Report Date: 11/12/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1559262-2 QC Sample: L2156208-02 Client ID: SLIL-2						
Chlorophyll A	6.01	6.08	mg/m3	1		35

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2156208
Report Date: 11/12/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2156208-01A	Bacteria Cup Na2S2O3 preserved	A	NA		3.4	Y	Absent		E-COLI-QT(.33)
L2156208-01B	Bacteria Cup Na2S2O3 preserved	A	NA		3.4	Y	Absent		E-COLI-QT(.33)
L2156208-01C	Brown Plastic 1000ml unpreserved	A	NA		3.4	Y	Absent		CHLORO-A(1)
L2156208-01D	Brown Plastic 1000ml unpreserved	A	NA		3.4	Y	Absent		CHLORO-A(1)
L2156208-02A	Bacteria Cup Na2S2O3 preserved	A	NA		3.4	Y	Absent		E-COLI-QT(.33)
L2156208-02B	Brown Plastic 1000ml unpreserved	A	NA		3.4	Y	Absent		CHLORO-A(1)
L2156208-02C	Brown Plastic 1000ml unpreserved	A	NA		3.4	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE	**Lab Number:**	L2156208
Project Number:	C663-000	**Report Date:**	11/12/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

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Project Number:	C663-000	**Report Date:**	11/12/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

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Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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Project Name: SILVER LAKE
Project Number: C663-000
Lab Number: L2156208
Report Date: 11/12/21

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/14

ALPHA Job #: L2156208

Client Information

Client: ESS Group
Address: 10 Hemingway Dr E. Providence, RI
Phone:
Fax:
Email: mproko@essgroup.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Silver Lake
Project Location: MA
Project #: C663-000
Project Manager: Matt Ladewig
ALPHA Quote #:

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:
If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☒ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: E. Coli	Chlorophyll A	Sample Specific Comments	TOTAL # BOTTLES
56208-01	SLIL-S	10-14-21	1130	SW	MP	X	X		
-02	SLIL-2	10-14-21	1135	SW	MP	X	X		

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	10-14-21 1430	[signature] MUTA AAL	10/14/21 1445
[signature]	10/14/21 1715	[signature]	10/14/21 [illegible]

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

ANALYTICAL REPORT

Lab Number:	L2161629
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE
Project Number:	C663-000
Report Date:	11/23/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2161629
Report Date: 11/23/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2161629-01	SLIL-S-A, SLIL-S-B	WATER	SILVER LAKE, MA	11/09/21 10:35	11/09/21
L2161629-02	SLIL-S	WATER	SILVER LAKE, MA	11/09/21 10:35	11/09/21

Project Name:	SILVER LAKE	**Lab Number:**	L2161629
Project Number:	C663-000	**Report Date:**	11/23/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE	**Lab Number:**	L2161629
Project Number:	C663-000	**Report Date:**	11/23/21

Case Narrative (continued)

E. Coli (MPN)

L2161629-02: The sample was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Sebastian Corbin

Title: Technical Director/Representative Date: 11/23/21

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2161629
Report Date: 11/23/21

SAMPLE RESULTS

Lab ID: L2161629-01
Client ID: SLIL-S-A, SLIL-S-B
Sample Location: SILVER LAKE, MA

Sample Depth:
Matrix: Water

Date Collected: 11/09/21 10:35
Date Received: 11/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	4.10		mg/m3	2.00	NA	1	11/09/21 20:20	11/13/21 12:55	121,10200H	MT

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2161629
Report Date: 11/23/21

SAMPLE RESULTS

Lab ID: L2161629-02
Client ID: SLIL-S
Sample Location: SILVER LAKE, MA

Sample Depth:
Matrix: Water

Date Collected: 11/09/21 10:35
Date Received: 11/09/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	2.02		MPN/100ml	1	NA	1	-	11/09/21 19:47	121,9223B	JW

Project Name: SILVER LAKE
Project Number: C663-000
Lab Number: L2161629
Report Date: 11/23/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 02 Batch: WG1569264-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	11/09/21 19:47	121,9223B	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1569276-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	11/09/21 20:20	11/13/21 12:55	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2161629
Report Date: 11/23/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1569276-2 QC Sample: L2161629-01 Client ID: SLIL-S-A, SLIL-S-B						
Chlorophyll A	4.10	3.91	mg/m3	5		35

Project Name: SILVER LAKE
Project Number: C663-000

Lab Number: L2161629
Report Date: 11/23/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2161629-01A	Brown Plastic 1000ml unpreserved	A	NA		3.0	Y	Absent		CHLORO-A(1)
L2161629-01B	Brown Plastic 1000ml unpreserved	A	NA		3.0	Y	Absent		CHLORO-A(1)
L2161629-02A	Bacteria Cup Na2S2O3 preserved	A	NA		3.0	Y	Absent		E-COLI-QT(.33)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE	**Lab Number:**	L2161629
Project Number:	C663-000	**Report Date:**	11/23/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2161629
Project Number:	C663-000	**Report Date:**	11/23/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2161629
Project Number:	C663-000	**Report Date:**	11/23/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2161629
Project Number:	C663-000	**Report Date:**	11/23/21

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 11/09/21

ALPHA Job #: L2161629

Client Information

Client: ESS Group, Inc.
Address: 10 Hemingway Drive, Riverside, RI 02915
Phone: (401) 330-1204 Matt Ludwig
Email: mludwig@essgroup

Additional Project Information:

Project Information

Project Name: Silver Lake
Project Location: Silver Lake, MA
Project #: C663-000
Project Manager: Matt Ludwig
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program ________ Criteria ________

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; Chlorophyll a; E. coli

SAMPLE INFO
Filtration ☐ Field ☐ Lab to do
Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Chlorophyll a	E. coli	Sample Comments	TOTAL # BOTTLES
L2161629-01	SLIL-3-A, SLIL-3S-B	11/09/21	10:35	SW	NN	X			2
02	SLIL-S	11/09/21	10:35	SW	NN		X		1
Container Type						P	B		
Preservative						A	H		

Relinquished By:	Date/Time	Received By:	Date/Time
Nick Nonnenmacher [signature]	11/09/21 1630	[signature]	11/09/21 1630
[signature]		Joseph C. [signature]	11/9/21 1640
Joseph C. [signature]	11/9/21 1839	[signature]	11/9/21 1839

Container Type: P= Plastic, A= Amber glass, V= Vial, G= Glass, B= Bacteria cup, C= Cube, O= Other, E= Encore, D= BOD Bottle

Preservative: A= None, B= HCl, C= HNO_3, D= H_2SO_4, E= NaOH, F= MeOH, G= $NaHSO_4$, H = $Na_2S_2O_3$, I= Ascorbic Acid, J = NH_4Cl, K= Zn Acetate, O= Other

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L2168947
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE
Project Number:	Not Specified
Report Date:	12/30/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2168947
Report Date: 12/30/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2168947-01	SLIL-SA	WATER	SILVER LAKE, PEMBROKE MA	12/15/21 09:35	12/15/21
L2168947-02	SLIL-SB	WATER	SILVER LAKE, PEMBROKE MA	12/15/21 09:45	12/15/21

Project Name:	SILVER LAKE	**Lab Number:**	L2168947
Project Number:	Not Specified	**Report Date:**	12/30/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Sebastian Corbin

Title: Technical Director/Representative Date: 12/30/21

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2168947
Report Date: 12/30/21

SAMPLE RESULTS

Lab ID: L2168947-01
Client ID: SLIL-SA
Sample Location: SILVER LAKE, PEMBROKE MA

Sample Depth:
Matrix: Water

Date Collected: 12/15/21 09:35
Date Received: 12/15/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	12.1		mg/m3	2.00	NA	1	12/15/21 22:00	12/16/21 16:17	121,10200H	JW

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2168947
Report Date: 12/30/21

SAMPLE RESULTS

Lab ID: L2168947-02
Client ID: SLIL-SB
Sample Location: SILVER LAKE, PEMBROKE MA

Sample Depth:
Matrix: Water

Date Collected: 12/15/21 09:45
Date Received: 12/15/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	13.6		mg/m3	2.00	NA	1	12/15/21 22:00	12/16/21 16:17	121,10200H	JW

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2168947
Report Date: 12/30/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1583933-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	12/15/21 22:00	12/16/21 16:17	121,10200H	JW

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2168947
Report Date: 12/30/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1583933-2 QC Sample: L2168947-01 Client ID: SLIL-SA						
Chlorophyll A	12.1	9.26	mg/m3	27		35

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2168947
Report Date: 12/30/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2168947-01A	Brown Plastic 1000ml unpreserved	A	NA		2.1	Y	Absent		CHLORO-A(1)
L2168947-01B	Brown Plastic 1000ml unpreserved	A	NA		2.1	Y	Absent		CHLORO-A(1)
L2168947-02A	Brown Plastic 1000ml unpreserved	A	NA		2.1	Y	Absent		CHLORO-A(1)
L2168947-02B	Brown Plastic 1000ml unpreserved	A	NA		2.1	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE	**Lab Number:**	L2168947
Project Number:	Not Specified	**Report Date:**	12/30/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2168947
Project Number:	Not Specified	**Report Date:**	12/30/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2168947
Project Number:	Not Specified	**Report Date:**	12/30/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: SILVER LAKE
Project Number: Not Specified
Lab Number: L2168947
Report Date: 12/30/21

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 12/15/21

ALPHA Job #: L2168947

Client Information

Client: ESS Group, Inc
Address: 10 Hemingway Drive
Riverside, RI 02915
Phone: 602-687-1321 Matt Ladewig
Fax:
Email: mladewig@essgroup.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Silver Lake
Project Location: Silver Lake, Pembroke MA
Project #:
Project Manager: Matt Ladewig
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: Chlorophyll-a

SAMPLE HANDLING
Filtration
☐ Done
☒ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll-a	Sample Specific Comments	TOTAL # BOTTLES
68947-01	SLIL-SA	12/15/21	0935	SW	NN	✓		2
-02	SCIL-SB	12/15/21	0945	SW	NN	✓		2

Container Type	P
Preservative	A

Relinquished By:	Date/Time	Received By:	Date/Time
Nicholas Nonnenmacher	12/15/21 1315	[signature]	12/15/21 15:52
[signature]		[signature]	12/15/21 1636
[signature]	12/15/21 1841	[signature]	12/15 1841

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

ANALYTICAL REPORT

Lab Number:	L2216178
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE
Project Number:	Not Specified
Report Date:	04/11/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2216178-01	SLIL-SA/SLIL-SB	WATER	SILVER LAKE, MA	03/29/22 12:20	03/29/22
L2216178-02	EPD-A/EPD-B	WATER	SILVER LAKE, MA	03/29/22 13:30	03/29/22
L2216178-03	FPD-A/FPD-B	WATER	SILVER LAKE, MA	03/29/22 14:30	03/29/22
L2216178-04	SLIL-ECOLI	WATER	SILVER LAKE, MA	03/29/22 12:20	03/29/22
L2216178-05	EPD-ECOLI	WATER	SILVER LAKE, MA	03/29/22 13:30	03/29/22
L2216178-06	FPD-ECOLI	WATER	SILVER LAKE, MA	03/29/22 14:30	03/29/22

Project Name:	SILVER LAKE	**Lab Number:**	L2216178
Project Number:	Not Specified	**Report Date:**	04/11/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 04/11/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

SAMPLE RESULTS

Lab ID: L2216178-01
Client ID: SLIL-SA/SLIL-SB
Sample Location: SILVER LAKE, MA

Date Collected: 03/29/22 12:20
Date Received: 03/29/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	10.6		mg/m3	2.00	NA	1	03/30/22 11:10	03/30/22 11:40	121,10200H	MT

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

SAMPLE RESULTS

Lab ID: L2216178-02
Client ID: EPD-A/EPD-B
Sample Location: SILVER LAKE, MA

Sample Depth:
Matrix: Water

Date Collected: 03/29/22 13:30
Date Received: 03/29/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	8.31		mg/m3	2.00	NA	1	03/30/22 11:10	03/30/22 11:40	121,10200H	MT

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

SAMPLE RESULTS

Lab ID: L2216178-03
Client ID: FPD-A/FPD-B
Sample Location: SILVER LAKE, MA

Sample Depth:
Matrix: Water

Date Collected: 03/29/22 14:30
Date Received: 03/29/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	22.4		mg/m3	2.00	NA	1	03/30/22 11:10	03/30/22 11:40	121,10200H	MT

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

SAMPLE RESULTS

Lab ID: L2216178-04
Client ID: SLIL-ECOLI
Sample Location: SILVER LAKE, MA

Sample Depth:
Matrix: Water

Date Collected: 03/29/22 12:20
Date Received: 03/29/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	2.01		MPN/100ml	1	NA	1	-	03/29/22 18:50	121,9223B	SH

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

SAMPLE RESULTS

Lab ID: L2216178-05
Client ID: EPD-ECOLI
Sample Location: SILVER LAKE, MA

Sample Depth:
Matrix: Water

Date Collected: 03/29/22 13:30
Date Received: 03/29/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	03/29/22 18:50	121,9223B	SH

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

SAMPLE RESULTS

Lab ID: L2216178-06
Client ID: FPD-ECOLI
Sample Location: SILVER LAKE, MA

Sample Depth:
Matrix: Water

Date Collected: 03/29/22 14:30
Date Received: 03/29/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	31.45		MPN/100ml	1	NA	1	-	03/29/22 18:50	121,9223B	SH

Project Name: SILVER LAKE
Project Number: Not Specified
Lab Number: L2216178
Report Date: 04/11/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 04-06 Batch: WG1621227-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	03/29/22 18:50	121,9223B	SH
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1621539-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	03/30/22 11:10	03/30/22 11:40	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1621539-2 QC Sample: L2216178-03 Client ID: FPD-A/FPD-B						
Chlorophyll A	22.4	28.9	mg/m3	25		35

Project Name: SILVER LAKE
Project Number: Not Specified

Lab Number: L2216178
Report Date: 04/11/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2216178-01A	Brown Plastic 1000ml unpreserved	A	NA		5.8	Y	Absent		CHLORO-A(1)
L2216178-01B	Brown Plastic 1000ml unpreserved	A	NA		5.8	Y	Absent		CHLORO-A(1)
L2216178-02A	Brown Plastic 1000ml unpreserved	A	NA		5.8	Y	Absent		CHLORO-A(1)
L2216178-02B	Brown Plastic 1000ml unpreserved	A	NA		5.8	Y	Absent		CHLORO-A(1)
L2216178-03A	Brown Plastic 1000ml unpreserved	A	NA		5.8	Y	Absent		CHLORO-A(1)
L2216178-03B	Brown Plastic 1000ml unpreserved	A	NA		5.8	Y	Absent		CHLORO-A(1)
L2216178-04A	Bacteria Cup Na2S2O3 preserved	A	NA		5.8	Y	Absent		E-COLI-QT(.33)
L2216178-05A	Bacteria Cup Na2S2O3 preserved	A	NA		5.8	Y	Absent		E-COLI-QT(.33)
L2216178-06A	Bacteria Cup Na2S2O3 preserved	A	NA		5.8	Y	Absent		E-COLI-QT(.33)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE	**Lab Number:**	L2216178
Project Number:	Not Specified	**Report Date:**	04/11/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2216178
Project Number:	Not Specified	**Report Date:**	04/11/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	SILVER LAKE	**Lab Number:**	L2216178
Project Number:	Not Specified	**Report Date:**	04/11/22

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: SILVER LAKE
Project Number: Not Specified
Lab Number: L2216178
Report Date: 04/11/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 3/29/22

ALPHA Job #: L2216178

Client Information

Client: ESS Group, LLC
Address: 10 Hemingway Drive Riverside, RI
Phone: 401-330-1230
Fax: N/A
Email: mludewig@tecompanies
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Silver Lake
Project Location: Silver Lake, MA
Project #: 016120.0000.0000
Project Manager: Matt Ludewig
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

SAMPLE HANDLING

Filtration
☐ Done
☒ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: Chlorophyll-a	ANALYSIS: E coli	Sample Specific Comments	TOTAL # BOTTLES
16178-1	SLIL-SA/SLIL-SB	03/29	12:20	SW	NN	X			2
-02	EPD-A/EPD-B	03/29	13:30	SW	NN	X			2
-03	FPD-A/FPD-B	03/29	14:30	SW	NN	X			2
-04	SLIL-ECOLI	03/29	12:10	SW	NN		X		1
-05	EPD-ECOLI	03/29	13:30	SW	NN		X		1
-06	FPD-ECOLI	03/29	14:30	SW	NN		X		1

	Chlorophyll-a	E coli
Container Type	P	P
Preservative	A	H

Relinquished By:	Date/Time	Received By:	Date/Time
Tierney Latham Mr Root	03/29 16:03	[signature]	3/29/22 16:03
[signature]	3/29/22	Joseph C. Bezisfer	3/29/22 1639
Joseph C. Bezisfer	3/29/22 1802	[signature]	3/29 1802

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

ANALYTICAL REPORT

Lab Number:	L2221984
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	05/16/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2221984
Report Date: 05/16/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2221984-01	SLIL-S	WATER	PLYMOUTH COUNTRY	04/27/22 12:00	04/27/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2221984
Project Number:	016120.0000.0000	**Report Date:**	05/16/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2221984
Project Number:	016120.0000.0000	**Report Date:**	05/16/22

Case Narrative (continued)

Sample Receipt

The sample was received at the laboratory above the required temperature range. The sample was transported to the laboratory in a cooler with ice packs and delivered directly from the sampling site. This is considered acceptable since the sample was in the process of cooling.

Chlorophyll A

L2221984-01: The sample was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 05/16/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2221984
Report Date: 05/16/22

SAMPLE RESULTS

Lab ID: L2221984-01
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTRY

Sample Depth:
Matrix: Water

Date Collected: 04/27/22 12:00
Date Received: 04/27/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	04/27/22 19:53	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	5.31		mg/m3	2.00	NA	1	04/28/22 08:00	05/13/22 11:00	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000
Lab Number: L2221984
Report Date: 05/16/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1632067-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	04/28/22 08:00	05/13/22 11:00	121,10200H	MT
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1632707-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	04/27/22 19:53	121,9223B	JW

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2221984
Report Date: 05/16/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1632067-2 QC Sample: L2221984-01 Client ID: SLIL-S						
Chlorophyll A	5.31	5.23	mg/m3	2		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2221984
Report Date: 05/16/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2221984-01A	Bacteria Cup Na2S2O3 preserved	A	NA		9.2	Y	Absent		E-COLI-QT(.33)
L2221984-01B	Brown Plastic 1000ml unpreserved	A	NA		9.2	Y	Absent		CHLORO-A(1)
L2221984-01C	Brown Plastic 1000ml unpreserved	A	NA		9.2	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2221984
Project Number:	016120.0000.0000	**Report Date:**	05/16/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2221984
Project Number:	016120.0000.0000	**Report Date:**	05/16/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2221984
Project Number:	016120.0000.0000	**Report Date:**	05/16/22

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2221984
Project Number:	016120.0000.0000	**Report Date:**	05/16/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/27/22

ALPHA Job #: L2221984

Client Information

Client: ESS Group, LLC - A TRC Company

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING: *Filtration* ☐ Done ☐ Not Needed ☐ Lab to do; *Preservation* ☐ Lab to do (*Please specify below*)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
21984-01	SLIL-S	4-27-22	1200	SW	WMP	☒	☒		
Container Type						P	P		
Preservative						A	H		

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	4-27-22 15:40	[signature]	4/27/22 1540
[signature]		W. Hennal AAC	4/27/22 16:[illegible]
W. Randall AAC	4/27/22 17:48	[signature]	4/27/22 17:58

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2227235
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	06/03/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2227235-01	FPD	WATER	PLYMOUTH COUNTY	05/23/22 13:30	05/23/22
L2227235-02	EPD	WATER	PLYMOUTH COUNTY	05/23/22 12:30	05/23/22
L2227235-03	LFD	WATER	PLYMOUTH COUNTY	05/23/22 13:40	05/23/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Case Narrative (continued)

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice packs and delivered directly from the sampling site. This is considered acceptable since the samples were in the process of cooling.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 06/03/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

SAMPLE RESULTS

Lab ID: L2227235-01
Client ID: FPD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 05/23/22 13:30
Date Received: 05/23/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	40.44		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	7.47		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

SAMPLE RESULTS

Lab ID: L2227235-02
Client ID: EPD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 05/23/22 12:30
Date Received: 05/23/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	2.02		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	2.63		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

SAMPLE RESULTS

Lab ID: L2227235-03
Client ID: LFD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 05/23/22 13:40
Date Received: 05/23/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	36.41		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	9.96		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-03 Batch: WG1641941-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1641962-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1641962-2 QC Sample: L2227283-01 Client ID: DUP Sample						
Chlorophyll A	13.4	14.3	mg/m3	6		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2227235-01A	Bacteria Cup Na2S2O3 preserved	A	NA		21.4	Y	Absent		E-COLI-QT(.33)
L2227235-01B	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-01C	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-02A	Bacteria Cup Na2S2O3 preserved	A	NA		21.4	Y	Absent		E-COLI-QT(.33)
L2227235-02B	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-02C	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-03A	Bacteria Cup Na2S2O3 preserved	A	NA		21.4	Y	Absent		E-COLI-QT(.33)
L2227235-03B	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-03C	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF COUSTODY

PAGE OF

ALPHA ANALYTICAL
World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 5/23/22

ALPHA Job #: L2227235

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Client Information

Client: ESS Group, LLC - A TRC Company

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program	Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
27235-01	FPD	05/23/22	1330	SW	NN	☒	☒		
02	EPD	↓	1330	SW	NN	☒	☒		
03	LFD		1340	SW	NN	☒	☒		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		

	Chlorophyll A	E. Coli
Container Type	P	P
Preservative	A	H

Relinquished By:	Date/Time	Received By:	Date/Time
Nicholas Nomenmacher [signature]	05/23/22 1500	[signature]	5/23/22 15:15
[signature]	5/23/22 1517	Joseph C. Bezaiofu [signature]	5/23/22 1631
Joseph C. Bezaiofu [signature]	5/23/22 1846	[signature]	5/23/22 1846

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ)
(rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2227239
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	06/03/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227239
Report Date: 06/03/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2227239-01	SLIL-S	WATER	PLYMOUTH COUNTY	05/23/22 12:00	05/23/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227239
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227239
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Case Narrative (continued)

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice packs and delivered directly from the sampling site. This is considered acceptable since the samples were in the process of cooling.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 06/03/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227239
Report Date: 06/03/22

SAMPLE RESULTS

Lab ID: L2227239-01
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 05/23/22 12:00
Date Received: 05/23/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	2.02		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	5.45		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000
Lab Number: L2227239
Report Date: 06/03/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1641941-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1641962-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227239
Report Date: 06/03/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1641962-2 QC Sample: L2227283-01 Client ID: DUP Sample						
Chlorophyll A	13.4	14.3	mg/m3	6		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227239
Report Date: 06/03/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2227239-01A	Bacteria Cup Na2S2O3 preserved	A	NA		21.4	Y	Absent		E-COLI-QT(.33)
L2227239-01B	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227239-01C	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227239
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227239
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227239
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227239
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 5/23/22

ALPHA Job #: L2227239

Client Information

Client: ESS Group, LLC - A TRC Company

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
27239-01	SLIL-S	05/23/22	1200	SW	NN	☒	☒		

	Chlorophyll A	E. Coli
Container Type	P	P
Preservative	A	H

Relinquished By:	Date/Time	Received By:	Date/Time
Nicholas Nonnamacher NN	05/23/22 1500	[signature]	5/23/22 15:01
[signature]	5/23/22 1517	Joseph C. Bezio [signature]	5/23/22 1631
Joseph C. Bezio [signature]	5/23/22 1846	[signature]	5/23/22 18:46

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2227235
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	06/03/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2227235-01	FPD	WATER	PLYMOUTH COUNTY	05/23/22 13:30	05/23/22
L2227235-02	EPD	WATER	PLYMOUTH COUNTY	05/23/22 12:30	05/23/22
L2227235-03	LFD	WATER	PLYMOUTH COUNTY	05/23/22 13:40	05/23/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Case Narrative (continued)

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice packs and delivered directly from the sampling site. This is considered acceptable since the samples were in the process of cooling.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Steven Gniadek

Title: Technical Director/Representative Date: 06/03/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

SAMPLE RESULTS

Lab ID: L2227235-01
Client ID: FPD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 05/23/22 13:30
Date Received: 05/23/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	40.44		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	7.47		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

SAMPLE RESULTS

Lab ID: L2227235-02
Client ID: EPD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 05/23/22 12:30
Date Received: 05/23/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	2.02		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	2.63		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

SAMPLE RESULTS

Lab ID: L2227235-03
Client ID: LFD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 05/23/22 13:40
Date Received: 05/23/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	36.41		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	9.96		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-03 Batch: WG1641941-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	05/23/22 19:52	121,9223B	JW
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1641962-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	05/23/22 20:25	05/26/22 09:45	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1641962-2 QC Sample: L2227283-01 Client ID: DUP Sample						
Chlorophyll A	13.4	14.3	mg/m3	6		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2227235
Report Date: 06/03/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2227235-01A	Bacteria Cup Na2S2O3 preserved	A	NA		21.4	Y	Absent		E-COLI-QT(.33)
L2227235-01B	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-01C	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-02A	Bacteria Cup Na2S2O3 preserved	A	NA		21.4	Y	Absent		E-COLI-QT(.33)
L2227235-02B	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-02C	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-03A	Bacteria Cup Na2S2O3 preserved	A	NA		21.4	Y	Absent		E-COLI-QT(.33)
L2227235-03B	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)
L2227235-03C	Brown Plastic 1000ml unpreserved	A	NA		21.4	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2227235
Project Number:	016120.0000.0000	**Report Date:**	06/03/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA — TEL: 508-898-9220 — FAX: 508-898-9193

Mansfield, MA — TEL: 508-822-9300 — FAX: 508-822-3288

Date Rec'd in Lab: 5/23/22

ALPHA Job #: L2227235

Client Information

Client: ESS Group, LLC - A TRC Company

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
27235-01	FPD	05/23/22	1330	SW	NN	☒	☒		
02	EPD	↓	1330	SW	NN	☒	☒		
03	LFD		1340	SW	NN	☒	☒		

	Chlorophyll A	E. Coli
Container Type	P	P
Preservative	A	H

Relinquished By:	Date/Time	Received By:	Date/Time
Nicholas Nannemann	05/23/22 1500	[signature]	5/23/22 15:15
[signature]	5/23/22 1517	Joseph C. Bezinsky	5/23/22 1631
Joseph C. Bezinsky	5/23/22 1846	[signature]	5/23/22 1846

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2234366
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	07/13/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2234366
Report Date: 07/13/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2234366-01	SLIL-S	WATER	PLYMOUTH COUNTY	06/28/22 14:40	06/28/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2234366
Project Number:	016120.0000.0000	**Report Date:**	07/13/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2234366
Project Number:	016120.0000.0000	**Report Date:**	07/13/22

Case Narrative (continued)

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice and ice packs and delivered directly from the sampling site. This is considered acceptable since the samples were in the process of cooling.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 07/13/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2234366
Report Date: 07/13/22

SAMPLE RESULTS

Lab ID: L2234366-01
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTY

Date Collected: 06/28/22 14:40
Date Received: 06/28/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	2.02		MPN/100ml	1	NA	1	-	06/28/22 21:19	121,9223B	TL
General Chemistry - Westborough Lab										
Chlorophyll A	4.83		mg/m3	2.00	NA	1	06/29/22 06:25	07/01/22 07:20	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2234366
Report Date: 07/13/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1656585-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	06/28/22 21:19	121,9223B	TL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1656751-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	06/29/22 06:25	07/01/22 07:20	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2234366
Report Date: 07/13/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1656751-2 QC Sample: L2234366-01 Client ID: SLIL-S						
Chlorophyll A	4.83	5.03	mg/m3	4		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2234366
Report Date: 07/13/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2234366-01A	Bacteria Cup Na2S2O3 preserved	A	NA		10.6	Y	Absent		E-COLI-QT(.33)
L2234366-01B	Brown Plastic 1000ml unpreserved	A	NA		10.6	Y	Absent		CHLORO-A(1)
L2234366-01C	Brown Plastic 1000ml unpreserved	A	NA		10.6	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2234366
Project Number:	016120.0000.0000	**Report Date:**	07/13/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2234366
Project Number:	016120.0000.0000	**Report Date:**	07/13/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2234366
Project Number:	016120.0000.0000	**Report Date:**	07/13/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2234366
Project Number:	016120.0000.0000	**Report Date:**	07/13/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 6/28/22

ALPHA Job #: L2234366

Client Information

Client: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915
Phone: 401-330-1246
Fax: Stephanie.Martin@TRCCompanies.com
Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Silver Lake WQMP
Project Location: Plymouth County
Project #: 016120.0000.0000 (Old: C663)
Project Manager: Matt Ladewig
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
2234366-01	SLIL-S	6/28	1440	SW	JB	☒	☒		3

Container Type	P	P	-	-	-	-	-	-	-	-	-	-		
Preservative	A	H	-	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
	6/28 4:30		6/28 16:30
	6/28/22		6/25/22 16:15
	6/25/22 18:10	Phyllis Morse	6/25/22 18:10

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(HU) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2237696
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	07/28/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2237696
Report Date: 07/28/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2237696-01	SLIL-S	WATER	PLYMOUTH COUNTY	07/14/22 13:55	07/14/22
L2237696-02	SLIL-F	WATER	PLYMOUTH COUNTY	07/14/22 11:30	07/14/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2237696
Project Number:	016120.0000.0000	**Report Date:**	07/28/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Steven Gniadek

Title: Technical Director/Representative Date: 07/28/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2237696
Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2237696-01
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 07/14/22 13:55
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	07/14/22 21:35	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorophyll A	8.02		mg/m3	2.00	NA	1	07/15/22 10:15	07/15/22 12:10	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2237696
Report Date: 07/28/22

SAMPLE RESULTS

Lab ID: L2237696-02
Client ID: SLIL-F
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 07/14/22 11:30
Date Received: 07/14/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	07/15/22 10:15	07/15/22 12:10	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000
Lab Number: L2237696
Report Date: 07/28/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1663102-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	07/14/22 21:35	121,9223B	JW
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1663327-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	07/15/22 10:15	07/15/22 12:10	121,10200H	MT

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2237696
Report Date: 07/28/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1663327-2 QC Sample: L2237696-02 Client ID: SLIL-F						
Chlorophyll A	ND	ND	mg/m3	NC		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2237696
Report Date: 07/28/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2237696-01A	Bacteria Cup Na2S2O3 preserved	A	NA		4.9	Y	Absent		E-COLI-QT(.33)
L2237696-01B	Bacteria Cup Na2S2O3 preserved	A	NA		4.9	Y	Absent		E-COLI-QT(.33)
L2237696-01C	Brown Plastic 1000ml unpreserved	A	NA		4.9	Y	Absent		CHLORO-A(1)
L2237696-01D	Brown Plastic 1000ml unpreserved	A	NA		4.9	Y	Absent		CHLORO-A(1)
L2237696-02A	Brown Plastic 1000ml unpreserved	A	NA		4.9	Y	Absent		CHLORO-A(1)
L2237696-02B	Brown Plastic 1000ml unpreserved	A	NA		4.9	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2237696
Project Number:	016120.0000.0000	**Report Date:**	07/28/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2237696
Project Number:	016120.0000.0000	**Report Date:**	07/28/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2237696
Project Number:	016120.0000.0000	**Report Date:**	07/28/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2237696
Project Number:	016120.0000.0000	**Report Date:**	07/28/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA — TEL: 508-898-9220 — FAX: 508-898-9193
Mansfield, MA — TEL: 508-822-9300 — FAX: 508-822-3288

Date Rec'd in Lab: 7/14/22

ALPHA Job #: L2237696

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Client Information

Client: ESS Group, LLC - A TRC Company

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info

PO #:

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli											Sample Specific Comments	TOTAL # BOTTLES
37696-01	SLIL-S	7-14-22	13:55	SW	AO	☒	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
-02	SLIL-F	7-14-22	11:30	SW	JB	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
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						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
					Container Type	P	P	-	-	-	-	-	-	-	-	-	-		
					Preservative	A	H	-	-	-	-	-	-	-	-	-	-		

Relinquished By:	Date/Time	Received By:	Date/Time
Addison Ochs AO	7/14 15:50	[signature]	7/14/22 15:50
[signature]	7/14/22	[signature]	7-14-22 12:35
[signature]	7-14-22 18:30	[signature]	7/14/22 1830

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2247300
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	09/15/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2247300
Report Date: 09/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2247300-01	SLIL-S	WATER	PLYMOUTH COUNTY	08/31/22 14:30	08/31/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2247300
Project Number:	016120.0000.0000	**Report Date:**	09/15/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2247300
Report Date: 09/15/22

Case Narrative (continued)

Chlorophyll A

L2247300-01: The sample was filtered with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 09/15/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2247300
Report Date: 09/15/22

SAMPLE RESULTS

Lab ID: L2247300-01
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 08/31/22 14:30
Date Received: 08/31/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	3.06		MPN/100ml	1	NA	1	-	08/31/22 21:50	121,9223B	TL
General Chemistry - Westborough Lab										
Chlorophyll A	6.31		mg/m3	2.00	NA	1	09/02/22 08:25	09/02/22 09:50	121,10200H	DW

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000
Lab Number: L2247300
Report Date: 09/15/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1682171-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	08/31/22 21:50	121,9223B	TL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1682884-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	09/02/22 08:25	09/02/22 09:50	121,10200H	DW

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2247300
Report Date: 09/15/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1682884-2 QC Sample: L2246840-01 Client ID: DUP Sample						
Chlorophyll A	33.3	31.6	mg/m3	5		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2247300
Report Date: 09/15/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2247300-01A	Bacteria Cup Na2S2O3 preserved	A	NA		5.4	Y	Absent		E-COLI-QT(.33)
L2247300-01B	Bacteria Cup Na2S2O3 preserved	A	NA		5.4	Y	Absent		E-COLI-QT(.33)
L2247300-01C	Brown Plastic 1000ml unpreserved	A	NA		5.4	Y	Absent		CHLORO-A(1)
L2247300-01D	Brown Plastic 1000ml unpreserved	A	NA		5.4	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2247300
Project Number:	016120.0000.0000	**Report Date:**	09/15/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2247300
Project Number:	016120.0000.0000	**Report Date:**	09/15/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2247300
Project Number:	016120.0000.0000	**Report Date:**	09/15/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2247300
Project Number:	016120.0000.0000	**Report Date:**	09/15/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA — TEL: 508-898-9220 — FAX: 508-898-9193
Mansfield, MA — TEL: 508-822-9300 — FAX: 508-822-3288

Date Rec'd in Lab: 8/31/22

ALPHA Job #: L2247360

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Client Information

Client: TRC

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
47300-01	SLIL-S	8/31/22	1430	SW	JB	☒	☒		4

	Chlorophyll A	E. Coli
Container Type	P	P
Preservative	A	H

Relinquished By:	Date/Time	Received By:	Date/Time
Joseph Bt[signature]	8/31/22 1550	[signature]	8/31/22 1550
[signature] AAC	8/31/22	Joseph L. B[signature]	8/31/22 1831
Joseph C B[signature]	8/31/22 1945	[signature]	8/31/22 1943

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2250516
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	09/29/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2250516
Report Date: 09/29/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2250516-01	SLIL-S	WATER	PLYMOUTH COUNTY	09/15/22 13:15	09/15/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2250516
Project Number:	016120.0000.0000	**Report Date:**	09/29/22

Case Narrative

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Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2250516
Project Number:	016120.0000.0000	**Report Date:**	09/29/22

Case Narrative (continued)

Chlorophyll A

WG1688233: A Laboratory Duplicate was not performed due to a laboratory oversight.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 09/29/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2250516
Report Date: 09/29/22

SAMPLE RESULTS

Lab ID: L2250516-01
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTY

Date Collected: 09/15/22 13:15
Date Received: 09/15/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	5.16		MPN/100ml	1	NA	1	-	09/15/22 19:41	121,9223B	DV
General Chemistry - Westborough Lab										
Chlorophyll A	7.87		mg/m3	2.00	NA	1	09/16/22 07:00	09/19/22 09:30	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000
Lab Number: L2250516
Report Date: 09/29/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1688058-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	09/15/22 19:41	121,9223B	DV
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1688233-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	09/16/22 07:00	09/19/22 09:30	121,10200H	MT

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2250516
Report Date: 09/29/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2250516-01A	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		E-COLI-QT(.33)
L2250516-01B	Bacteria Cup Na2S2O3 preserved	A	NA		3.7	Y	Absent		E-COLI-QT(.33)
L2250516-01C	Brown Plastic 1000ml unpreserved	A	NA		3.7	Y	Absent		CHLORO-A(1)
L2250516-01D	Brown Plastic 1000ml unpreserved	A	NA		3.7	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2250516
Project Number:	016120.0000.0000	**Report Date:**	09/29/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2250516
Project Number:	016120.0000.0000	**Report Date:**	09/29/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2250516
Project Number:	016120.0000.0000	**Report Date:**	09/29/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2250516
Project Number:	016120.0000.0000	**Report Date:**	09/29/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/15/22
ALPHA Job #: L2250516

Client Information

Client: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915
Phone: 401-330-1246
Fax: Stephanie.Martin@TRCCompanies.com
Email: (See above)
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Silver Lake WQMP
Project Location: Plymouth County
Project #: 016120.0000.0000 (Old: C663)
Project Manager: Matt Ladewig
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
50516 01	SLIL-S			SW		☒	☒		4
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
				Container Type		P	P		
				Preservative		A	H		

Relinquished By:	Date/Time	Received By:	Date/Time
Joseph Bath	9/15/22 1508	[signature] AAL	9/15/22 1508
[signature] AAL	9/15/22	M [signature]	9/15/22 1457
M [signature]	9/15/22 1750	Kylie [signature]	9/15/22 1750

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2259901
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	11/09/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2259901
Report Date: 11/09/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2259901-01	FPD	WATER	PLYMOUTH COUNTY	10/26/22 12:00	10/26/22
L2259901-02	EPD	WATER	PLYMOUTH COUNTY	10/26/22 13:00	10/26/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2259901
Project Number:	016120.0000.0000	**Report Date:**	11/09/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Kelly O'Neill

Title: Technical Director/Representative Date: 11/09/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2259901
Report Date: 11/09/22

SAMPLE RESULTS

Lab ID: L2259901-01
Client ID: FPD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 10/26/22 12:00
Date Received: 10/26/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	6.32		MPN/100ml	1	NA	1	-	10/26/22 18:47	121,9223B	DRV
General Chemistry - Westborough Lab										
Chlorophyll A	6.76		mg/m3	2.00	NA	1	10/27/22 08:43	10/28/22 10:54	121,10200H	LOF

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2259901
Report Date: 11/09/22

SAMPLE RESULTS

Lab ID: L2259901-02
Client ID: EPD
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 10/26/22 13:00
Date Received: 10/26/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	14.8		MPN/100ml	1	NA	1	-	10/26/22 18:47	121,9223B	DRV
General Chemistry - Westborough Lab										
Chlorophyll A	4.91		mg/m3	2.00	NA	1	10/27/22 08:43	10/28/22 10:54	121,10200H	LOF

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2259901
Report Date: 11/09/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-02 Batch: WG1704596-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	10/26/22 18:47	121,9223B	DRV
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1705418-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	10/27/22 08:43	10/28/22 10:54	121,10200H	LOF

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2259901
Report Date: 11/09/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1705418-2 QC Sample: L2259901-02 Client ID: EPD						
Chlorophyll A	4.91	5.51	mg/m3	12		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2259901
Report Date: 11/09/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2259901-01A	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		E-COLI-QT(.33)
L2259901-01B	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		E-COLI-QT(.33)
L2259901-01C	Brown Plastic 1000ml unpreserved	A	NA		3.8	Y	Absent		CHLORO-A(1)
L2259901-01D	Brown Plastic 1000ml unpreserved	A	NA		3.8	Y	Absent		CHLORO-A(1)
L2259901-02A	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		E-COLI-QT(.33)
L2259901-02B	Bacteria Cup Na2S2O3 preserved	A	NA		3.8	Y	Absent		E-COLI-QT(.33)
L2259901-02C	Brown Plastic 1000ml unpreserved	A	NA		3.8	Y	Absent		CHLORO-A(1)
L2259901-02D	Brown Plastic 1000ml unpreserved	A	NA		3.8	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2259901
Project Number:	016120.0000.0000	**Report Date:**	11/09/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2259901
Project Number:	016120.0000.0000	**Report Date:**	11/09/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2259901
Project Number:	016120.0000.0000	**Report Date:**	11/09/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2259901
Project Number:	016120.0000.0000	**Report Date:**	11/09/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193

Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/26/22

ALPHA Job #: L2259901

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Client Information

Client: TRC Companies, Inc.

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
59901 -01	FPD	10/26/22	1200	SW	JB	☒	☒		4
-02	EPD	10/26/22	1300	SW	JB	☒	☒		4

	Chlorophyll A	E. Coli
Container Type	P	P
Preservative	A	H

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	10/26/22/1420	[signature]	10/26/22 1420
[signature]	10/26/22	[signature] 10/26/22	16:12
[signature] 10/26/22	17:20	[signature]	10/26/22 1720

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 9-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2260369
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	11/10/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260369
Report Date: 11/10/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2260369-01	SLIL-S	WATER	PLYMOUTH COUNTY	10/27/22 12:30	10/27/22
L2260369-02	SLIL-S	WATER	PLYMOUTH COUNTY	10/27/22 16:45	10/27/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260369
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260369
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

Case Narrative (continued)

E. Coli (MPN)

The WG1705612-1 Method Blank, associated with L2260369-02, has a concentration above the reporting limit; however, re-analysis could not be performed due to the expiration of the method required holding time. The results of the original analyses are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 11/10/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260369
Report Date: 11/10/22

SAMPLE RESULTS

Lab ID: L2260369-01
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 10/27/22 12:30
Date Received: 10/27/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	8.37		mg/m3	2.00	NA	1	10/28/22 08:40	10/31/22 11:11	121,10200H	LOF

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260369
Report Date: 11/10/22

SAMPLE RESULTS

Lab ID: L2260369-02
Client ID: SLIL-S
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 10/27/22 16:45
Date Received: 10/27/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
E. Coli (MPN)	2.02		MPN/100ml	1	NA	1	-	10/27/22 22:37	121,9223B	DRV

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000
Lab Number: L2260369
Report Date: 11/10/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1705440-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	10/28/22 08:40	10/31/22 11:11	121,10200H	LOF
Microbiological Analysis - Westborough Lab for sample(s): 02 Batch: WG1705612-1										
E. Coli (MPN)	1		MPN/100ml	1	NA	1	-	10/27/22 22:37	121,9223B	DRV

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260369
Report Date: 11/10/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1705440-2 QC Sample: L2260369-01 Client ID: SLIL-S						
Chlorophyll A	8.37	7.88	mg/m3	6		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260369
Report Date: 11/10/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2260369-01A	Brown Plastic 1000ml unpreserved	A	NA		4.4	Y	Absent		CHLORO-A(1)
L2260369-01B	Brown Plastic 1000ml unpreserved	A	NA		4.4	Y	Absent		CHLORO-A(1)
L2260369-02A	Bacteria Cup Na2S2O3 preserved	A	NA		4.4	Y	Absent		E-COLI-QT(.33)
L2260369-02B	Bacteria Cup Na2S2O3 preserved	A	NA		4.4	Y	Absent		E-COLI-QT(.33)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260369
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260369
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260369
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260369
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 10/27/22

ALPHA Job #: L2260369

Client Information

Client: TRC Companies, Inc.

Address: 10 Hemingway Drive

East Providence, Rhode Island 02915

Phone: 401-330-1246

Fax: Stephanie.Martin@TRCCompanies.com

Email: (See above)

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Silver Lake WQMP

Project Location: Plymouth County

Project #: 016120.0000.0000 (Old: C663)

Project Manager: Matt Ladewig

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

Report Information Data Deliverables

☐ FAX ☒ EMAIL

☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info

PO #:

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
60369-01	SLIL-S	10/27/22	1230	SW	JB	☒	☐		2
-02	SLIL-S	10/27/22	1645	SW	JB	☐	☒		2

	Chlorophyll A	E. Coli
Container Type	P	P
Preservative	A	H

Relinquished By:	Date/Time	Received By:	Date/Time
Joseph Bat[illegible]	10/27/22 6:08	[signature] -AAL	10/27/22 1800
[signature] -AAL	10/27/22	[signature] 10/27/22	21:19
[signature] 10/27/22	22:10	[signature]	10/27/22 2205

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-NJ) (rev. 5-JAN-12)

ANALYTICAL REPORT

Lab Number:	L2260368
Client:	ESS Group Incorporated 10 Hemingway Dr. 2nd Fl East Providence, RI 02915
ATTN:	Matt Ladewig
Phone:	(401) 330-1204
Project Name:	SILVER LAKE WQMP
Project Number:	016120.0000.0000
Report Date:	11/10/22

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260368
Report Date: 11/10/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2260368-01	SLIL-F	WATER	PLYMOUTH COUNTY	10/27/22 12:05	10/27/22

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260368
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich Caitlin Walukevich

Title: Technical Director/Representative Date: 11/10/22

INORGANICS
&
MISCELLANEOUS

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260368
Report Date: 11/10/22

SAMPLE RESULTS

Lab ID: L2260368-01
Client ID: SLIL-F
Sample Location: PLYMOUTH COUNTY

Sample Depth:
Matrix: Water

Date Collected: 10/27/22 12:05
Date Received: 10/27/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chlorophyll A	ND		mg/m3	2.00	NA	1	10/28/22 08:40	10/31/22 11:11	121,10200H	LOF

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260368
Report Date: 11/10/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1705440-1										
Chlorophyll A	ND		mg/m3	2.00	NA	1	10/28/22 08:40	10/31/22 11:11	121,10200H	LOF

Lab Duplicate Analysis

Batch Quality Control

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260368
Report Date: 11/10/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1705440-2 QC Sample: L2260369-01 Client ID: DUP Sample						
Chlorophyll A	8.37	7.88	mg/m3	6		35

Project Name: SILVER LAKE WQMP
Project Number: 016120.0000.0000

Lab Number: L2260368
Report Date: 11/10/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2260368-01A	Brown Plastic 1000ml unpreserved	A	NA		4.4	Y	Absent		CHLORO-A(1)
L2260368-01B	Brown Plastic 1000ml unpreserved	A	NA		4.4	Y	Absent		CHLORO-A(1)

*Values in parentheses indicate holding time in days

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260368
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

GLOSSARY

Acronyms

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EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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MSD - Matrix Spike Sample Duplicate: Refer to MS.

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NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260368
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260368
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	SILVER LAKE WQMP	**Lab Number:**	L2260368
Project Number:	016120.0000.0000	**Report Date:**	11/10/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE OF

ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 10/21/22

ALPHA Job #: L2260368

Client Information

Client: TRC Companies, Inc.
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915
Phone: 401-330-1246
Fax: Stephanie.Martin@TRCCompanies.com
Email: (See above)
☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Silver Lake WQMP
Project Location: Plymouth County
Project #: 016120.0000.0000 (Old: C663)
Project Manager: Matt Ladewig
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)
Due Date: Time:

Report Information Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info
PO #:

Regulatory Requirements/Report Limits

State/Fed Program
Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Chlorophyll A	E. Coli	Sample Specific Comments	TOTAL # BOTTLES
60368-01	SLIL-F	10/21/22	1205	SW	JB	☒	☐		2
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
						☐	☐		
Container Type						P	P		
Preservative						A	H		

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	10/21/22 6:00	[signature] - AAL	10/21/22 1803
[signature] - AAL	10/21/22	[signature] 10/22/22	21:15
[signature] 10/22/22	22:05	[signature]	10/22/22 22:05

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO: 01-01(I-AJ) (rev. 5-JAN-12)

PHOENIX
Environmental Laboratories, Inc.

Monday, September 20, 2021

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCJ25092
Sample ID#s: CJ25092 - CJ25095

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

September 20, 2021

SDG I.D.: GCJ25092

Sample CJ25092 was received past hold time for Nitrite-N (E353.2).
Sample CJ25092 was received past hold time for Nitrate-N (E353.2).
Sample CJ25093 was received past hold time for Nitrite-N (E353.2).
Sample CJ25093 was received past hold time for Nitrate-N (E353.2).
Sample CJ25094 was received past hold time for Nitrite-N (E353.2).
Sample CJ25094 was received past hold time for Nitrate-N (E353.2).
Sample CJ25095 was received past hold time for Nitrite-N (E353.2).
Sample CJ25095 was received past hold time for Nitrate-N (E353.2).

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

September 20, 2021

SDG I.D.: GCJ25092

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLIL-S	CJ25092	SURFACE WATER
SLIL-M	CJ25093	SURFACE WATER
SLIL-B	CJ25094	SURFACE WATER
SLIL-S2	CJ25095	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 20, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/07/21	
Location Code:	ESSGRPRI	Received by:	CP	09/09/21	17:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ25092
Phoenix ID: CJ25092

Project ID: SILVER LAKE
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	9.0	5.00	mg/L	1	09/10/21	MW/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.011	0.003	mg/L	0.5	09/14/21 14:48	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/10/21 02:34	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/10/21 02:34	ER	E353.2
Nitrogen Tot Kjeldahl	0.33	0.10	mg/L	1	09/17/21	KDB	E351.1
Total Nitrogen	0.33	0.10	mg/L	1	09/17/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.019	0.003	mg/L	0.5	09/14/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director
September 20, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 20, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/07/21	
Location Code:	ESSGRPRI	Received by:	CP	09/09/21	17:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ25092
Phoenix ID: CJ25093

Project ID: SILVER LAKE
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	14.0	5.00	mg/L	1	09/10/21	MW/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.008	0.003	mg/L	0.5	09/15/21 13:29	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/10/21 02:53	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/10/21 02:53	ER	E353.2
Nitrogen Tot Kjeldahl	0.31	0.10	mg/L	1	09/17/21	KDB	E351.1
Total Nitrogen	0.31	0.10	mg/L	1	09/17/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.019	0.003	mg/L	0.5	09/15/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 20, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 20, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/07/21	
Location Code:	ESSGRPRI	Received by:	CP	09/09/21	17:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ25092
Phoenix ID: CJ25094

Project ID: SILVER LAKE
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	16.6	5.00	mg/L	1	09/10/21	MW/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.027	0.003	mg/L	0.5	09/15/21 13:31	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/10/21 02:54	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/10/21 02:54	ER	E353.2
Nitrogen Tot Kjeldahl	0.46	0.10	mg/L	1	09/17/21	KDB	E351.1
Total Nitrogen	0.46	0.10	mg/L	1	09/17/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.035	0.003	mg/L	0.5	09/15/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 20, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 20, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/07/21	
Location Code:	ESSGRPRI	Received by:	CP	09/09/21	17:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ25092
Phoenix ID: CJ25095

Project ID: SILVER LAKE
Client ID: SLIL-S2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	10.9	5.00	mg/L	1	09/10/21	MW/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.004	0.003	mg/L	0.5	09/15/21 14:14	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/10/21 02:55	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/10/21 02:55	ER	E353.2
Nitrogen Tot Kjeldahl	0.34	0.10	mg/L	1	09/17/21	KDB	E351.1
Total Nitrogen	0.34	0.10	mg/L	1	09/17/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.006	0.003	mg/L	0.5	09/15/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
September 20, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 20, 2021

QA/QC Data

SDG I.D.: GCJ25092

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 591961 (mg/L), QC Sample No: CJ24967 (CJ25093, CJ25094)														
Phosphorus, as P	BRL	0.01	2.90	2.89	0.30	98.2			99.0			85 - 115	20	
Comment:														
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.														
QA/QC Batch 591795 (mg/L), QC Sample No: CJ25015 (CJ25092)														
Phosphorus, as P	BRL	0.01	3.79	3.66	3.50	97.3			98.0			85 - 115	20	
Comment:														
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.														
QA/QC Batch 591422 (mg/L), QC Sample No: CJ25066 (CJ25092, CJ25093, CJ25094, CJ25095)														
Alkalinity-CaCO3	BRL	5.00	217	219	0.90	98.5						85 - 115	20	
Comment:														
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.														
QA/QC Batch 591962 (mg/L), QC Sample No: CJ25333 (CJ25095)														
Phosphorus, as P	BRL	0.01	4.32	4.04	6.70	98.2			98.7			85 - 115	20	
Comment:														
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.														
QA/QC Batch 591350 (mg/L), QC Sample No: CJ25074 (CJ25092, CJ25093, CJ25094, CJ25095)														
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	99.0			95.4			90 - 110	20	
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	96.0			111			90 - 110	20	m
QA/QC Batch 592306 (mg/L), QC Sample No: CJ22303 (CJ25092, CJ25093, CJ25094, CJ25095)														
Nitrogen Tot Kjeldahl	BRL	0.10	0.73	0.73	0	110			104			85 - 115	20	
Comment:														
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.														
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.														

m = This parameter is outside laboratory MS/MSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 20, 2021

Monday, September 20, 2021

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCJ25092 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

September 20, 2021 SDG I.D.: GCJ25092

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [x] No [ ]
Coolant: IPK [x] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.4 °C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[x] Email: mladewig@essgroup.com

Customer: ESS Group
Address: 10 Hemingway Drive
East Providence, RI

Project: Silver Lake
Report to: C1613-000 Matt Ladewig
Invoice to: Barbara Cabral
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 9-7-21

Client Sample - Information - Identification

Analysis Request

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	alkalinity	NO2 NO3	Total Phos	Total Nitrogen	Dissolved Phos	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is	PL H2SO4	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
25092	SLIL-S	SW	9-7-21		x	x	x	x	x							2	2				
25093	SLIL-M	SW	9-7-21		x	x	x	x	x							2	2				
25094	SLIL-B	SW	9-7-21		x	x	x	x	x							2	2				
25095	SLIL-S2	SW	9-7-21		X	X	X	X	X							2	2				

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	9-9-21	8:45
	[signature]	9/9/21	17:10

Comments, Special Requirements or Regulations:

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[x] 3 Days*
[x] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[x] Excel
[x] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

Makrina Nolan

From: Makrina Nolan
Sent: Friday, September 10, 2021 1:46 PM
To: mladewig@essgroup.com
Subject: Silver Lake
Attachments: GCJ25092-ChainofCustody-1.pdf

Good Afternoon,

We received your samples yesterday, with regards to the attached chain. Unfortunately, these samples were received and analyzed past hold for Nitrate and Nitrite. These results will be reported to you past hold with a comment on the report to reflect this.

Feel free to reach out if you have any questions.

Thank you,

Makrina Nolan
Client Services –Project Manager
Drinking Water Specialist
Phoenix Environmental Labs
587 Middle Turnpike East
Manchester, CT
Direct Line: 860-645-3219
Website: www.phoenixlabs.com

PHOENIX
Environmental Laboratories, Inc.

Sunday, October 24, 2021

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCJ58698
Sample ID#s: CJ58698 - CJ58703

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

October 24, 2021

SDG I.D.: GCJ58698

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLIL-S	CJ58698	SURFACE WATER
SLIL-M	CJ58699	SURFACE WATER
SLIL-B	CJ58700	SURFACE WATER
SLT-3	CJ58701	SURFACE WATER
SLT-1	CJ58702	SURFACE WATER
SLTD	CJ58703	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/14/21	10:15
Location Code:	ESSGRPRI	Received by:	CP	10/15/21	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	C663-000-05				

Laboratory Data

SDG ID: GCJ58698
Phoenix ID: CJ58698

Project ID: SILVER LAKE
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	13.4	5.00	mg/L	1	10/16/21	M/MW/ER	SM2320B-11
Phosphorus, Dissolved as P Low Level	< 0.003	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/15/21 19:22	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/15/21 19:22	ER	E353.2
Nitrogen Tot Kjeldahl	0.37	0.10	mg/L	1	10/22/21	KDB	E351.1
Total Nitrogen	0.37	0.10	mg/L	1	10/22/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.003	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 24, 2021
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/14/21	10:25
Location Code:	ESSGRPRI	Received by:	CP	10/15/21	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	C663-000-05				

Laboratory Data

SDG ID: GCJ58698
Phoenix ID: CJ58699

Project ID: SILVER LAKE
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	15.6	5.00	mg/L	1	10/16/21	M/MW/ER	SM2320B-11
Phosphorus, Dissolved as P Low Level	< 0.003	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/15/21 19:31	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/15/21 19:31	ER	E353.2
Nitrogen Tot Kjeldahl	0.39	0.10	mg/L	1	10/22/21	KDB	E351.1
Total Nitrogen	0.39	0.10	mg/L	1	10/22/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.004	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director
October 24, 2021
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/14/21	10:35
Location Code:	ESSGRPRI	Received by:	CP	10/15/21	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	C663-000-05				

Laboratory Data

SDG ID: GCJ58698
Phoenix ID: CJ58700

Project ID: SILVER LAKE
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	14.9	5.00	mg/L	1	10/16/21	M/MW/ER	SM2320B-11
Phosphorus, Dissolved as P Low Level	< 0.003	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/15/21 19:32	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/15/21 19:32	ER	E353.2
Nitrogen Tot Kjeldahl	0.35	0.10	mg/L	1	10/22/21	KDB	E351.1
Total Nitrogen	0.35	0.10	mg/L	1	10/22/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.008	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 24, 2021
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/14/21	13:15
Location Code:	ESSGRPRI	Received by:	CP	10/15/21	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	C663-000-05				

Laboratory Data

SDG ID: GCJ58698
Phoenix ID: CJ58701

Project ID: SILVER LAKE
Client ID: SLT-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.005	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/15/21 19:33	ER	E353.2
Nitrate-N	0.21	0.02	mg/L	1	10/15/21 19:33	ER	E353.2
Nitrogen Tot Kjeldahl	0.80	0.10	mg/L	1	10/22/21	KDB	E351.1
Total Nitrogen	1.01	0.10	mg/L	1	10/22/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.015	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 24, 2021
Reviewed and Released by: Ethan Lee, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/14/21	14:30
Location Code:	ESSGRPRI	Received by:	CP	10/15/21	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	C663-000-05				

Laboratory Data

SDG ID: GCJ58698
Phoenix ID: CJ58702

Project ID: SILVER LAKE
Client ID: SLT-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.033	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/15/21 19:34	ER	E353.2
Nitrate-N	0.06	0.02	mg/L	1	10/15/21 19:34	ER	E353.2
Nitrogen Tot Kjeldahl	0.47	0.10	mg/L	1	10/22/21	KDB	E351.1
Total Nitrogen	0.53	0.10	mg/L	1	10/22/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.072	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 24, 2021
Reviewed and Released by: Ethan Lee, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/14/21	15:00
Location Code:	ESSGRPRI	Received by:	CP	10/15/21	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	C663-000-05				

Laboratory Data

SDG ID: GCJ58698
Phoenix ID: CJ58703

Project ID: SILVER LAKE
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.004	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-99
Nitrite-N	0.011	0.010	mg/L	1	10/15/21 19:35	ER	E353.2
Nitrate-N	0.26	0.02	mg/L	1	10/15/21 19:35	ER	E353.2
Nitrogen Tot Kjeldahl	0.29	0.10	mg/L	1	10/22/21	KDB	E351.1
Total Nitrogen	0.56	0.10	mg/L	1	10/22/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.008	0.003	mg/L	0.5	10/20/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 24, 2021
Reviewed and Released by: Ethan Lee, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 24, 2021

QA/QC Data

SDG I.D.: GCJ58698

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 596618 (mg/L), QC Sample No: CJ56799 (CJ58698, CJ58699, CJ58700, CJ58701, CJ58702, CJ58703)													
Alkalinity-CaCO3	BRL	5.00	248	251	1.20	98.2						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 597064 (mg/L), QC Sample No: CJ59403 (CJ58698, CJ58699, CJ58700, CJ58701, CJ58702, CJ58703)													
Phosphorus, as P	BRL	0.01	1.80	1.84	2.20	98.5			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 596563 (mg/L), QC Sample No: CJ58910 (CJ58698, CJ58699, CJ58700, CJ58701, CJ58702, CJ58703)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	99.7			108			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	97.2			105			90 - 110	20
QA/QC Batch 597274 (mg/L), QC Sample No: CJ56468 (CJ58698, CJ58699, CJ58700, CJ58701, CJ58702, CJ58703)													
Nitrogen Tot Kjeldahl	BRL	0.10	26.9	26.8	0.40	99.5			98.0			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
October 24, 2021

Sunday, October 24, 2021

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCJ58698 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

October 24, 2021 SDG I.D.: GCJ58698

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

Temp 1.3 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☑ Email: mladewig@essgroup.com

Customer: ESS Group Inc
Address: 10 Hemingway Dr
E. Providence, RI

Project: Silver Lake
Report to: C1613-000.05 Matt Ladewig
Invoice to: Barbara Cabral
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: Matt Ladewig Date:

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	alkalinity	NO2 NO3	Total Phos	Total nitrogen	Dissolved plags	MS/MSD*	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [X] 125ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
58698	SLIL-S	SW	10-14-21	1015	X	X	X	X	X								2	2				
58699	SLIL-M	SW	10-14-21	1025	X	X	X	X	X								2	2				
58700	SLIL-B	SW	10-14-21	1035	X	X	X	X	X								2	2				
58701	SLT3	SW	10-14-21	1315		X	X	X	X								1	2				
58702	SLT1	SW	10-14-21	1430		X	X	X	X								1	2				
58703	SLTD	SW	10-14-21	1500		X	X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
		10/15/21	0911
		10/15/21	1253

Comments, Special Requirements or Regulations:

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ (Residential) Direct Exposure
☐ (Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1 ☐ MWRA eSMART
☐ GW-2 ☐ S-1 10% CALC
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

PEL-126 REV. 06/20

PHOENIX
Environmental Laboratories, Inc.

Wednesday, November 24, 2021

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCJ75735
Sample ID#s: CJ75735 - CJ75741

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 24, 2021

SDG I.D.: GCJ75735

Sample CJ75735 was received past hold time for Nitrite-N (E353.2).
Sample CJ75735 was received past hold time for Nitrate-N (E353.2).
Sample CJ75736 was received past hold time for Nitrite-N (E353.2).
Sample CJ75736 was received past hold time for Nitrate-N (E353.2).
Sample CJ75737 was received past hold time for Nitrite-N (E353.2).
Sample CJ75737 was received past hold time for Nitrate-N (E353.2).
Sample CJ75738 was received past hold time for Nitrite-N (E353.2).
Sample CJ75738 was received past hold time for Nitrate-N (E353.2).
Sample CJ75739 was received past hold time for Nitrite-N (E353.2).
Sample CJ75739 was received past hold time for Nitrate-N (E353.2).
Sample CJ75740 was received past hold time for Nitrite-N (E353.2).
Sample CJ75740 was received past hold time for Nitrate-N (E353.2).
Sample CJ75741 was analyzed past hold time for Nitrite-N (E353.2).
Sample CJ75741 was analyzed past hold time for Nitrate-N (E353.2).

Version 2: Per client request Dissolved Phosphorus was added on.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 24, 2021

SDG I.D.: GCJ75735

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLIL-S	CJ75735	SURFACE WATER
SLIL-M	CJ75736	SURFACE WATER
SLIL-B	CJ75737	SURFACE WATER
SCT1	CJ75738	SURFACE WATER
SCT2	CJ75739	SURFACE WATER
SCT3	CJ75740	SURFACE WATER
SCTD	CJ75741	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		11/09/21	10:35
Location Code:	ESSGRPRI	Received by:	LB	11/11/21	13:08
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ75735
Phoenix ID: CJ75735

Project ID: SILVER LAKE
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	14.3	5.00	mg/L	1	11/12/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.007	0.003	mg/L	0.5	11/23/21 14:39	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	11/11/21 19:21	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	11/11/21 19:21	ER	E353.2
Nitrogen Tot Kjeldahl	0.40	0.10	mg/L	1	11/19/21	KDB	E351.1
Total Nitrogen	0.40	0.10	mg/L	1	11/19/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.017	0.003	mg/L	0.5	11/12/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 24, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		11/09/21	10:40
Location Code:	ESSGRPRI	Received by:	LB	11/11/21	13:08
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ75735
Phoenix ID: CJ75736

Project ID: SILVER LAKE
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	15.5	5.00	mg/L	1	11/12/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.017	0.003	mg/L	0.5	11/23/21 14:40	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	11/11/21 19:22	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	11/11/21 19:22	ER	E353.2
Nitrogen Tot Kjeldahl	0.42	0.10	mg/L	1	11/19/21	KDB	E351.1
Total Nitrogen	0.42	0.10	mg/L	1	11/19/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.017	0.003	mg/L	0.5	11/12/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 24, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		11/09/21	10:50
Location Code:	ESSGRPRI	Received by:	LB	11/11/21	13:08
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ75735
Phoenix ID: CJ75737

Project ID: SILVER LAKE
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	15.3	5.00	mg/L	1	11/12/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.018	0.003	mg/L	0.5	11/23/21 14:41	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	11/11/21 19:28	ER	E353.2
Nitrate-N	0.02	0.02	mg/L	1	11/11/21 19:28	ER	E353.2
Nitrogen Tot Kjeldahl	0.38	0.10	mg/L	1	11/19/21	KDB	E351.1
Total Nitrogen	0.40	0.10	mg/L	1	11/19/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.020	0.003	mg/L	0.5	11/12/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 24, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		11/09/21	11:45
Location Code:	ESSGRPRI	Received by:	LB	11/11/21	13:08
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ75735
Phoenix ID: CJ75738

Project ID: SILVER LAKE
Client ID: SCT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	11.2	5.00	mg/L	1	11/12/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P	0.055	0.005	mg/L	0.5	11/12/21	JR	SM4500PE-99
Phosphorus, Dissolved as P low level	0.053	0.003	mg/L	0.5	11/23/21 14:42	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	11/11/21 19:31	ER	E353.2
Nitrate-N	0.05	0.02	mg/L	1	11/11/21 19:31	ER	E353.2
Nitrogen Tot Kjeldahl	0.39	0.10	mg/L	1	11/19/21	KDB	E351.1
Total Nitrogen	0.44	0.10	mg/L	1	11/19/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.119	0.003	mg/L	0.5	11/12/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

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Phyllis Shiller, Laboratory Director
November 24, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		11/09/21	12:20
Location Code:	ESSGRPRI	Received by:	LB	11/11/21	13:08
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ75735
Phoenix ID: CJ75739

Project ID: SILVER LAKE
Client ID: SCT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	7.6	5.00	mg/L	1	11/12/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P	0.012	0.005	mg/L	0.5	11/12/21	JR	SM4500PE-99
Phosphorus, Dissolved as P low level	0.025	0.003	mg/L	0.5	11/23/21 14:43	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	11/11/21 19:33	ER	E353.2
Nitrate-N	0.15	0.02	mg/L	1	11/11/21 19:33	ER	E353.2
Nitrogen Tot Kjeldahl	0.58	0.20	mg/L	2	11/20/21	KDB	E351.1
Total Nitrogen	0.73	0.10	mg/L	1	11/20/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.032	0.003	mg/L	0.5	11/12/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director
November 24, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		11/09/21	12:50
Location Code:	ESSGRPRI	Received by:	LB	11/11/21	13:08
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ75735
Phoenix ID: CJ75740

Project ID: SILVER LAKE
Client ID: SCT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	< 5.00	5.00	mg/L	1	11/12/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P	0.012	0.005	mg/L	0.5	11/12/21	JR	SM4500PE-99
Phosphorus, Dissolved as P low level	0.024	0.003	mg/L	0.5	11/23/21 14:47	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	11/11/21 19:34	ER	E353.2
Nitrate-N	0.18	0.02	mg/L	1	11/11/21 19:34	ER	E353.2
Nitrogen Tot Kjeldahl	0.60	0.20	mg/L	2	11/20/21	KDB	E351.1
Total Nitrogen	0.78	0.10	mg/L	1	11/20/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.014	0.003	mg/L	0.5	11/12/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

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Phyllis Shiller, Laboratory Director
November 24, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 24, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		11/09/21	13:20
Location Code:	ESSGRPRI	Received by:	LB	11/11/21	13:08
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCJ75735
Phoenix ID: CJ75741

Project ID: SILVER LAKE
Client ID: SCTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	15.0	5.00	mg/L	1	11/12/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P	0.013	0.005	mg/L	0.5	11/12/21	MI	SM4500PE-99
Phosphorus, Dissolved as P low level	0.016	0.003	mg/L	0.5	11/23/21 14:47	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	11/11/21 19:35	ER	E353.2
Nitrate-N	0.06	0.02	mg/L	1	11/11/21 19:35	ER	E353.2
Nitrogen Tot Kjeldahl	0.43	0.10	mg/L	1	11/20/21	KDB	E351.1
Total Nitrogen	0.49	0.10	mg/L	1	11/20/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.031	0.003	mg/L	0.5	11/12/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 24, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 24, 2021

QA/QC Data

SDG I.D.: GCJ75735

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 601866 (mg/L), QC Sample No: CJ73911 (CJ75735, CJ75736, CJ75737, CJ75738, CJ75739, CJ75740, CJ75741)													
Phosphorus, as P	BRL	0.01	0.028	0.027	NC	99.4			96.5			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 600487 (mg/L), QC Sample No: CJ75083 (CJ75735, CJ75736, CJ75737, CJ75738, CJ75739, CJ75740)													
Phosphorus, as P	BRL	0.01	6.80	6.73	1.00	94.5			103			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 600527 (mg/L), QC Sample No: CJ75718 (CJ75735, CJ75736, CJ75737, CJ75738, CJ75739, CJ75740, CJ75741)													
Alkalinity-CaCO3	BRL	5.00	46	49	NC	97.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 600568 (mg/L), QC Sample No: CJ75883 (CJ75741)													
Phosphorus, as P	BRL	0.01	0.505	0.519	2.70	99.9			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 600438 (mg/L), QC Sample No: CJ75662 (CJ75735, CJ75736)													
Nitrate-N	BRL	0.02	0.08	0.08	NC	109			103			90 - 110	20
Nitrite-N	BRL	0.01	0.032	0.03	NC	102			104			90 - 110	20
QA/QC Batch 600439 (mg/L), QC Sample No: CJ75737 (CJ75737, CJ75738, CJ75739, CJ75740, CJ75741)													
Nitrate-N	BRL	0.02	0.02	0.02	NC	110			105			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	101			106			90 - 110	20
QA/QC Batch 601386 (mg/L), QC Sample No: CJ75135 (CJ75735, CJ75736, CJ75737, CJ75738)													
Nitrogen Tot Kjeldahl	BRL	0.10	2.34	2.48	5.80	101			95.5			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													
QA/QC Batch 601517 (mg/L), QC Sample No: CJ75739 (CJ75739, CJ75740, CJ75741)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.58	0.51	12.8	101			103			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

QA/QC Data

SDG I.D.: GCJ75735

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 24, 2021

Wednesday, November 24, 2021

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCJ75735 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 24, 2021 SDG I.D.: GCJ75735

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 2.0 °C Pg of

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☒ Email: mladewig@essgroup.com

Customer: ESS Group, Inc
Address: 10 Hemingway Dr
Riverside, RI 02915

Project: Silver Lake
Report to: C0663-000.05 Matt Ladewig
Invoice to: Barbara Cabral
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nash Date: 11-09-21

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	NO2 NO3	Total Phos	Total Nitrogen	Dissolved Gases	MS/MSD *	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ]methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is	PL As is 120 ml
75735	SL1L-S	SW	11-09-21	1035	X	X	X	X								13	2						1
75736	SL1L-M			1040												13	2						
75737	SL1L-B			1050												13	2						
75738	SLT1			1145					X							13	2						
75739	SLT2			1220					X							13	2						
75740	SLT3			1250					X							13	2						
75741	[redacted] SLTD			1320					X							13	2						

Relinquished by:	Accepted by:	Date:	Time:
Nick Nash	Emma Johnson	11/11/21	0943
		11/11	1308

Comments, Special Requirements or Regulations:

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ (Residential) Direct Exposure
☐ (Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1 ☐ MWRA eSMART
☐ GW-2 ☐ S-1 10% CALC
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
☒ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

PEL-126 REV. 06/20

Makrina Nolan

From: Makrina Nolan
Sent: Friday, November 12, 2021 2:06 PM
To: mladewig@essgroup.com
Subject: Silver Lake
Attachments: GCJ75735-ChainofCustody-1.pdf

Good Afternoon,

We received your samples yesterday, with regards to the attached chain. Unfortunately, these samples were all received and analyzed past hold for Nitrate and Nitrite. These results will be reported to you past hold with a comment on the report to reflect this.

Feel free to reach out to me if you have any questions.

Thank you,

Makrina Nolan
Client Services –Project Manager
Drinking Water Specialist
Phoenix Environmental Labs
587 Middle Turnpike East
Manchester, CT
Direct Line: 860-645-3219
Website: www.phoenixlabs.com

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Temp 2.0 °C Pg of

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-8726
Client Services (860) 645-8726

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☒ Email: mlaberiq@essgroup.com

Customer: ESS Group, Inc
Address: 10 Hemingway Dr
Riverside, RI 02915

Project: Silver Lake
Report to: C663-000.05 Matt Laberiq
Invoice to: Barbara Cabral
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Matt Laberiq Date: 11-09-21

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
B=Bulk L=Liquid X = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	NO2 NO3	Total Phos	Total Nitrogen	Dissolved Phos	MS/MSD*	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] HCL	PL As is	PL H2SO4 250ml [ ] As is [ ] H2SO4	PL HNO3 250ml [ ] 500ml [ ] 1000ml	PL NaOH 250ml [ ] 500ml	Bacteria Bottle w/thio	Bacteria Bottle as is	PL As is 120 ml
75735	SLIL-S	SW	11-09-21	1035	X	X	X	X									1	2					1
75736	SLIL-M			1040													1	2					
75737	SLIL-B			1050													1	2					
75738	SLT1			1145					X								1	2					
75739	SLT2			1220					X								1	2					
75740	SLT3			1250					X								1	2					
75741	SLT4			1320					X								1	2					

Relinquished by:	Accepted by:	Date:	Time:
		11/11/21	0943
		11/11	1308

Comments, Special Requirements or Regulations:
DissP is FF per Matt 11-22
Run 75735-37 for DissP
Run 75738-41 for DissP as (FF)

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ (Residential) Direct Exposure
☐ (Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1 ☐ MWRA eSMART
☐ GW-2 ☐ S-1 10% CALC
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
☒ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, December 27, 2021

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCK00030
Sample ID#s: CK00030 - CK00037

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

December 27, 2021

SDG I.D.: GCK00030

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLIL-5A	CK00030	SURFACE WATER
SLIL-5B	CK00031	SURFACE WATER
SLIL-M	CK00032	SURFACE WATER
SLIL-B	CK00033	SURFACE WATER
SLT1	CK00034	SURFACE WATER
SLT2	CK00035	SURFACE WATER
SLT3	CK00036	SURFACE WATER
SLTD	CK00037	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	9:35
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00030

Project ID: SILVER LAKE
Client ID: SLIL-5A

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	14.5	5.00	mg/L	1	12/17/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P Low Level	0.006	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:08	ER	E353.2
Nitrate-N	0.07	0.02	mg/L	1	12/16/21 22:08	ER	E353.2
Nitrogen Tot Kjeldahl	0.28	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.35	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.018	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	9:45
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00031

Project ID: SILVER LAKE
Client ID: SLIL-5B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	20.9	5.00	mg/L	1	12/17/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P Low Level	0.010	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:09	ER	E353.2
Nitrate-N	0.08	0.02	mg/L	1	12/16/21 22:09	ER	E353.2
Nitrogen Tot Kjeldahl	0.40	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.48	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.020	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	9:15
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00032

Project ID: SILVER LAKE
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	14.5	5.00	mg/L	1	12/17/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P Low Level	< 0.003	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:10	ER	E353.2
Nitrate-N	0.08	0.02	mg/L	1	12/16/21 22:10	ER	E353.2
Nitrogen Tot Kjeldahl	0.37	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.45	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.020	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	9:00
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00033

Project ID: SILVER LAKE
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	13.7	5.00	mg/L	1	12/17/21	MW/EG	SM2320B-11
Phosphorus, Dissolved as P Low Level	0.008	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:11	ER	E353.2
Nitrate-N	0.08	0.02	mg/L	1	12/16/21 22:11	ER	E353.2
Nitrogen Tot Kjeldahl	0.41	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.49	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.018	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	12:15
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00034

Project ID: SILVER LAKE
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.040	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:12	ER	E353.2
Nitrate-N	0.13	0.02	mg/L	1	12/16/21 22:12	ER	E353.2
Nitrogen Tot Kjeldahl	0.37	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.50	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.058	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	11:45
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00035

Project ID: SILVER LAKE
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.009	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:15	ER	E353.2
Nitrate-N	0.27	0.02	mg/L	1	12/16/21 22:15	ER	E353.2
Nitrogen Tot Kjeldahl	0.21	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.48	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.011	0.003	mg/L	0.5	12/17/21	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	11:20
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00036

Project ID: SILVER LAKE
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.013	0.003	mg/L	0.5	12/17/21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:16	ER	E353.2
Nitrate-N	0.24	0.02	mg/L	1	12/16/21 22:16	ER	E353.2
Nitrogen Tot Kjeldahl	0.27	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.51	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.013	0.003	mg/L	0.5	12/17/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

December 27, 2021

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		12/15/21	10:55
Location Code:	ESSGRPRI	Received by:	CP	12/16/21	16:35
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK00030
Phoenix ID: CK00037

Project ID: SILVER LAKE
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.007	0.003	mg/L	0.5	12/17/21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	12/16/21 22:17	ER	E353.2
Nitrate-N	0.16	0.02	mg/L	1	12/16/21 22:17	ER	E353.2
Nitrogen Tot Kjeldahl	0.39	0.10	mg/L	1	12/23/21	KDB	E351.1
Total Nitrogen	0.55	0.10	mg/L	1	12/23/21	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.013	0.003	mg/L	0.5	12/17/21	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
December 27, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 1

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

December 27, 2021

QA/QC Data

SDG I.D.: GCK00030

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 605052 (mg/L), QC Sample No: CJ99920 (CK00030, CK00031)													
Phosphorus, as P	BRL	0.01	0.225	0.227	0.90	97.8			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 605081 (mg/L), QC Sample No: CJ99987 (CK00030, CK00031, CK00032, CK00033)													
Alkalinity-CaCO3	BRL	5.00	<20.0	<20.0	NC	95.8						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 605053 (mg/L), QC Sample No: CK00187 (CK00032, CK00033, CK00034, CK00035)													
Phosphorus, as P	BRL	0.01	9.11	8.96	1.70	98.9			102			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 605108 (mg/L), QC Sample No: CK00284 (CK00036, CK00037)													
Phosphorus, as P	BRL	0.01	<0.010	<0.010	NC	102			97.0			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 605017 (mg/L), QC Sample No: CK00023 (CK00030, CK00031, CK00032, CK00033, CK00034, CK00035, CK00036, CK00037)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	104			106			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	93.6			101			90 - 110	20
QA/QC Batch 605767 (mg/L), QC Sample No: CJ99720 (CK00030, CK00031, CK00032, CK00033, CK00034, CK00035, CK00036, CK00037)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.48	1.43	3.40	107			118			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
December 27, 2021

Monday, December 27, 2021

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCK00030 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

December 27, 2021 SDG I.D.: GCK00030

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 2.4 °C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: mladwig@ess grp.com

Customer: ESS Group Inc
Address: 10 Hemingway Dr
E. Providence RI

Project: Silver Lake
Report to: C663-000.05 Matt Ladewig
Invoice to: Barbra Cabral
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nan Date:

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	NO2, NO3	Total Phos	Total Nitrogen	Dissolved Phos	MS/MSD*	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is	PL H2SO4	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is	PL AS IS 120 ml
00030	SLIL-SA	SW	12/15/21	0935	X	X	X	X	X								1	2					1
00031	SLIL-SB			0945	X	X	X	X	X								1	2					1
00032	SLIL-M			0915	X	X	X	X	X								1	2					1
00033	SLIL-B			0900	X	X	X	X	X								1	2					1
00034	SLTI			1215		X	X	X	X								1	2					
00035	SLT2			1145		X	X	X	X								1	2					
00036	SLT3			1120		X	X	X	X								1	2					
00037	SLTD			1055		X	X	X	X								1	2					

Relinquished by:	Accepted by:	Date:	Time:
Nicholas Nannenmacher			
		12-16-21	8:25
		12/16/21	16:35

Comments, Special Requirements or Regulations:

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
*** SURCHARGE APPLIES**

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[ ] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phcenix Std Report
[ ] Other

*** SURCHARGE APPLIES**

PEL-126 REV. 06/20

PHOENIX
Environmental Laboratories, Inc.

Friday, January 28, 2022

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCK23495
Sample ID#s: CK23495 - CK23498

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

January 28, 2022

SDG I.D.: GCK23495

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLTD	CK23495	SURFACE WATER
SLT1	CK23496	SURFACE WATER
SLT2	CK23497	SURFACE WATER
SLT3	CK23498	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 28, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	01/25/22	9:45
Location Code:	ESSGRPRI	Received by:	LB	01/26/22	14:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK23495
Phoenix ID: CK23495

Project ID: SILVER LAKE
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P	< 0.010	0.010	mg/L	1	01/26/22	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	01/26/22 23:09	ER	E353.2
Nitrate-N	0.29	0.02	mg/L	1	01/26/22 23:09	ER	E353.2
Nitrogen Tot Kjeldahl	0.35	0.10	mg/L	1	01/27/22	KDB	E351.1
Total Nitrogen	0.64	0.10	mg/L	1	01/27/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.011	0.003	mg/L	0.5	01/26/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 28, 2022
Reviewed and Released by: Loreen Fay, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 28, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	01/25/22	12:15
Location Code:	ESSGRPRI	Received by:	LB	01/26/22	14:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK23495
Phoenix ID: CK23496

Project ID: SILVER LAKE
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P	0.013	0.010	mg/L	1	01/26/22	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	01/26/22 23:20	ER	E353.2
Nitrate-N	0.18	0.02	mg/L	1	01/26/22 23:20	ER	E353.2
Nitrogen Tot Kjeldahl	0.44	0.10	mg/L	1	01/27/22	KDB	E351.1
Total Nitrogen	0.62	0.10	mg/L	1	01/27/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.071	0.003	mg/L	0.5	01/26/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 28, 2022
Reviewed and Released by: Loreen Fay, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 28, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	01/25/22	11:30
Location Code:	ESSGRPRI	Received by:	LB	01/26/22	14:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK23495
Phoenix ID: CK23497

Project ID: SILVER LAKE
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P	< 0.010	0.010	mg/L	1	01/26/22	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	01/26/22 23:21	ER	E353.2
Nitrate-N	0.21	0.02	mg/L	1	01/26/22 23:21	ER	E353.2
Nitrogen Tot Kjeldahl	0.17	0.10	mg/L	1	01/27/22	KDB	E351.1
Total Nitrogen	0.38	0.10	mg/L	1	01/27/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.005	0.003	mg/L	0.5	01/26/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 28, 2022
Reviewed and Released by: Loreen Fay, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

January 28, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	01/25/22	10:45
Location Code:	ESSGRPRI	Received by:	LB	01/26/22	14:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK23495
Phoenix ID: CK23498

Project ID: SILVER LAKE
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P	< 0.010	0.010	mg/L	1	01/26/22	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	01/26/22 23:22	ER	E353.2
Nitrate-N	0.33	0.02	mg/L	1	01/26/22 23:22	ER	E353.2
Nitrogen Tot Kjeldahl	0.28	0.10	mg/L	1	01/27/22	KDB	E351.1
Total Nitrogen	0.61	0.10	mg/L	1	01/27/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.007	0.003	mg/L	0.5	01/26/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
January 28, 2022
Reviewed and Released by: Loreen Fay, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

January 28, 2022

QA/QC Data

SDG I.D.: GCK23495

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 609662 (mg/L), QC Sample No: CK23346 (CK23495, CK23496, CK23497, CK23498)													
Phosphorus, as P	BRL	0.01	0.424	0.372	13.1	103			98.8			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 609733 (mg/L), QC Sample No: CK23413 (CK23495)													
Nitrate-N	BRL	0.02	0.31	0.31	0	100			99.9			90 - 110	20
Nitrite-N	BRL	0.01	0.059	0.07	17.1	98.4			109			90 - 110	20
QA/QC Batch 609735 (mg/L), QC Sample No: CK23506 (CK23496, CK23497, CK23498)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	95.6			94.8			90 - 110	20
Nitrite as Nitrogen	BRL	0.01	0.01	<0.01	NC	97.6			107			90 - 110	20
QA/QC Batch 609673 (mg/L), QC Sample No: CK22732 (CK23495, CK23496, CK23497, CK23498)													
Nitrogen Tot Kjeldahl	BRL	0.10	25.7	26.3	2.30	94.0			102			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
January 28, 2022

Friday, January 28, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCK23495 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

January 28, 2022 SDG I.D.: GCK23495

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX *Environmental Laboratories, Inc.*

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.7 °C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: mladewig@essgroup.com

Customer: ESS Group, Inc.
Address: 10 Hemingway Drive
Riverside, RI

Project: Silver Lake
Report to: Matt Ladewig mladewig@essgroup.com
Invoice to: Barbara Costal bcostal@essgroup.com
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Na[signature] Date: 01/25/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = ____________(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NO2, NO3	Total Phos	Total Nitrogen	Dissolved Phos	MS/MSD *	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
23495	SLT0	SW	01/25/22	0945	X	X	X	X								1	2				
23496	SLT1	↓	↓	1215	X	X	X	X								1	2				
23497	SLT2	↓	↓	1130	X	X	X	X								1	2				
23498	SLT3	↓	↓	1045	X	X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
Nick Nonnenmacher	[signature]	[illegible]	1015
Nick N[signature]	[signature]	01/26/22	
		1/26	1405

Comments, Special Requirements or Regulations:

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PEL-126 REV. 06/20

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

CHAIN OF CUSTODY RECORD

Temp 1.7 °C Pg of

PHOENIX Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: mladewig@essgroup.com

Customer: ESS Group, Inc.
Address: 10 Hemingway Drive
Riverside, RI

Project: Silver Lake
Report to: Matt Ladewig mladewig@essgroup.com
Invoice to: Rebecca Cassel bcassel@essgroup.com
QUOTE #
Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nan Date: 01/25/22

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
B=Bulk L=Liquid X = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NO_2, NO_3	Total Phos	Total Nitrogen	Dissolved Phos	MS/MSD*	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
23495	SLTD	SW	01/25/22	0945	X	X	X	X								1	2				
23496	SLT1	↓	↓	1215	X	X	X	X								1	2				
23497	SLT2			1130	X	X	X	X								1	2				
23498	SLT3			1045	X	X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
Nicole Neumeister			1015
Nick Nan		01/26/22	
		1126	1405

Comments, Special Requirements or Regulations:
Dissolved phos was ff per Joe 1-28-22

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Wednesday, March 02, 2022

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCK74177
Sample ID#s: CK74177 - CK74180

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 02, 2022

SDG I.D.: GCK74177

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLT 1	CK74177	SURFACE WATER
SLT 2	CK74178	SURFACE WATER
SLT 3	CK74179	SURFACE WATER
SLT D	CK74180	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 02, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		02/23/22	12:30
Location Code:	ESSGRPRI	Received by:	CP	02/24/22	13:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK74177
Phoenix ID: CK74177

Project ID: SILVER LAKE
Client ID: SLT 1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	0.014	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-99
Phosphorus, Dissolved as P low level	0.014	0.003	mg/L	0.5	02/25/22 14:20	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	02/24/22 21:12	ER	E353.2
Nitrate-N	0.09	0.02	mg/L	1	02/24/22 21:12	ER	E353.2
Nitrogen Tot Kjeldahl	0.35	0.10	mg/L	1	03/01/22	KDB	E351.1
Total Nitrogen	0.44	0.10	mg/L	1	03/01/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.035	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 02, 2022
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 02, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		02/23/22	12:00
Location Code:	ESSGRPRI	Received by:	CP	02/24/22	13:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK74177
Phoenix ID: CK74178

Project ID: SILVER LAKE
Client ID: SLT 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	< 0.003	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-99
Phosphorus, Dissolved as P low level	< 0.003	0.003	mg/L	0.5	02/25/22 14:20	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	02/24/22 21:14	ER	E353.2
Nitrate-N	0.09	0.02	mg/L	1	02/24/22 21:14	ER	E353.2
Nitrogen Tot Kjeldahl	0.26	0.10	mg/L	1	03/01/22	KDB	E351.1
Total Nitrogen	0.35	0.10	mg/L	1	03/01/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	< 0.003	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 02, 2022
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 02, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		02/23/22	11:00
Location Code:	ESSGRPRI	Received by:	CP	02/24/22	13:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK74177
Phoenix ID: CK74179

Project ID: SILVER LAKE
Client ID: SLT 3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	< 0.003	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-99
Phosphorus, Dissolved as P low level	< 0.003	0.003	mg/L	0.5	02/25/22 14:20	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	02/24/22 21:15	ER	E353.2
Nitrate-N	0.18	0.02	mg/L	1	02/24/22 21:15	ER	E353.2
Nitrogen Tot Kjeldahl	0.31	0.10	mg/L	1	03/01/22	KDB	E351.1
Total Nitrogen	0.49	0.10	mg/L	1	03/01/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.003	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director
March 02, 2022
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 02, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		02/23/22	10:00
Location Code:	ESSGRPRI	Received by:	CP	02/24/22	13:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK74177
Phoenix ID: CK74180

Project ID: SILVER LAKE
Client ID: SLT D

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P Low Level	< 0.003	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-99
Phosphorus, Dissolved as P low level	< 0.003	0.003	mg/L	0.5	02/25/22 14:20	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	02/24/22 21:18	ER	E353.2
Nitrate-N	0.03	0.02	mg/L	1	02/24/22 21:18	ER	E353.2
Nitrogen Tot Kjeldahl	0.29	0.10	mg/L	1	03/01/22	KDB	E351.1
Total Nitrogen	0.32	0.10	mg/L	1	03/01/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.013	0.003	mg/L	0.5	02/24/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 02, 2022
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 02, 2022

QA/QC Data

SDG I.D.: GCK74177

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 613534 (mg/L), QC Sample No: CK74130 (CK74177, CK74178, CK74179, CK74180)													
Phosphorus, as P	BRL	0.01	0.332	0.335	0.90	103			100			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 613617 (mg/L), QC Sample No: CK74002 (CK74177, CK74178, CK74179, CK74180)													
Nitrate-N	BRL	0.02	0.03	0.03	NC	101			102			90 - 110	20
Nitrite as Nitrogen	BRL	0.01	0.04	<0.01	NC	96.8			97.7			90 - 110	20
QA/QC Batch 613853 (mg/L), QC Sample No: CK73294 (CK74177, CK74178, CK74179, CK74180)													
Nitrogen Tot Kjeldahl	BRL	0.10	2.04	1.84	10.3	98.0			103			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 02, 2022

Wednesday, March 02, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCK74177 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

March 02, 2022 SDG I.D.: GCK74177

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.9 °C Pg of

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☒ Email: mladewig@essgroup.com

Customer: ESS Group, Inc
Address: 10 Hemingway Drive
Riverside, RI
Project: Silver Lake
Report to: Matt Ladewig mladewig@essgroup.com
Invoice to: Barbara Cabral bcabral@essgroup.com
QUOTE #
Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nalbach Date: 02/23/2022

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NO_2+NO_3	Total Phos	Total Nitrogen	Dissolved Iron	MS/MSD *	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container [ ] methanol [ ] H2O	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is ☒ 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 ☒ 250ml ☒ 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
74177	SLT 1	SW	02/23/22	1230	X	X	X	X								1	1/1				
74178	SLT 2	↓	↓	1200	X	X	X	X								1	1/1				
74179	SLT3			1100	X	X	X	X								1	1/1				
74180	SLTD			1000	X	X	X	X								1	1/1				

Relinquished by:	Accepted by:	Date:	Time:
Nick Normanmacher		02/24/22	0933
Nick Nalbach		2/24/22	13:10

Comments, Special Requirements or Regulations:

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☒ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ (Residential) Direct Exposure
☐ (Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1 ☐ MWRA eSMART
☐ GW-2 ☐ S-1 10% CALC
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
☒ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

PEL-126 REV. 06/20

PHOENIX
Environmental Laboratories, Inc.

Wednesday, April 06, 2022

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCK96239
Sample ID#s: CK96239 - CK96242

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

April 06, 2022

SDG I.D.: GCK96239

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLT1	CK96239	SURFACE WATER
SLT2	CK96240	SURFACE WATER
SLT3	CK96241	SURFACE WATER
SLTD	CK96242	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		03/28/22	12:30
Location Code:	ESSGRPRI	Received by:	SW	03/29/22	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK96239
Phoenix ID: CK96239

Project ID: SILVER LAKE
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.006	0.005	mg/L	1	03/29/22 19:19	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/29/22 19:44	ER	E353.2
Nitrate-N	0.06	0.02	mg/L	1	03/29/22 19:44	ER	E353.2
Nitrogen Tot Kjeldahl	0.48	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.54	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.046	0.003	mg/L	0.5	03/29/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
April 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		03/28/22	12:00
Location Code:	ESSGRPRI	Received by:	SW	03/29/22	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK96239
Phoenix ID: CK96240

Project ID: SILVER LAKE
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	< 0.005	0.005	mg/L	1	03/29/22 19:21	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/29/22 19:45	ER	E353.2
Nitrate-N	0.12	0.02	mg/L	1	03/29/22 19:45	ER	E353.2
Nitrogen Tot Kjeldahl	0.37	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.49	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.011	0.003	mg/L	0.5	03/29/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
April 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		03/28/22	11:15
Location Code:	ESSGRPRI	Received by:	SW	03/29/22	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK96239
Phoenix ID: CK96241

Project ID: SILVER LAKE
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	< 0.005	0.005	mg/L	1	03/29/22 19:22	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/29/22 19:46	ER	E353.2
Nitrate-N	0.16	0.02	mg/L	1	03/29/22 19:46	ER	E353.2
Nitrogen Tot Kjeldahl	0.42	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.58	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.009	0.003	mg/L	0.5	03/29/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
April 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		03/28/22	10:30
Location Code:	ESSGRPRI	Received by:	SW	03/29/22	12:53
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK96239
Phoenix ID: CK96242

Project ID: SILVER LAKE
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	< 0.005	0.005	mg/L	1	03/29/22 19:23	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/29/22 19:48	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	03/29/22 19:48	ER	E353.2
Nitrogen Tot Kjeldahl	0.52	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.52	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.015	0.003	mg/L	0.5	03/29/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
April 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

April 06, 2022

QA/QC Data

SDG I.D.: GCK96239

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 617791 (mg/L), QC Sample No: CK96065 (CK96239, CK96240, CK96241, CK96242)													
Phosphorus, as P	BRL	0.01	0.022	0.027	NC	104			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 617860 (mg/L), QC Sample No: CK96170 (CK96239, CK96240, CK96241, CK96242)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			101			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	102			106			90 - 110	20
QA/QC Batch 618626 (mg/L), QC Sample No: CK95998 (CK96239, CK96240, CK96241, CK96242)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.27	0.28	NC	105			97.3			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
April 06, 2022

Wednesday, April 06, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCK96239 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

April 06, 2022 SDG I.D.: GCK96239

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 2.1 °C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: Matt Ladewig MLadewig@trccompanies.com

Customer: ESS Group, Inc
Address: 10 Hemingway Drive
Riverside, RI 02915

Project: Silver Lake
Report to: Matt Ladewig MLadewig@TRCcompanies.com
Invoice to: Barbara Cabral BCabral@trccompanies.com
QUOTE #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nov Date: 03/28/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NO2, NO3	Total Phos	Total Nitrogen	Dissolved Phos (FF)	MS/MSD*	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ]methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/hio	Bacteria Bottle as is	PL H2SO4 250ml FF
96239	SCT1	SW	03/28/22	1230	X	X	X	X								1	1					1
96240	SCT2	↓		1200	X	X	X	X								1	1					1
96241	SCT3			1115	X	X	X	X								1	1					1
96242	SCTD			1030	X	X	X	X								1	1					1

Relinquished by:	Accepted by:	Date:	Time:
Nick Nonnenmacher		03/29/22	1012
		3/29	1253

Comments, Special Requirements or Regulations:

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

PEL-126 REV. 06/20

PHOENIX
Environmental Laboratories, Inc.

Tuesday, April 12, 2022

Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE
SDG ID: GCK97397
Sample ID#s: CK97397 - CK97401

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

April 12, 2022

SDG I.D.: GCK97397

Version 2: Per client request Alkalinity was added on.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

April 12, 2022

SDG I.D.: GCK97397

Project ID: SILVER LAKE

Client Id	Lab Id	Matrix
SLIL-SA	CK97397	SURFACE WATER
SLIL-M	CK97398	SURFACE WATER
SLIL-B	CK97399	SURFACE WATER
EPD	CK97400	SURFACE WATER
FPD	CK97401	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 12, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	03/29/22	
Location Code:	ESSGRPRI	Received by:	SW	03/30/22	15:31
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK97397
Phoenix ID: CK97397

Project ID: SILVER LAKE
Client ID: SLIL-SA

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	13.9	5.00	mg/L	1	04/11/22	EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.013	0.003	mg/L	0.5	03/31/22 14:24	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/30/22 21:23	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	03/30/22 21:23	ER	E353.2
Nitrogen Tot Kjeldahl	0.50	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.50	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.028	0.003	mg/L	0.5	03/31/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
April 12, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 12, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	03/29/22	
Location Code:	ESSGRPRI	Received by:	SW	03/30/22	15:31
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK97397
Phoenix ID: CK97398

Project ID: SILVER LAKE
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	12.0	5.00	mg/L	1	04/11/22	EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.009	0.003	mg/L	0.5	03/31/22 14:25	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/30/22 21:35	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	03/30/22 21:35	ER	E353.2
Nitrogen Tot Kjeldahl	0.45	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.45	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.028	0.003	mg/L	0.5	03/31/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
April 12, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 12, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	03/29/22	
Location Code:	ESSGRPRI	Received by:	SW	03/30/22	15:31
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK97397
Phoenix ID: CK97399

Project ID: SILVER LAKE
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	10.3	5.00	mg/L	1	04/11/22	EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.020	0.003	mg/L	0.5	03/31/22 14:27	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/30/22 21:36	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	03/30/22 21:36	ER	E353.2
Nitrogen Tot Kjeldahl	0.47	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.47	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.048	0.003	mg/L	0.5	03/31/22	JR	SM4500PE-11

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Phyllis Shiller, Laboratory Director
April 12, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 12, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	03/29/22	
Location Code:	ESSGRPRI	Received by:	SW	03/30/22	15:31
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK97397
Phoenix ID: CK97400

Project ID: SILVER LAKE
Client ID: EPD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	11.1	5.00	mg/L	1	04/11/22	EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.013	0.003	mg/L	0.5	03/31/22 14:28	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/30/22 21:39	ER	E353.2
Nitrate-N	0.17	0.02	mg/L	1	03/30/22 21:39	ER	E353.2
Nitrogen Tot Kjeldahl	0.38	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.55	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.034	0.003	mg/L	0.5	03/31/22	JR	SM4500PE-11

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Comments:

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Phyllis Shiller, Laboratory Director
April 12, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

April 12, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	03/29/22	
Location Code:	ESSGRPRI	Received by:	SW	03/30/22	15:31
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCK97397
Phoenix ID: CK97401

Project ID: SILVER LAKE
Client ID: FPD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	6.7	5.00	mg/L	1	04/11/22	EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.008	0.003	mg/L	0.5	03/31/22 14:30	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	03/30/22 21:40	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	03/30/22 21:40	ER	E353.2
Nitrogen Tot Kjeldahl	0.57	0.10	mg/L	1	04/05/22	KDB	E351.1
Total Nitrogen	0.57	0.10	mg/L	1	04/05/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.035	0.003	mg/L	0.5	03/31/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
April 12, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

April 12, 2022

QA/QC Data

SDG I.D.: GCK97397

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 619790 (mg/L), QC Sample No: CK96239 (CK97397, CK97398, CK97399, CK97400, CK97401)													
Alkalinity-CaCO3	BRL	5.00	<5.00	<5.00	NC	93.0						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 618125 (mg/L), QC Sample No: CK97031 (CK97397, CK97398, CK97399, CK97400, CK97401)													
Phosphorus, as P	BRL	0.01	0.901	0.885	1.80	102			103			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 618061 (mg/L), QC Sample No: CK97358 (CK97397)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	102			102			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	102			105			90 - 110	20
QA/QC Batch 618063 (mg/L), QC Sample No: CK97513 (CK97398, CK97399, CK97400, CK97401)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	102			106			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	102			105			90 - 110	20
QA/QC Batch 618627 (mg/L), QC Sample No: CK97386 (CK97397, CK97398, CK97399, CK97400, CK97401)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.63	1.56	4.40	102			101			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
April 12, 2022

Tuesday, April 12, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCK97397 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

April 12, 2022 SDG I.D.: GCK97397

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

CHAIN OF CUSTODY RECORD

Temp 2.6 °C Pg of

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: mladewig@trccompanies

Customer: ESS Group, LLC
Address: 10 Hemingway Drive
Riverside, RI

Project: Silver Lake
Report to: Matt Ladewig MLadewig@trccompanies
Invoice to: Barbara Cabral
QUOTE # BCabral@trccompanies

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: Nick Nardone Date: 03/29/22

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	NO2+NO3	Total Phos	Total Nitrogen	Diss PO4 (EP)	MS/MSD *	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] HCL	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is	PL As is (20ml) PL H2SO4 250ml FF
97397	SLIL-SA	SW	03/29/22		X	X	X	X								1	1					1	1
97398	SLIL-M	↓			X	X	X	X								1	1					1	1
97399	SLIL-B				X	X	X	X								1	1					1	1
97400	EPD				X	X	X	X								1	1					1	1
97401	FPD				X	X	X	X								1	1					1	1

Relinquished by:	Accepted by:	Date:	Time:
Nicholas Nardone		03/30/22	
Nick		3-30-22	9:05
		3/30	1531

Comments, Special Requirements or Regulations:

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
*** SURCHARGE APPLIES**

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

*** SURCHARGE APPLIES**

PEL-126 REV. 06/20

Makrina Nolan

Subject: GCK97397/GCK96239

From: Nonnenmacher, Nick <NNonnenmacher@trccompanies.com>
Sent: Monday, April 11, 2022 1:21 PM
To: Makrina Nolan <Makrina@phoenixlabs.com>
Subject: RE: [EXTERNAL] Alkalinity/Silver Lake

Hello,

Yes, I can confirm we would like to add alkalinity to these samples.

Thank you for your help!
Nicholas Nonnenmacher | **ESS Group, LLC – A TRC Company**
p 401.330.1210 | NNonnenmacher@trccompanies.com

From: Makrina Nolan <Makrina@phoenixlabs.com>
Sent: Monday, April 11, 2022 1:19 PM
To: Nonnenmacher, Nick <NNonnenmacher@trccompanies.com>
Subject: [EXTERNAL] Alkalinity/Silver Lake

Good Afternoon,

Per our conversation, please confirm you would like to add alkalinity to these samples.

Thank you,

Makrina Nolan
Client Services –Project Manager
Drinking Water Specialist
Phoenix Environmental Labs
587 Middle Turnpike East
Manchester, CT
Direct Line: 860-645-3219
Website: www.phoenixlabs.com

PHOENIX
Environmental Laboratories, Inc.

Tuesday, May 03, 2022

Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP 016120.0000.0000
SDG ID: GCL18702
Sample ID#s: CL18702 - CL18704

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 03, 2022

SDG I.D.: GCL18702

Project ID: SILVER LAKE WQMP 016120.0000.0000

Client Id	Lab Id	Matrix
SLIL-S	CL18702	SURFACE WATER
SLIL-M	CL18703	SURFACE WATER
SLIL-B	CL18704	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	11:15
Location Code:	ESSGRPRI	Received by:	CP	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18702
Phoenix ID: CL18702

Project ID: SILVER LAKE WQMP 016120.0000.0000
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	8.8	5.00	mg/L	1	04/29/22	ND/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.010	0.003	mg/L	0.5	04/29/22 12:42	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 20:58	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	04/28/22 20:58	ER	E353.2
Nitrogen Tot Kjeldahl	0.33	0.10	mg/L	1	04/30/22	KDB	E351.1
Total Nitrogen	0.33	0.10	mg/L	1	04/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.024	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 03, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	11:00
Location Code:	ESSGRPRI	Received by:	CP	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18702
Phoenix ID: CL18703

Project ID: SILVER LAKE WQMP 016120.0000.0000
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	9.7	5.00	mg/L	1	04/29/22	ND/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.014	0.003	mg/L	0.5	04/29/22 12:43	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 21:02	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	04/28/22 21:02	ER	E353.2
Nitrogen Tot Kjeldahl	0.33	0.10	mg/L	1	04/30/22	KDB	E351.1
Total Nitrogen	0.33	0.10	mg/L	1	04/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.022	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 03, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	10:45
Location Code:	ESSGRPRI	Received by:	CP	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18702
Phoenix ID: CL18704

Project ID: SILVER LAKE WQMP 016120.0000.0000
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	10.9	5.00	mg/L	1	04/29/22	ND/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.014	0.003	mg/L	0.5	04/29/22 12:44	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 21:03	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	04/28/22 21:03	ER	E353.2
Nitrogen Tot Kjeldahl	0.47	0.10	mg/L	1	04/30/22	KDB	E351.1
Total Nitrogen	0.47	0.10	mg/L	1	04/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.031	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director
May 03, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 03, 2022

QA/QC Data

SDG I.D.: GCL18702

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 622544 (mg/L), QC Sample No: CL18762 (CL18702, CL18703, CL18704)													
Phosphorus, as P	BRL	0.01	0.033	0.030	NC	103			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 622576 (mg/L), QC Sample No: CL18866 (CL18702, CL18703, CL18704)													
Alkalinity-CaCO3	BRL	5.00	101	101	0	94.4						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 622503 (mg/L), QC Sample No: CL18352 (CL18702, CL18703, CL18704)													
Nitrate-N	BRL	0.02	0.04	0.04	NC	97.8			97.6			90 - 110	20
Nitrite as Nitrogen	BRL	0.01	0.04	<0.01	NC	101			110			90 - 110	20
QA/QC Batch 622618 (mg/L), QC Sample No: CL17632 (CL18702, CL18703, CL18704)													
Nitrogen Tot Kjeldahl	BRL	0.10	16.6	16.7	0.60	101			98.0			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 03, 2022

Tuesday, May 03, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL18702 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

May 03, 2022 SDG I.D.: GCL18702

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

Temp 1.4 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☑ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 4-27-22

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen (NO_2& NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved*	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz.	GL Soil container ( ) oz.	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
18702	SLIL - S	SW	4-27-22	1115	x	x	x	x						1	1	2				
18703	SLIL - M	SW	4-27-22	1100	x	x	x	x						1	1	2				
18704	SLIL - B	SW	4-27-22	1045	x	x	x	x						1	1	2				

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	4-27-22	1630
		4/28	1323

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGE APPLIES

RI
☐ (Residential)
☐ (Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ SWPC
☐ Residential DEC
☐ I/C DEC

MA
☐ MCP Certification
☐ GW-1 ☐ MWRA eSMART
☐ GW-2 ☐ S-1 10% CALC
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Friday, May 06, 2022

Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP 016120.0000.0000
SDG ID: GCL18705
Sample ID#s: CL18705 - CL18709

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 06, 2022

SDG I.D.: GCL18705

Project ID: SILVER LAKE WQMP 016120.0000.0000

Client Id	Lab Id	Matrix
SLT1	CL18705	SURFACE WATER
SLT2	CL18706	SURFACE WATER
SLT3	CL18707	SURFACE WATER
SLTD	CL18708	SURFACE WATER
SLT11	CL18709	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 06, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	14:00
Location Code:	ESSGRPRI	Received by:	CP	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18705
Phoenix ID: CL18705

Project ID: SILVER LAKE WQMP 016120.0000.0000
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.042	0.003	mg/L	0.5	04/29/22 12:46	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 21:18	ER	E353.2
Nitrate-N	0.06	0.02	mg/L	1	04/28/22 21:18	ER	E353.2
Nitrogen Tot Kjeldahl	0.72	0.10	mg/L	1	04/30/22	KDB	E351.1
Total Nitrogen	0.78	0.10	mg/L	1	04/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.151	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	13:40
Location Code:	ESSGRPRI	Received by:	SW	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18705
Phoenix ID: CL18706

Project ID: SILVER LAKE WQMP
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.015	0.003	mg/L	0.5	04/29/22 12:57	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 21:19	ER	E353.2
Nitrate-N	0.04	0.02	mg/L	1	04/28/22 21:19	ER	E353.2
Nitrogen Tot Kjeldahl	0.30	0.10	mg/L	1	04/30/22	KDB	E351.1
Total Nitrogen	0.34	0.10	mg/L	1	04/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.015	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	13:15
Location Code:	ESSGRPRI	Received by:	SW	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18705
Phoenix ID: CL18707

Project ID: SILVER LAKE WQMP
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.017	0.003	mg/L	0.5	04/29/22 12:49	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 21:20	ER	E353.2
Nitrate-N	0.21	0.02	mg/L	1	04/28/22 21:20	ER	E353.2
Nitrogen Tot Kjeldahl	0.43	0.20	mg/L	2	05/06/22	KDB	E351.1
Total Nitrogen	0.64	0.10	mg/L	1	05/06/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.032	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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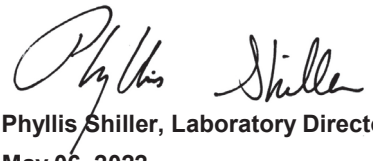

Phyllis Shiller, Laboratory Director
May 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	12:15
Location Code:	ESSGRPRI	Received by:	SW	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18705
Phoenix ID: CL18708

Project ID: SILVER LAKE WQMP
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.009	0.003	mg/L	0.5	04/29/22 12:50	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 21:21	ER	E353.2
Nitrate-N	0.08	0.02	mg/L	1	04/28/22 21:21	ER	E353.2
Nitrogen Tot Kjeldahl	0.43	0.10	mg/L	1	05/06/22	KDB	E351.1
Total Nitrogen	0.51	0.10	mg/L	1	05/06/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.028	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 06, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		04/27/22	14:15
Location Code:	ESSGRPRI	Received by:	SW	04/28/22	13:23
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL18705
Phoenix ID: CL18709

Project ID: SILVER LAKE WQMP
Client ID: SLT11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.035	0.003	mg/L	0.5	04/29/22 12:51	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	04/28/22 21:22	ER	E353.2
Nitrate-N	0.06	0.02	mg/L	1	04/28/22 21:22	ER	E353.2
Nitrogen Tot Kjeldahl	0.47	0.10	mg/L	1	05/06/22	KDB	E351.1
Total Nitrogen	0.53	0.10	mg/L	1	05/06/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.067	0.003	mg/L	0.5	04/29/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 06, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 06, 2022

QA/QC Data

SDG I.D.: GCL18705

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 622544 (mg/L), QC Sample No: CL18762 (CL18705, CL18706, CL18707, CL18708, CL18709)													
Phosphorus, as P	BRL	0.01	0.033	0.030	NC	103			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 622506 (mg/L), QC Sample No: CL18813 (CL18705, CL18706, CL18707, CL18708, CL18709)													
Nitrate-N	BRL	0.02	0.09	0.09	NC	95.7			92.9			90 - 110	20
Nitrite-N	BRL	0.01	0.091	0.09	1.10	101			110			90 - 110	20
QA/QC Batch 622618 (mg/L), QC Sample No: CL17632 (CL18705, CL18706)													
Nitrogen Tot Kjeldahl	BRL	0.10	16.6	16.7	0.60	101			98.0			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													
QA/QC Batch 623479 (mg/L), QC Sample No: CL18707 (CL18707, CL18708, CL18709)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.43	0.39	NC	97.3			105			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 06, 2022

Friday, May 06, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL18705 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

May 06, 2022 SDG I.D.: GCL18705

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Temp 1.4 °C Pg of

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nd... Date: 04/27/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = ____________(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml
18705	SLT1	SW	04/27/22	1400	X	X	X	1	2
18706	SLT2	SW	↓	1340	X	X	X	1	2
18707	SLT3	SW	↓	1315	X	X	X	1	2
18708	SLTD	SW	↓	1215	X	X	X	1	2
18709	SLT11	SW	↓	1415	X	X	X	1	2

Other columns (no entries): *MS/MSD (May be billable at analysis unit rate); GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4; Soil VOA Vials [ ] methanol [ ] H2O; GL Soil container ( )oz; GL Soil container ( )oz; 40 ml VOA Vial [ ] As is [ ] HCl; 120 ml Plastic; PL HNO3 250ml; PL NaOH 250ml; Bacteria Bottle w/thio; Bacteria Bottle as is

Relinquished by:	Accepted by:	Date:	Time:
Nicholas Ahonnachu	[signature]	4/27/22	1551
[signature]	[signature]	4/28	1323

Comments, Special Requirements or Regulations:

**** Field Filtered within 15 minutes of collection**

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other

* SURCHARGE APPLIES

RI
☐ (Residential)
☐ (Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ SWPC
☐ Residential DEC
☐ I/C DEC

MA
☐ MCP Certification
☐ GW-1 ☐ MWRA eSMART
☐ GW-2 ☐ S-1 10% CALC
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

PHOENIX
Environmental Laboratories, Inc.

Wednesday, May 18, 2022

Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVERLAKE WQMP
SDG ID: GCL29209
Sample ID#s: CL29209 - CL29214

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 18, 2022

SDG I.D.: GCL29209

Project ID: SILVERLAKE WQMP

Client Id	Lab Id	Matrix
SLGW1	CL29209	GROUND WATER
SLGW2	CL29210	GROUND WATER
SLGW3	CL29211	GROUND WATER
SLGW4	CL29212	GROUND WATER
SLGW5	CL29213	GROUND WATER
SLGW6	CL29214	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/11/22	
Location Code:	ESSGRPRI	Received by:	CP	05/12/22	15:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL29209
Phoenix ID: CL29209

Project ID: SILVERLAKE WQMP
Client ID: SLGW1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.046	0.005	mg/L	1	05/13/22 20:29	MI	SM4500PE-99
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	05/17/22	KDB	E350.1
Nitrate-N	1.98	0.02	mg/L	1	05/12/22 20:19	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 18, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/11/22	
Location Code:	ESSGRPRI	Received by:	CP	05/12/22	15:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL29209
Phoenix ID: CL29210

Project ID: SILVERLAKE WQMP
Client ID: SLGW2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.064	0.005	mg/L	1	05/14/22 13:58	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	05/17/22	KDB	E350.1
Nitrate-N	< 0.02	0.02	mg/L	1	05/12/22 20:22	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 18, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/11/22	
Location Code:	ESSGRPRI	Received by:	CP	05/12/22	15:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL29209
Phoenix ID: CL29211

Project ID: SILVERLAKE WQMP
Client ID: SLGW3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.108	0.005	mg/L	1	05/14/22 13:59	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.10	0.10	mg/L	2	05/17/22	KDB	E350.1
Nitrate-N	< 0.02	0.02	mg/L	1	05/12/22 20:23	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 18, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/11/22	
Location Code:	ESSGRPRI	Received by:	CP	05/12/22	15:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL29209
Phoenix ID: CL29212

Project ID: SILVERLAKE WQMP
Client ID: SLGW4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.100	0.005	mg/L	1	05/14/22 14:00	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	05/17/22	KDB	E350.1
Nitrate-N	0.59	0.02	mg/L	1	05/12/22 20:24	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 18, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/11/22	
Location Code:	ESSGRPRI	Received by:	CP	05/12/22	15:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL29209
Phoenix ID: CL29213

Project ID: SILVERLAKE WQMP
Client ID: SLGW5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.046	0.005	mg/L	1	05/14/22 14:00	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	05/17/22	KDB	E350.1
Nitrate-N	< 0.02	0.02	mg/L	1	05/12/22 20:27	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
May 18, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 18, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc.
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		05/11/22	
Location Code:	ESSGRPRI	Received by:	CP	05/12/22	15:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL29209
Phoenix ID: CL29214

Project ID: SILVERLAKE WQMP
Client ID: SLGW6

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.080	0.005	mg/L	1	05/14/22 14:01	JR	SM4500PE-99
Ammonia as Nitrogen	0.08	0.05	mg/L	1	05/17/22	KDB	E350.1
Nitrate-N	0.04	0.02	mg/L	1	05/12/22 20:28	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 18, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 18, 2022

QA/QC Data

SDG I.D.: GCL29209

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 624563 (mg/L), QC Sample No: CL29170 (CL29209, CL29210, CL29211, CL29212, CL29213, CL29214)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	95.9			99.6			90 - 110	20
QA/QC Batch 624956 (mg/L), QC Sample No: CL29055 (CL29209, CL29210, CL29211, CL29212, CL29213, CL29214)													
Ammonia as Nitrogen	BRL	0.05	0.13	0.13	NC	99.4			98.7			90 - 110	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 18, 2022

Wednesday, May 18, 2022

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCL29209 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

May 18, 2022 SDG I.D.: GCL29209

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Temp 2.7 °C Pg of

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer:	ESS Group, LLC - A TRC Company	Project:	Silver Lake WQMP
Address:	10 Hemingway Drive	Report to:	016120.0000.0000 (Previously C663.000)
	East Providence, Rhode Island 02915	Invoice to:	Barbara Cabral (BCabral@TRCCompanies.com)
		Quote #	

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Addison Ochs Date: 5-11-22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = ____________(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Phosphorus, Dissolved**	Nitrate-Nitrogen	Ammonia	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
29209	SLGW1	GW			X	X	X								1	2				
29210	SLGW2	GW			X	X	X								1	2				
29211	SLGW3	GW			X	X	X								1	2				
29212	SLGW4	GW			X	X	X								1	2				
29213	SLGW5	GW			X	X	X								1	2				
29214	SLGW6	GW			X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
Addison Ochs	[signature]	5-12-22	0850
[signature]	[signature]	5/12	1503

Comments, Special Requirements or Regulations:

** **Field Filtered within 15 minutes of collection**

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- GW-1 ☐ MWRA eSMART
- GW-2 ☐ S-1 10% CALC
- GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

****MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.***

PHOENIX
Environmental Laboratories, Inc.

Friday, May 27, 2022

Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCL36862
Sample ID#s: CL36862 - CL36864

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 27, 2022

SDG I.D.: GCL36862

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLIL-S	CL36862	SURFACE WATER
SLIL-M	CL36863	SURFACE WATER
SLIL-B	CL36864	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	10:30
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36862
Phoenix ID: CL36862

Project ID: SILVER LAKE WQMP
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	10.6	5.00	mg/L	1	05/25/22	ND/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.021	0.003	mg/L	0.5	05/25/22 14:08	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:27	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	05/24/22 22:27	ER	E353.2
Nitrogen Tot Kjeldahl	0.40	0.10	mg/L	1	05/25/22	KDB	E351.1
Total Nitrogen	0.40	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.041	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	10:20
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36862
Phoenix ID: CL36863

Project ID: SILVER LAKE WQMP
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	11.5	5.00	mg/L	1	05/25/22	ND/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.021	0.003	mg/L	0.5	05/25/22 14:10	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:28	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	05/24/22 22:28	ER	E353.2
Nitrogen Tot Kjeldahl	0.53	0.10	mg/L	1	05/25/22	KDB	E351.1
Total Nitrogen	0.53	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.070	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	10:10
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36862
Phoenix ID: CL36864

Project ID: SILVER LAKE WQMP
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	12.0	5.00	mg/L	1	05/25/22	ND/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.037	0.003	mg/L	0.5	05/25/22 14:11	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:29	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	05/24/22 22:29	ER	E353.2
Nitrogen Tot Kjeldahl	0.51	0.10	mg/L	1	05/25/22	KDB	E351.1
Total Nitrogen	0.51	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.076	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 27, 2022

QA/QC Data

SDG I.D.: GCL36862

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 626266 (mg/L), QC Sample No: CL36806 (CL36862, CL36863, CL36864)													
Alkalinity-CaCO3	BRL	5.00	52	51	NC	94.3						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 626279 (mg/L), QC Sample No: CL36944 (CL36862, CL36863, CL36864)													
Phosphorus, as P	BRL	0.01	5.26	5.35	1.70	104			116			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 626217 (mg/L), QC Sample No: CL36944 (CL36862, CL36863, CL36864)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	98.6			99.0			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	97.6			104			90 - 110	20
QA/QC Batch 626176 (mg/L), QC Sample No: CL36859 (CL36862, CL36863, CL36864)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.68	0.68	0	95.3			100			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 27, 2022

Friday, May 27, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL36862 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

May 27, 2022 SDG I.D.: GCL36862

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

Temp 2.0 C Pg of

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☑ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nacker Date: 05/23/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen (NO_2& NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
368862	SLIL - S	SW	05/23/22	1030	X	X	X	X						1	1	2				
368863	SLIL - M	SW	↓	1020	X	X	X	X						1	1	2				
368864	SLIL - B	SW		1010	X	X	X	X						1	1	2				

Relinquished by:	Accepted by:	Date:	Time:
Nicholas Nackermacher		5-24-22	0956
		5/24	1440

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ (Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Friday, May 27, 2022

Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCL36865
Sample ID#s: CL36865 - CL36868

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 27, 2022

SDG I.D.: GCL36865

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT1	CL36865	SURFACE WATER
SLT2	CL36866	SURFACE WATER
SLT3	CL36867	SURFACE WATER
SLTD	CL36868	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	8:45
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36865
Phoenix ID: CL36865

Project ID: SILVER LAKE WQMP
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.091	0.003	mg/L	0.5	05/25/22 14:13	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:30	ER	E353.2
Nitrate-N	0.10	0.02	mg/L	1	05/24/22 22:30	ER	E353.2
Nitrogen Tot Kjeldahl	0.63	0.10	mg/L	1	05/25/22	KDB	E351.1
Total Nitrogen	0.73	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.151	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	8:15
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36865
Phoenix ID: CL36866

Project ID: SILVER LAKE WQMP
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.040	0.003	mg/L	0.5	05/25/22 14:14	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:33	ER	E353.2
Nitrate-N	0.17	0.02	mg/L	1	05/24/22 22:33	ER	E353.2
Nitrogen Tot Kjeldahl	2.06	0.20	mg/L	2	05/25/22	KDB	E351.1
Total Nitrogen	2.23	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.268	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	7:45
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36865
Phoenix ID: CL36867

Project ID: SILVER LAKE WQMP
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.028	0.003	mg/L	0.5	05/25/22 14:16	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:34	ER	E353.2
Nitrate-N	0.34	0.02	mg/L	1	05/24/22 22:34	ER	E353.2
Nitrogen Tot Kjeldahl	0.64	0.20	mg/L	2	05/25/22	KDB	E351.1
Total Nitrogen	0.98	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.040	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	7:00
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36865
Phoenix ID: CL36868

Project ID: SILVER LAKE WQMP
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.018	0.005	mg/L	1	05/25/22 20:42	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:35	ER	E353.2
Nitrate-N	0.06	0.02	mg/L	1	05/24/22 22:35	ER	E353.2
Nitrogen Tot Kjeldahl	0.53	0.10	mg/L	1	05/25/22	KDB	E351.1
Total Nitrogen	0.59	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.061	0.003	mg/L	0.5	05/25/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 27, 2022

QA/QC Data

SDG I.D.: GCL36865

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 626279 (mg/L), QC Sample No: CL36944 (CL36865, CL36866, CL36867)													
Phosphorus, as P	BRL	0.01	5.26	5.35	1.70	104			116			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 626315 (mg/L), QC Sample No: CL37186 (CL36868)													
Phosphorus, as P	BRL	0.01	8.60	8.49	1.30	106			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 626217 (mg/L), QC Sample No: CL36944 (CL36865, CL36866, CL36867, CL36868)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	98.6			99.0			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	97.6			104			90 - 110	20
QA/QC Batch 626176 (mg/L), QC Sample No: CL36859 (CL36865, CL36866, CL36867, CL36868)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.68	0.68	0	95.3			100			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 27, 2022

Friday, May 27, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL36865 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

May 27, 2022 SDG I.D.: GCL36865

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Temp 2 °C Pg of

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nola Date: 05/23/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
368605	SLT1	SW	05/23/22	0845	X	X	X							1	2					
368606	SLT2	SW	↓	0815	X	X	X							1	2					
368607	SLT3	SW		0745	X	X	X							1	2					
368608	SLTD	SW		0700	X	X	X							1	2					

Relinquished by:	Accepted by:	Date:	Time:
Nicholas Nowaczyk		5.24.22	0956
		5/24	1410

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Friday, May 27, 2022

Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCL36859
Sample ID#s: CL36859 - CL36861

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 27, 2022

SDG I.D.: GCL36859

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
FPD	CL36859	SURFACE WATER
EPD	CL36860	SURFACE WATER
LFD	CL36861	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	13:30
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36859
Phoenix ID: CL36859

Project ID: SILVER LAKE WQMP
Client ID: FPD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	8.0	5.00	mg/L	1	05/24/22	ND/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.028	0.003	mg/L	0.5	05/25/22 13:58	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:13	ER	E353.2
Nitrate-N	0.02	0.02	mg/L	1	05/24/22 22:13	ER	E353.2
Nitrogen Tot Kjeldahl	0.68	0.20	mg/L	2	05/25/22	KDB	E351.1
Total Nitrogen	0.70	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.088	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	12:30
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36859
Phoenix ID: CL36860

Project ID: SILVER LAKE WQMP
Client ID: EPD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	9.5	5.00	mg/L	1	05/24/22	ND/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.019	0.005	mg/L	1	05/25/22 20:42	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:14	ER	E353.2
Nitrate-N	0.07	0.02	mg/L	1	05/24/22 22:14	ER	E353.2
Nitrogen Tot Kjeldahl	0.51	0.10	mg/L	1	05/25/22	KDB	E351.1
Total Nitrogen	0.58	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.049	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

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Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 27, 2022

FOR: Attn: Mr Matt Ladewig
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:	NN	05/23/22	13:40
Location Code:	ESSGRPRI	Received by:	LB	05/24/22	14:40
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL36859
Phoenix ID: CL36861

Project ID: SILVER LAKE WQMP
Client ID: LFD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	7.6	5.00	mg/L	1	05/25/22	ND/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.049	0.003	mg/L	0.5	05/25/22 14:07	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	05/24/22 22:15	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	05/24/22 22:15	ER	E353.2
Nitrogen Tot Kjeldahl	0.59	0.10	mg/L	1	05/25/22	KDB	E351.1
Total Nitrogen	0.59	0.10	mg/L	1	05/25/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.053	0.003	mg/L	0.5	05/25/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

Dissolved-Phosphate was not field filtered within 15 minutes of collection.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
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Phyllis Shiller, Laboratory Director
May 27, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 27, 2022

QA/QC Data

SDG I.D.: GCL36859

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 626266 (mg/L), QC Sample No: CL36806 (CL36859, CL36860, CL36861)													
Alkalinity-CaCO3	BRL	5.00	52	51	NC	94.3						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 626279 (mg/L), QC Sample No: CL36944 (CL36859, CL36860, CL36861)													
Phosphorus, as P	BRL	0.01	5.26	5.35	1.70	104			116			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 626315 (mg/L), QC Sample No: CL37186 (CL36860)													
Phosphorus, as P	BRL	0.01	8.60	8.49	1.30	106			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 626215 (mg/L), QC Sample No: CL36827 (CL36859, CL36860, CL36861)													
Nitrate-N	BRL	0.02	0.07	0.07	NC	101			102			90 - 110	20
Nitrite-N	BRL	0.01	0.026	0.02	NC	97.6			102			90 - 110	20
QA/QC Batch 626176 (mg/L), QC Sample No: CL36859 (CL36859, CL36860, CL36861)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.68	0.68	0	95.3			100			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
May 27, 2022

Friday, May 27, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL36859 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

May 27, 2022 SDG I.D.: GCL36859

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [x] No [ ]
Coolant: IPK [x] ICE [ ] No [ ]

CHAIN OF CUSTODY RECORD

Temp 2.0 C Pg of

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[x] Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Nick Nav Date: 05/23/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	Alkalinity	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
368 59	FPD	SW	05/23/22	1330	X	X	X	X						1	1	2					
368 60	EPD	SW	"	1230	X	X	X	X						1	1	2					
368 61	LFD	SW	"	1340	X	X	X	X						1	1	2					

Relinquished by:	Accepted by:	Date:	Time:
Nicholas Navarro		5.24.22	0956
		5/24	1440

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[x] Standard
[ ] Other

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] SWPC
[ ] Residential DEC
[ ] I/C DEC

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[x] Excel
[x] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Friday, July 01, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCL66631
Sample ID#s: CL66631 - CL66633

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

July 01, 2022

SDG I.D.: GCL66631

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLIL-S	CL66631	SURFACE WATER
SLIL-M	CL66632	SURFACE WATER
SLIL-B	CL66633	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 01, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	14:40
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66631
Phoenix ID: CL66631

Project ID: SILVER LAKE WQMP
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	13.6	5.00	mg/L	1	06/30/22	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.012	0.005	mg/L	1	06/30/22 19:53	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	06/29/22 21:13	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	06/29/22 21:13	ER	E353.2
Nitrogen Tot Kjeldahl	0.36	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	0.36	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.018	0.003	mg/L	0.5	06/30/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
July 01, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 01, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	14:50
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66631
Phoenix ID: CL66632

Project ID: SILVER LAKE WQMP
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	19.3	5.00	mg/L	1	06/30/22	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.019	0.005	mg/L	1	06/30/22 19:54	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	06/29/22 21:14	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	06/29/22 21:14	ER	E353.2
Nitrogen Tot Kjeldahl	0.40	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	0.40	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.042	0.003	mg/L	0.5	06/30/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 01, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 01, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	15:05
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66631
Phoenix ID: CL66633

Project ID: SILVER LAKE WQMP
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	26.7	5.00	mg/L	1	06/30/22	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.029	0.005	mg/L	1	06/30/22 19:56	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	06/29/22 21:15	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	06/29/22 21:15	ER	E353.2
Nitrogen Tot Kjeldahl	0.67	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	0.67	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.063	0.003	mg/L	0.5	06/30/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 01, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 01, 2022

QA/QC Data

SDG I.D.: GCL66631

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 631211 (mg/L), QC Sample No: CL66715 (CL66631, CL66632, CL66633)													
Alkalinity-CaCO3	BRL	5.00	103	107	3.80	105						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 631245 (mg/L), QC Sample No: CL66808 (CL66631, CL66632, CL66633)													
Phosphorus, as P	BRL	0.01	0.064	0.063	1.60	105			102			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 631112 (mg/L), QC Sample No: CL66481 (CL66631, CL66632, CL66633)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			99.4			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	103			108			90 - 110	20
QA/QC Batch 631064 (mg/L), QC Sample No: CL65518 (CL66631, CL66632, CL66633)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.48	1.49	0.70	91.3			98.4			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
July 01, 2022

Friday, July 01, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL66631 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

July 01, 2022 SDG I.D.: GCL66631

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

Temp 2.3° C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP (Bill Phase 5)
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bart Date: 6/28/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen ($NO_{2\&3}$ NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved*	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
1881031	SLIL - S	SW	6/28	1440	X	X	X	X						1	1	2				
1881032	SLIL - M	SW	↓	1450	X	X	X	X						1	1	2				
1881033	SLIL - B	SW	↓	1505	X	X	X	X						1	1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bart		6-28-22	9:00
		6/29	1522

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Tuesday, July 05, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCL66625
Sample ID#s: CL66625 - CL66630

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

July 05, 2022

SDG I.D.: GCL66625

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT1	CL66625	SURFACE WATER
SLT2	CL66626	SURFACE WATER
SLT3	CL66627	SURFACE WATER
SLTD	CL66628	SURFACE WATER
SLT22	CL66629	SURFACE WATER
SLT33	CL66630	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 05, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	12:00
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66625
Phoenix ID: CL66625

Project ID: SILVER LAKE WQMP
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.067	0.003	mg/L	0.5	06/30/22 14:08	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	06/29/22 21:05	ER	E353.2
Nitrate-N	0.07	0.02	mg/L	1	06/29/22 21:05	ER	E353.2
Nitrogen Tot Kjeldahl	0.65	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	0.72	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.108	0.003	mg/L	0.5	06/30/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
July 05, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 05, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	11:15
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66625
Phoenix ID: CL66626

Project ID: SILVER LAKE WQMP
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.015	0.003	mg/L	0.5	06/30/22 14:28	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	06/29/22 21:06	ER	E353.2
Nitrate-N	0.15	0.02	mg/L	1	06/29/22 21:06	ER	E353.2
Nitrogen Tot Kjeldahl	0.48	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	0.63	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.019	0.003	mg/L	0.5	06/30/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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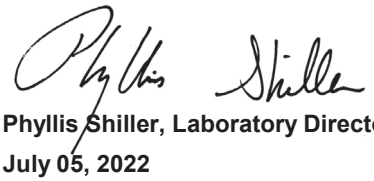

Phyllis Shiller, Laboratory Director
July 05, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 05, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	10:00
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66625
Phoenix ID: CL66627

Project ID: SILVER LAKE WQMP
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.021	0.003	mg/L	0.5	06/30/22 14:29	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	06/29/22 21:09	ER	E353.2
Nitrate-N	0.47	0.02	mg/L	1	06/29/22 21:09	ER	E353.2
Nitrogen Tot Kjeldahl	1.13	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	1.60	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.032	0.003	mg/L	0.5	06/30/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 05, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 05, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	9:15
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66625
Phoenix ID: CL66628

Project ID: SILVER LAKE WQMP
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.018	0.003	mg/L	0.5	06/30/22 14:31	JR	SM4500PE-99
Nitrite-N	0.022	0.010	mg/L	1	06/29/22 21:10	ER	E353.2
Nitrate-N	0.05	0.02	mg/L	1	06/29/22 21:10	ER	E353.2
Nitrogen Tot Kjeldahl	0.64	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	0.71	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.045	0.003	mg/L	0.5	06/30/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
July 05, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 05, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	11:20
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66625
Phoenix ID: CL66629

Project ID: SILVER LAKE WQMP
Client ID: SLT22

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.022	0.003	mg/L	0.5	06/30/22 14:33	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	06/29/22 21:11	ER	E353.2
Nitrate-N	0.13	0.02	mg/L	1	06/29/22 21:11	ER	E353.2
Nitrogen Tot Kjeldahl	0.42	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	0.55	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.030	0.003	mg/L	0.5	06/30/22	JR	SM4500PE-11

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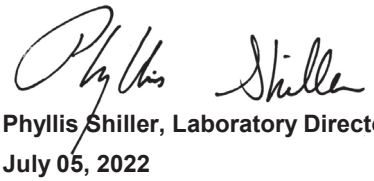

Phyllis Shiller, Laboratory Director
July 05, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 05, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		06/28/22	10:05
Location Code:	ESSGRPRI	Received by:	CP	06/29/22	15:22
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCL66625
Phoenix ID: CL66630

Project ID: SILVER LAKE WQMP
Client ID: SLT33

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.015	0.005	mg/L	1	06/30/22 19:51	MI	SM4500PE-99
Nitrite-N	0.011	0.010	mg/L	1	06/29/22 21:12	ER	E353.2
Nitrate-N	0.50	0.02	mg/L	1	06/29/22 21:12	ER	E353.2
Nitrogen Tot Kjeldahl	0.65	0.10	mg/L	1	06/30/22	KDB	E351.1
Total Nitrogen	1.16	0.10	mg/L	1	06/30/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.034	0.003	mg/L	0.5	06/30/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
July 05, 2022
Reviewed and Released by: Kathleen Cressia, QA/QC Officer

Ver 1

Environmental Laboratories, Inc.
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QA/QC Report

July 05, 2022

QA/QC Data

SDG I.D.: GCL66625

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 631162 (mg/L), QC Sample No: CL66482 (CL66625)													
Phosphorus, as P	BRL	0.01	4.08	4.59	11.8	105			109			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 631163 (mg/L), QC Sample No: CL66667 (CL66626, CL66627, CL66628, CL66629)													
Phosphorus, as P	BRL	0.01	0.010	0.010	NC	104			103			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 631245 (mg/L), QC Sample No: CL66808 (CL66630)													
Phosphorus, as P	BRL	0.01	0.064	0.063	1.60	105			102			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 631112 (mg/L), QC Sample No: CL66481 (CL66625, CL66626, CL66627, CL66628, CL66629, CL66630)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			99.4			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	103			108			90 - 110	20
QA/QC Batch 631064 (mg/L), QC Sample No: CL65518 (CL66625, CL66626, CL66627, CL66628, CL66629, CL66630)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.48	1.49	0.70	91.3			98.4			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
July 05, 2022

Tuesday, July 05, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL66625 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

July 05, 2022 SDG I.D.: GCL66625

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 2.3 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP (Bill Phase 6)
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bart Date: 6/28/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
0606025	SLT1	SW	6/28	1200	X	X	X								1	2				
0606026	SLT2	SW		1115	X	X	X								1	2				
0606027	SLT3	SW		1000	X	X	X								1	2				
0606028	SLTD	SW		0915	X	X	X								1	2				
0606029	SLT22	SW		1120	X	X	X								1	2				
0606030	SLT33	SW	↓	1005	X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bart		6-29-22	9:00
		6/29	1522

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Friday, July 22, 2022

Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCL78996
Sample ID#s: CL78996 - CL79000

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

July 22, 2022

SDG I.D.: GCL78996

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLIL-S	CL78996	SURFACE WATER
SLIL-M	CL78997	SURFACE WATER
SLIL-MM	CL78998	SURFACE WATER
SLIL-B	CL78999	SURFACE WATER
SLIL-F	CL79000	SURFACE WATER

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 22, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	13:55
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78996
Phoenix ID: CL78996

Project ID: SILVER LAKE WQMP
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	13.8	5.00	mg/L	1	07/16/22	MEL/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.014	0.003	mg/L	0.5	07/19/22 14:35	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:11	ER/CL	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	07/15/22 21:11	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.39	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.39	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.020	0.003	mg/L	0.5	07/19/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 22, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	14:05
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78996
Phoenix ID: CL78997

Project ID: SILVER LAKE WQMP
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	15.3	5.00	mg/L	1	07/16/22	MEL/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.050	0.003	mg/L	0.5	07/19/22 14:38	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:12	ER/CL	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	07/15/22 21:12	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.45	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.45	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.039	0.003	mg/L	0.5	07/19/22	JR	SM4500PE-11

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Phyllis Shiller, Laboratory Director
July 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 22, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	14:15
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78996
Phoenix ID: CL78998

Project ID: SILVER LAKE WQMP
Client ID: SLIL-MM

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	17.1	5.00	mg/L	1	07/16/22	MEL/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.027	0.003	mg/L	0.5	07/19/22 14:40	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:13	ER/CL	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	07/15/22 21:13	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.39	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.39	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.073	0.003	mg/L	0.5	07/19/22	JR	SM4500PE-11

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Phyllis Shiller, Laboratory Director
July 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

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Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 22, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	14:25
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78996
Phoenix ID: CL78999

Project ID: SILVER LAKE WQMP
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	25.7	5.00	mg/L	1	07/16/22	MEL/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.092	0.003	mg/L	0.5	07/19/22 14:41	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:14	ER/CL	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	07/15/22 21:14	ER/CL	E353.2
Nitrogen Tot Kjeldahl	1.03	0.20	mg/L	2	07/21/22	EG	E351.1
Total Nitrogen	1.03	0.10	mg/L	1	07/21/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.100	0.003	mg/L	0.5	07/19/22	JR	SM4500PE-11

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Phyllis Shiller, Laboratory Director
July 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 22, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	11:25
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78996
Phoenix ID: CL79000

Project ID: SILVER LAKE WQMP
Client ID: SLIL-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	< 5.00	5.00	mg/L	1	07/16/22	MEL/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.015	0.003	mg/L	0.5	07/19/22 14:43	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:15	ER/CL	E353.2
Nitrate-N	0.05	0.02	mg/L	1	07/15/22 21:15	ER/CL	E353.2
Nitrogen Tot Kjeldahl	2.38	1.00	mg/L	10	07/21/22	EG	E351.1
Total Nitrogen	2.43	0.10	mg/L	1	07/21/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.015	0.003	mg/L	0.5	07/19/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
July 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 22, 2022

QA/QC Data

SDG I.D.: GCL78996

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 633317 (mg/L), QC Sample No: CL78593 (CL78996, CL78997, CL78998, CL78999, CL79000)													
Alkalinity-CaCO3	BRL	5.00	59	58	NC	102						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 633553 (mg/L), QC Sample No: CL79440 (CL78996, CL78997, CL78998, CL78999, CL79000)													
Phosphorus, as P	BRL	0.01	0.010	0.012	NC	103			100			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 633294 (mg/L), QC Sample No: CL78990 (CL78996, CL78997, CL78998, CL78999, CL79000)													
Nitrate-N	BRL	0.02	0.08	0.08	NC	104			100			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	104			106			90 - 110	20
QA/QC Batch 633630 (mg/L), QC Sample No: CL78879 (CL78996, CL78997, CL78998)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.83	1.95	6.30	95.3			94.8			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													
QA/QC Batch 633851 (mg/L), QC Sample No: CL78999 (CL78999, CL79000)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.03	1.05	1.90	93.5			102			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
July 22, 2022

Friday, July 22, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL78996 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

July 22, 2022 SDG I.D.: GCL78996

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 1.0 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bon Date: 7/14/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen ($NO_{2\&}$ NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
789996	SLIL - S	SW	7-14-22	13:55	X	X	X	X						1	1	2					
78997	SLIL - M	SW		1405	X	X	X	X						1	1	2					
78998	SLIL-MM	SW		1415	X	X	X	X						1	1	2					
78999	SLIL - B	SW		1425	X	X	X	X						1	1	2					
79000	SLIL - F	SW	↓	11:25	X	X	X	X						1	1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bon		7-15-22	9:50
		7/15	1701

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
| 1 Day*
| 2 Days*
| 3 Days*
| ✓ Standard
| Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGE APPLIES

RI
☐ (Residential) Direct Exposure
☐ Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ SWPC
☐ Residential DEC
☐ I/C DEC

MA
☐ MCP Certification
| ☐ GW-1 ☐ MWRA eSMART
| ☐ GW-2 ☐ S-1 10% CALC
| ☐ GW-3
| ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
| ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
| ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
| ✓ Excel
| ✓ PDF
| GIS/Key
| EQuIS
| Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, July 21, 2022

Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCL78989
Sample ID#s: CL78989 - CL78995

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

July 21, 2022

SDG I.D.: GCL78989

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT1	CL78989	SURFACE WATER
SLT11	CL78990	SURFACE WATER
SLT2	CL78991	SURFACE WATER
SLT3	CL78992	SURFACE WATER
SLTD	CL78993	SURFACE WATER
SLTDD	CL78994	SURFACE WATER
SLTF	CL78995	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 21, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	10:45
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78989
Phoenix ID: CL78989

Project ID: SILVER LAKE WQMP
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.026	0.005	mg/L	1	07/18/22 21:45	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 20:37	ER/CL	E353.2
Nitrate-N	0.08	0.02	mg/L	1	07/15/22 20:37	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.44	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.52	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.125	0.003	mg/L	0.5	07/18/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
July 21, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 21, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	10:55
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78989
Phoenix ID: CL78990

Project ID: SILVER LAKE WQMP
Client ID: SLT11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.024	0.005	mg/L	1	07/18/22 21:46	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:00	ER/CL	E353.2
Nitrate-N	0.08	0.02	mg/L	1	07/15/22 21:00	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.40	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.48	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.128	0.003	mg/L	0.5	07/18/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
July 21, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 21, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	10:20
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78989
Phoenix ID: CL78991

Project ID: SILVER LAKE WQMP
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	< 0.005	0.005	mg/L	1	07/18/22 21:49	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:03	ER/CL	E353.2
Nitrate-N	0.31	0.02	mg/L	1	07/15/22 21:03	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.12	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.43	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.007	0.003	mg/L	0.5	07/18/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 21, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 21, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	9:45
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78989
Phoenix ID: CL78992

Project ID: SILVER LAKE WQMP
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.010	0.005	mg/L	1	07/18/22 21:50	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:05	ER/CL	E353.2
Nitrate-N	0.27	0.02	mg/L	1	07/15/22 21:05	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.65	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.92	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.033	0.003	mg/L	0.5	07/18/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 21, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 21, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	8:45
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78989
Phoenix ID: CL78993

Project ID: SILVER LAKE WQMP
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.010	0.005	mg/L	1	07/18/22 21:51	MI	SM4500PE-99
Nitrite-N	0.054	0.010	mg/L	1	07/15/22 21:06	ER/CL	E353.2
Nitrate-N	0.32	0.02	mg/L	1	07/15/22 21:06	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.49	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.86	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.042	0.003	mg/L	0.5	07/18/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
July 21, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 21, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	8:55
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78989
Phoenix ID: CL78994

Project ID: SILVER LAKE WQMP
Client ID: SLTDD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.479	0.003	mg/L	0.5	07/19/22 14:29	JR	SM4500PE-99
Nitrite-N	0.059	0.010	mg/L	1	07/15/22 21:07	ER/CL	E353.2
Nitrate-N	0.27	0.02	mg/L	1	07/15/22 21:07	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.96	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	1.29	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.174	0.003	mg/L	0.5	07/19/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
July 21, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

July 21, 2022

FOR: Attn: Barbara Cabral
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		07/14/22	11:20
Location Code:	ESSGRPRI	Received by:	CP	07/15/22	17:01
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCL78989
Phoenix ID: CL78995

Project ID: SILVER LAKE WQMP
Client ID: SLTF

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.014	0.003	mg/L	0.5	07/19/22 14:33	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	07/15/22 21:08	ER/CL	E353.2
Nitrate-N	0.08	0.02	mg/L	1	07/15/22 21:08	ER/CL	E353.2
Nitrogen Tot Kjeldahl	0.10	0.10	mg/L	1	07/20/22	EG	E351.1
Total Nitrogen	0.18	0.10	mg/L	1	07/20/22	EG	SM4500NH3/E300.0-11
Phosphorus, as P	0.015	0.003	mg/L	0.5	07/19/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
July 21, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

July 21, 2022

QA/QC Data

SDG I.D.: GCL78989

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 633447 (mg/L), QC Sample No: CL78104 (CL78989, CL78990, CL78991, CL78992, CL78993)													
Phosphorus, as P	BRL	0.01	2.16	2.07	4.30	102			94.8			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 633553 (mg/L), QC Sample No: CL79440 (CL78994, CL78995)													
Phosphorus, as P	BRL	0.01	0.010	0.012	NC	103			100			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 633293 (mg/L), QC Sample No: CL78736 (CL78989)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	99.2			92.8			90 - 110	20
Nitrite as Nitrogen	BRL	0.01	<0.01	<0.01	NC	103			104			90 - 110	20
QA/QC Batch 633294 (mg/L), QC Sample No: CL78990 (CL78990, CL78991, CL78992, CL78993, CL78994, CL78995)													
Nitrate-N	BRL	0.02	0.08	0.08	NC	104			100			90 - 110	20
Nitrite-N	BRL	0.01	<0.010	<0.01	NC	104			106			90 - 110	20
QA/QC Batch 633630 (mg/L), QC Sample No: CL78879 (CL78989, CL78990, CL78991, CL78992, CL78993, CL78994, CL78995)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.83	1.95	6.30	95.3			94.8			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
July 21, 2022

Thursday, July 21, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCL78989 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

July 21, 2022 SDG I.D.: GCL78989

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 1.0 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bart Date: 7/14/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
78989	SLT1	SW	7/14	1045	X	X	X							1	2					
78990	SLT11	SW	7/14	1055	X	X	X							1	2					
78991	SLT2	SW	7/14	1020	X	X	X							1	2					
78992	SLT3	SW	7/14	0945	X	X	X							1	2					
78993	SLTD	SW	7/14	0845	X	X	X							1	2					
78994	SLTDD	SW	7/14	0855	X	X	X							1	2					
78995	SLTF	SW	7/14	1120	X	X	X							1	2					
	[redacted]	SW	[redacted]	[redacted]																

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bart		7-15-22	9:30
		7/15	1701

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ (Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Sunday, September 11, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM20412
Sample ID#s: CM20412 - CM20416

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

September 11, 2022

SDG I.D.: GCM20412

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLIL-S	CM20412	SURFACE WATER
SLIL-M	CM20413	SURFACE WATER
SLIL-B	CM20414	SURFACE WATER
SLIL-SS	CM20415	SURFACE WATER
SLIL-F	CM20416	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 11, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	13:30
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20412
Phoenix ID: CM20412

Project ID: SILVER LAKE WQMP
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	15.2	5.00	mg/L	1	09/02/22	PK/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.004	0.003	mg/L	0.5	09/06/22 15:30	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:38	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:38	ER	E353.2
Nitrogen Tot Kjeldahl	0.48	0.10	mg/L	1	09/07/22	KDB	E351.1
Total Nitrogen	0.48	0.10	mg/L	1	09/07/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.005	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
September 11, 2022
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 11, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	13:45
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20412
Phoenix ID: CM20413

Project ID: SILVER LAKE WQMP
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	22.8	5.00	mg/L	1	09/02/22	PK/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.067	0.003	mg/L	0.5	09/06/22 15:31	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:41	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:41	ER	E353.2
Nitrogen Tot Kjeldahl	0.95	0.10	mg/L	1	09/07/22	KDB	E351.1
Total Nitrogen	0.95	0.10	mg/L	1	09/07/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.077	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 11, 2022
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 11, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	13:55
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20412
Phoenix ID: CM20414

Project ID: SILVER LAKE WQMP
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	30.5	5.00	mg/L	1	09/02/22	PK/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.180	0.006	mg/L	1.3	09/06/22 15:58	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:42	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:42	ER	E353.2
Nitrogen Tot Kjeldahl	1.34	0.10	mg/L	1	09/07/22	KDB	E351.1
Total Nitrogen	1.34	0.10	mg/L	1	09/07/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.180	0.006	mg/L	1.3	09/06/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 11, 2022
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 11, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	13:35
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20412
Phoenix ID: CM20415

Project ID: SILVER LAKE WQMP
Client ID: SLIL-SS

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	13.0	5.00	mg/L	1	09/02/22	PK/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	< 0.003	0.003	mg/L	0.5	09/06/22 21:26	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:43	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:43	ER	E353.2
Nitrogen Tot Kjeldahl	0.41	0.10	mg/L	1	09/07/22	KDB	E351.1
Total Nitrogen	0.41	0.10	mg/L	1	09/07/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.017	0.003	mg/L	0.5	09/06/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 11, 2022
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 11, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	12:15
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20412
Phoenix ID: CM20416

Project ID: SILVER LAKE WQMP
Client ID: SLIL-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	< 5.00	5.00	mg/L	1	09/02/22	PK/KDB	SM2320B-11
Phosphorus, Dissolved as P low level	0.005	0.003	mg/L	0.5	09/06/22 21:28	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:44	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:44	ER	E353.2
Nitrogen Tot Kjeldahl	0.46	0.10	mg/L	1	09/07/22	KDB	E351.1
Total Nitrogen	0.46	0.10	mg/L	1	09/07/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.007	0.003	mg/L	0.5	09/06/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
September 11, 2022
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 11, 2022

QA/QC Data

SDG I.D.: GCM20412

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 640663 (mg/L), QC Sample No: CM20359 (CM20412, CM20413, CM20414)													
Phosphorus, as P	BRL	0.01	1.93	1.92	0.50	98.9			NC			85 - 115	20
Comment: Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 640412 (mg/L), QC Sample No: CM20622 (CM20412, CM20413, CM20414, CM20415, CM20416)													
Alkalinity-CaCO3	BRL	5.00	52	49	NC	94.5						85 - 115	20
QA/QC Batch 640718 (mg/L), QC Sample No: CM21045 (CM20415, CM20416)													
Phosphorus, as P	BRL	0.01	0.040	0.041	NC	106			99.3			85 - 115	20
Comment: Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 640367 (mg/L), QC Sample No: CM20349 (CM20412, CM20413, CM20414, CM20415, CM20416)													
Nitrate-N	BRL	0.02	0.02	0.02	NC	103			103			90 - 110	20
Nitrite as Nitrogen	BRL	0.01	0.04	<0.01	NC	102			104			90 - 110	20
QA/QC Batch 640641 (mg/L), QC Sample No: CM20411 (CM20412, CM20413, CM20414, CM20415, CM20416)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.41	1.49	5.50	98.0			97.3			85 - 115	20
Comment: TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS. Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 11, 2022

Sunday, September 11, 2022

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCM20412 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

September 11, 2022 SDG I.D.: GCM20412

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]
Temp 2.0 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[■] Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bertin Date: 8/31/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen ($NO_{2\&}$ NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz: [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
20412	SLIL - S	SW	8/31/22	1330	x	x	x	x						1	1	2					
20413	SLIL - M	SW		1345	x	x	x	x						1	1	2					
20414	SLIL-B	SW		1355	x	x	x	x						1	1	2					
20415	~~SLIL-55~~ ~~DUP-BB~~	SW		1335	x	x	x	x						1	1	2					
20416	SLIL - F	SW		1215	x	x	x	x						1	1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bertin		9-1-22	850
	Emily Dan	9/1/22	1500

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[x] Standard
[ ] Other

* SURCHARGE APPLIES

RI
[ ] (Residential)
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] SWPC
[ ] Residential DEC
[ ] I/C DEC

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[x] Excel
[x] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, September 08, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM20406
Sample ID#s: CM20406 - CM20411

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

September 08, 2022

SDG I.D.: GCM20406

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT1	CM20406	SURFACE WATER
SLT2	CM20407	SURFACE WATER
SLT3	CM20408	SURFACE WATER
SLT33	CM20409	SURFACE WATER
SLTF	CM20410	SURFACE WATER
SLTD	CM20411	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 08, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	11:15
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20406
Phoenix ID: CM20406

Project ID: SILVER LAKE WQMP
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.063	0.003	mg/L	0.5	09/06/22 15:20	JR	SM4500PE-99
Nitrite-N	0.014	0.010	mg/L	1	09/01/22 21:32	ER	E353.2
Nitrate-N	0.03	0.02	mg/L	1	09/01/22 21:32	ER	E353.2
Nitrogen Tot Kjeldahl	0.86	0.10	mg/L	1	09/02/22	KDB	E351.1
Total Nitrogen	0.90	0.10	mg/L	1	09/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.164	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 08, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 08, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	10:45
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20406
Phoenix ID: CM20407

Project ID: SILVER LAKE WQMP
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.034	0.003	mg/L	0.5	09/06/22 15:23	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:33	ER	E353.2
Nitrate-N	0.06	0.02	mg/L	1	09/01/22 21:33	ER	E353.2
Nitrogen Tot Kjeldahl	0.63	0.10	mg/L	1	09/02/22	KDB	E351.1
Total Nitrogen	0.69	0.10	mg/L	1	09/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.039	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
September 08, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 08, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	10:00
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20406
Phoenix ID: CM20408

Project ID: SILVER LAKE WQMP
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.017	0.003	mg/L	0.5	09/06/22 15:24	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:34	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:34	ER	E353.2
Nitrogen Tot Kjeldahl	0.70	0.10	mg/L	1	09/02/22	KDB	E351.1
Total Nitrogen	0.70	0.10	mg/L	1	09/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.028	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

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Phyllis Shiller, Laboratory Director
September 08, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 08, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	10:05
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20406
Phoenix ID: CM20409

Project ID: SILVER LAKE WQMP
Client ID: SLT33

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.014	0.003	mg/L	0.5	09/06/22 15:26	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:35	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:35	ER	E353.2
Nitrogen Tot Kjeldahl	0.28	0.10	mg/L	1	09/02/22	KDB	E351.1
Total Nitrogen	0.28	0.10	mg/L	1	09/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.024	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

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Phyllis Shiller, Laboratory Director
September 08, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 08, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	8:55
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20406
Phoenix ID: CM20410

Project ID: SILVER LAKE WQMP
Client ID: SLTF

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.019	0.003	mg/L	0.5	09/06/22 15:28	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:36	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/01/22 21:36	ER	E353.2
Nitrogen Tot Kjeldahl	< 0.10	0.10	mg/L	1	09/02/22	KDB	E351.1
Total Nitrogen	< 0.10	0.10	mg/L	1	09/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.005	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

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Phyllis Shiller, Laboratory Director
September 08, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 08, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		08/31/22	9:15
Location Code:	ESSGRPRI	Received by:	CP	09/01/22	15:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM20406
Phoenix ID: CM20411

Project ID: SILVER LAKE WQMP
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.028	0.003	mg/L	0.5	09/06/22 15:29	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/01/22 21:37	ER	E353.2
Nitrate-N	0.11	0.02	mg/L	1	09/01/22 21:37	ER	E353.2
Nitrogen Tot Kjeldahl	1.41	0.20	mg/L	2	09/07/22	KDB	E351.1
Total Nitrogen	1.52	0.10	mg/L	1	09/07/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.364	0.003	mg/L	0.5	09/06/22	JR	SM4500PE-11

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Phyllis Shiller, Laboratory Director
September 08, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 08, 2022

QA/QC Data

SDG I.D.: GCM20406

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 640663 (mg/L), QC Sample No: CM20359 (CM20406, CM20407, CM20408, CM20409, CM20410, CM20411)													
Phosphorus, as P	BRL	0.01	1.93	1.92	0.50	98.9			NC			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 640367 (mg/L), QC Sample No: CM20349 (CM20406, CM20407, CM20408, CM20409, CM20410, CM20411)													
Nitrate-N	BRL	0.02	0.02	0.02	NC	103			103			90 - 110	20
Nitrite as Nitrogen	BRL	0.01	0.04	<0.01	NC	102			104			90 - 110	20
QA/QC Batch 640291 (mg/L), QC Sample No: CM19170 (CM20406, CM20407, CM20408, CM20409, CM20410)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.86	0.88	2.30	98.8			97.4			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													
QA/QC Batch 640641 (mg/L), QC Sample No: CM20411 (CM20411)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.41	1.49	5.50	98.0			97.3			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 08, 2022

Thursday, September 08, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM20406 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

September 08, 2022 SDG I.D.: GCM20406

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]
Temp 2.0 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[■] Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bula Date: 8/31/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen: (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz: [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
20406	SLT1	SW	8/31/22	1115	x	x	x								1	2				
20407	SLT2	SW	↓	1045	x	x	x								1	2				
20408	SLT3	SW		1000	x	x	x								1	2				
20409	SLT33	SW		1005	x	x	x								1	2				
20410	SLTF	SW		0855	x	x	x								1	2				
20411	SLTD	SW		0915	X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bula		9-1-22	850
	Emily Ax	9/1/22	1500

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[x] Standard
[ ] Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGE APPLIES

RI
[ ] (Residential)
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] SWPC
[ ] Residential DEC
[ ] I/C DEC

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[x] Excel
[x] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Friday, September 23, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM34107
Sample ID#s: CM34107 - CM34109

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

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Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

September 23, 2022

SDG I.D.: GCM34107

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLIL-S	CM34107	SURFACE WATER
SLIL-M	CM34108	SURFACE WATER
SLIL-B	CM34109	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 23, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/15/22	13:15
Location Code:	ESSGRPRI	Received by:	CP	09/16/22	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCM34107
Phoenix ID: CM34107

Project ID: SILVER LAKE WQMP
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	10.4	5.00	mg/L	1	09/17/22	R/MEL/KD	SM2320B-11
Phosphorus, Dissolved as P low level	0.008	0.003	mg/L	0.5	09/20/22 20:43	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/16/22 21:58	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/16/22 21:58	ER	E353.2
Nitrogen Tot Kjeldahl	0.37	0.10	mg/L	1	09/23/22	KDB	E351.1
Total Nitrogen	0.37	0.10	mg/L	1	09/23/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.015	0.003	mg/L	0.5	09/20/22	MI	SM4500PE-11

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Comments:

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Phyllis Shiller, Laboratory Director
September 23, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 23, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/15/22	13:30
Location Code:	ESSGRPRI	Received by:	CP	09/16/22	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCM34107
Phoenix ID: CM34108

Project ID: SILVER LAKE WQMP
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	22.0	5.00	mg/L	1	09/17/22	R/MEL/KD	SM2320B-11
Phosphorus, Dissolved as P low level	0.086	0.003	mg/L	0.5	09/20/22 20:44	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/16/22 21:59	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/16/22 21:59	ER	E353.2
Nitrogen Tot Kjeldahl	0.79	0.10	mg/L	1	09/23/22	KDB	E351.1
Total Nitrogen	0.79	0.10	mg/L	1	09/23/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.099	0.003	mg/L	0.5	09/20/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
September 23, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 23, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/15/22	13:40
Location Code:	ESSGRPRI	Received by:	CP	09/16/22	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCM34107
Phoenix ID: CM34109

Project ID: SILVER LAKE WQMP
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	29.8	5.00	mg/L	1	09/17/22	R/MEL/KD	SM2320B-11
Phosphorus, Dissolved as P low level	0.297	0.003	mg/L	0.5	09/20/22 20:45	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/16/22 22:00	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	09/16/22 22:00	ER	E353.2
Nitrogen Tot Kjeldahl	1.24	0.10	mg/L	1	09/23/22	KDB	E351.1
Total Nitrogen	1.24	0.10	mg/L	1	09/23/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.313	0.003	mg/L	0.5	09/20/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
September 23, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 23, 2022

QA/QC Data

SDG I.D.: GCM34107

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 642553 (mg/L), QC Sample No: CM33621 (CM34107, CM34108, CM34109)													
Alkalinity-CaCO3	BRL	5.00	103	104	1.00	96.9						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 642940 (mg/L), QC Sample No: CM33704 (CM34107, CM34108, CM34109)													
Phosphorus, as P	BRL	0.01	0.127	0.131	3.10	101			96.8			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 642526 (mg/L), QC Sample No: CM33704 (CM34107, CM34108, CM34109)													
Nitrate-N	BRL	0.02	0.04	0.04	NC	101			102			90 - 110	20
Nitrite-N	BRL	0.01	0.028	0.03	NC	98.8			101			90 - 110	20
QA/QC Batch 643348 (mg/L), QC Sample No: CM34107 (CM34107, CM34108, CM34109)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.37	0.35	NC	98.3			99.7			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 23, 2022

Friday, September 23, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM34107 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

September 23, 2022 SDG I.D.: GCM34107

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]
Temp 2.3 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[■] Email: Stephanie.Martin@TRCCompanies.com

Customer: ESS Group, LLC - A TRC Company
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bott Date: 9/15/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen (NO_2 & NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
34107	SL/L - S	SW	9/15/22	1315	X	X	X	X								1	1	2				
34108	SL/L - M	SW	↓	1330	X	X	X	X								1	1	2				
34109	SL/L - B	SW	↓	1340	X	X	X	X								1	1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bott		9/16/22	955
	Krystal Hall	9/16/22	16:04

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGE APPLIES

RI
[ ] (Residential)
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] SWPC
[ ] Residential DEC
[ ] I/C DEC

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, September 22, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM34103
Sample ID#s: CM34103 - CM34106

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

September 22, 2022

SDG I.D.: GCM34103

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT1	CM34103	SURFACE WATER
SLT2	CM34104	SURFACE WATER
SLT3	CM34105	SURFACE WATER
SLTD	CM34106	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 22, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/15/22	11:30
Location Code:	ESSGRPRI	Received by:	CP	09/16/22	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCM34103
Phoenix ID: CM34103

Project ID: SILVER LAKE WQMP
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.057	0.003	mg/L	0.5	09/20/22 20:27	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/16/22 21:52	ER	E353.2
Nitrate-N	0.05	0.02	mg/L	1	09/16/22 21:52	ER	E353.2
Nitrogen Tot Kjeldahl	0.73	0.10	mg/L	1	09/21/22	KDB	E351.1
Total Nitrogen	0.78	0.10	mg/L	1	09/21/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.114	0.003	mg/L	0.5	09/20/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 22, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/15/22	11:00
Location Code:	ESSGRPRI	Received by:	CP	09/16/22	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCM34103
Phoenix ID: CM34104

Project ID: SILVER LAKE WQMP
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.025	0.003	mg/L	0.5	09/20/22 20:30	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/16/22 21:53	ER	E353.2
Nitrate-N	0.09	0.02	mg/L	1	09/16/22 21:53	ER	E353.2
Nitrogen Tot Kjeldahl	0.47	0.10	mg/L	1	09/21/22	KDB	E351.1
Total Nitrogen	0.56	0.10	mg/L	1	09/21/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.027	0.003	mg/L	0.5	09/20/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 22, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/15/22	10:05
Location Code:	ESSGRPRI	Received by:	CP	09/16/22	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCM34103
Phoenix ID: CM34105

Project ID: SILVER LAKE WQMP
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.019	0.003	mg/L	0.5	09/20/22 20:33	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/16/22 21:54	ER	E353.2
Nitrate-N	0.09	0.02	mg/L	1	09/16/22 21:54	ER	E353.2
Nitrogen Tot Kjeldahl	0.87	0.10	mg/L	1	09/21/22	KDB	E351.1
Total Nitrogen	0.96	0.10	mg/L	1	09/21/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.030	0.003	mg/L	0.5	09/20/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
September 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

September 22, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		09/15/22	9:25
Location Code:	ESSGRPRI	Received by:	CP	09/16/22	16:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCM34103
Phoenix ID: CM34106

Project ID: SILVER LAKE WQMP
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.023	0.003	mg/L	0.5	09/20/22 20:35	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	09/16/22 21:55	ER	E353.2
Nitrate-N	0.14	0.02	mg/L	1	09/16/22 21:55	ER	E353.2
Nitrogen Tot Kjeldahl	0.46	0.10	mg/L	1	09/21/22	KDB	E351.1
Total Nitrogen	0.60	0.10	mg/L	1	09/21/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.095	0.003	mg/L	0.5	09/20/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
September 22, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

September 22, 2022

QA/QC Data

SDG I.D.: GCM34103

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 642938 (mg/L), QC Sample No: CM33392 (CM34103, CM34104, CM34105, CM34106)													
Phosphorus, as P	BRL	0.01	0.012	0.015	NC	102			99.9			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 642526 (mg/L), QC Sample No: CM33704 (CM34103, CM34104, CM34105, CM34106)													
Nitrate-N	BRL	0.02	0.04	0.04	NC	101			102			90 - 110	20
Nitrite-N	BRL	0.01	0.028	0.03	NC	98.8			101			90 - 110	20
QA/QC Batch 642860 (mg/L), QC Sample No: CM32175 (CM34103, CM34104, CM34105, CM34106)													
Nitrogen Tot Kjeldahl	BRL	0.10	1.71	1.89	10.0	98.8			101			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
September 22, 2022

Thursday, September 22, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM34103 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

September 22, 2022 SDG I.D.: GCM34103

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]
Temp 2.3 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[■] Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bt Date: 9/15/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
34103	SLT1	SW	9/15/22	1130	X	X	X								1	2				
34104	SLT2	SW		1100	X	X	X								1	2				
34105	SLT3	SW		1005	X	X	X								1	2				
34106	SLTD	SW		0925	X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bt		9/16/22	955
	Krystal Hall	9/16/22	16:04

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[✓] Standard
[ ] Other

* SURCHARGE APPLIES

RI
[ ] (Residential)
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW * Objectives
[ ] Other

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] SWPC
[ ] Residential DEC
[ ] I/C DEC

MA
[ ] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[✓] Excel
[✓] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[ ] Phoenix Std Report
[ ] Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, November 07, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM71657
Sample ID#s: CM71657 - CM71661

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 07, 2022

SDG I.D.: GCM71657

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT1	CM71657	SURFACE WATER
SLT2	CM71658	SURFACE WATER
SLT3	CM71659	SURFACE WATER
SLT33	CM71660	SURFACE WATER
SLTD	CM71661	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	11:10
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71657
Phoenix ID: CM71657

Project ID: SILVER LAKE WQMP
Client ID: SLT1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.084	0.003	mg/L	0.5	10/28/22 19:55	MI	SM4500PE-99
Nitrite-N	0.014	0.010	mg/L	1	10/27/22 22:26	ER	E353.2
Nitrate-N	0.03	0.02	mg/L	1	10/27/22 22:26	ER	E353.2
Nitrogen Tot Kjeldahl	0.54	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.58	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.118	0.003	mg/L	0.5	10/28/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	10:35
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71657
Phoenix ID: CM71658

Project ID: SILVER LAKE WQMP
Client ID: SLT2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.031	0.003	mg/L	0.5	10/28/22 19:56	MI	SM4500PE-99
Nitrite-N	0.014	0.010	mg/L	1	10/27/22 22:27	ER	E353.2
Nitrate-N	0.10	0.02	mg/L	1	10/27/22 22:27	ER	E353.2
Nitrogen Tot Kjeldahl	0.87	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.98	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.060	0.003	mg/L	0.5	10/28/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	9:45
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71657
Phoenix ID: CM71659

Project ID: SILVER LAKE WQMP
Client ID: SLT3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.017	0.003	mg/L	0.5	10/28/22 19:58	MI	SM4500PE-99
Nitrite-N	0.012	0.010	mg/L	1	10/27/22 22:30	ER	E353.2
Nitrate-N	0.07	0.02	mg/L	1	10/27/22 22:30	ER	E353.2
Nitrogen Tot Kjeldahl	0.60	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.68	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.022	0.003	mg/L	0.5	10/28/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	9:50
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71657
Phoenix ID: CM71660

Project ID: SILVER LAKE WQMP
Client ID: SLT33

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.015	0.003	mg/L	0.5	10/28/22 20:13	MI	SM4500PE-99
Nitrite-N	0.012	0.010	mg/L	1	10/27/22 22:31	ER	E353.2
Nitrate-N	0.08	0.02	mg/L	1	10/27/22 22:31	ER	E353.2
Nitrogen Tot Kjeldahl	0.58	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.67	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.016	0.003	mg/L	0.5	10/28/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	9:15
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71657
Phoenix ID: CM71661

Project ID: SILVER LAKE WQMP
Client ID: SLTD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.028	0.003	mg/L	0.5	10/28/22 20:14	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:32	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/27/22 22:32	ER	E353.2
Nitrogen Tot Kjeldahl	0.64	0.20	mg/L	2	11/04/22	KDB	E351.1
Total Nitrogen	0.64	0.10	mg/L	1	11/04/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.070	0.003	mg/L	0.5	10/28/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 07, 2022

QA/QC Data

SDG I.D.: GCM71657

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649578 (mg/L), QC Sample No: CM71928 (CM71657, CM71658, CM71659)													
Phosphorus, as P	BRL	0.01	7.90	8.04	1.80	101			NC			85 - 115	20
Comment: Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 649579 (mg/L), QC Sample No: CM71944 (CM71660, CM71661)													
Phosphorus, as P	BRL	0.01	<0.010	<0.010	NC	101			103			85 - 115	20
Comment: Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 649462 (mg/L), QC Sample No: CM71674 (CM71657, CM71658, CM71659, CM71660, CM71661)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	102			105			90 - 110	20
Nitrite-N	BRL	0.01	0.016	0.01	NC	102			106			90 - 110	20
QA/QC Batch 650020 (mg/L), QC Sample No: CM70691 (CM71657, CM71658, CM71659, CM71660)													
Nitrogen Tot Kjeldahl	BRL	0.10	20.7	20.2	2.40	94.2			111			85 - 115	20
Comment: TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS. Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													
QA/QC Batch 650468 (mg/L), QC Sample No: CM71661 (CM71661)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.64	0.58	9.80	93.1			91.1			85 - 115	20
Comment: TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS. Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 07, 2022

Monday, November 07, 2022

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCM71657 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 07, 2022 SDG I.D.: GCM71657

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 20° C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax: _____
☐ Phone: _____
☐ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bort Date: 10/26/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,) *	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Baderia Bottle w/thio	Baderia Bottle as is
71657	SLT1	SW	10.26.22	1110	X	X	X							1	2					
71658	SLT2	SW	10.26.22	1035	X	X	X							1	2					
71659	SLT3	SW	10.26.22	0945	X	X	X							1	2					
71660	SLT33	SW	10.26.22	0950	X	X	X							1	2					
71661	SLTD	SW	10.26.22	0915	X	X	X							1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bort		10/27/22	920
	Emma Tolan	10/27	1603

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

* Limited sample volume

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 03, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM71656
Sample ID#s: CM71656

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 03, 2022

SDG I.D.: GCM71656

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT1-F	CM71656	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	11:00
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71656
Phoenix ID: CM71656

Project ID: SILVER LAKE WQMP
Client ID: SLT1-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	< 0.003	0.003	mg/L	0.5	10/28/22 19:54	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:25	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/27/22 22:25	ER	E353.2
Nitrogen Tot Kjeldahl	0.16	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.16	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	< 0.003	0.003	mg/L	0.5	10/28/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 03, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 03, 2022

QA/QC Data

SDG I.D.: GCM71656

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649578 (mg/L), QC Sample No: CM71928 (CM71656)													
Phosphorus, as P	BRL	0.01	7.90	8.04	1.80	101			NC			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 649462 (mg/L), QC Sample No: CM71674 (CM71656)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	102			105			90 - 110	20
Nitrite-N	BRL	0.01	0.016	0.01	NC	102			106			90 - 110	20
QA/QC Batch 650020 (mg/L), QC Sample No: CM70691 (CM71656)													
Nitrogen Tot Kjeldahl	BRL	0.10	20.7	20.2	2.40	94.2			111			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 03, 2022

Thursday, November 03, 2022

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCM71656 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 03, 2022 SDG I.D.: GCM71656

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 2.0 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☐ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Beth Date: 10/26/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
71656	SLT1-F	SW	10/26/22	1100	X	X	X							1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Beth		10/27/22	920
	Emma Johnson	10/27	1603

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 03, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM71655
Sample ID#s: CM71655

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 03, 2022

SDG I.D.: GCM71655

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT2-F	CM71655	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	10:25
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71655
Phoenix ID: CM71655

Project ID: SILVER LAKE WQMP
Client ID: SLT2-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	< 0.003	0.003	mg/L	0.5	10/28/22 15:08	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:10	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/27/22 22:10	ER	E353.2
Nitrogen Tot Kjeldahl	0.10	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.10	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.003	0.003	mg/L	0.5	10/28/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 03, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 03, 2022

QA/QC Data

SDG I.D.: GCM71655

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649505 (mg/L), QC Sample No: CM71712 (CM71655)													
Phosphorus, as P	BRL	0.01	3.50	3.55	1.40	106			95.3			85 - 115	20
Comment:													
Additional criteria matrix spike acceptance range is 75-125%.													
QA/QC Batch 649460 (mg/L), QC Sample No: CM71506 (CM71655)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			104			90 - 110	20
Nitrite-N	BRL	0.01	0.018	0.01	NC	102			104			90 - 110	20
QA/QC Batch 650020 (mg/L), QC Sample No: CM70691 (CM71655)													
Nitrogen Tot Kjeldahl	BRL	0.10	20.7	20.2	2.40	94.2			111			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 03, 2022

Thursday, November 03, 2022

Criteria: None

State: CT

Sample Criteria Exceedances Report

GCM71655 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 03, 2022 SDG I.D.: GCM71655

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

Temp 2.0°C Pg of

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bonn Date: 10/26/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO_2 & NO_3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
71655	SLT2-F	SW	10/26/22	1025	X	X	X								1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bonn		10-27-22	920
	Emma Fisher	10/27	1603

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

***MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.**

* SURCHARGE APPLIES

State where samples were collected: MA

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 03, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM71654
Sample ID#s: CM71654

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 03, 2022

SDG I.D.: GCM71654

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLT3-F	CM71654	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	9:40
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71654
Phoenix ID: CM71654

Project ID: SILVER LAKE WQMP
Client ID: SLT3-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.004	0.003	mg/L	0.5	10/28/22 15:05	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:09	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/27/22 22:09	ER	E353.2
Nitrogen Tot Kjeldahl	0.13	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.13	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.005	0.003	mg/L	0.5	10/28/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 03, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 03, 2022

QA/QC Data

SDG I.D.: GCM71654

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649505 (mg/L), QC Sample No: CM71712 (CM71654)													
Phosphorus, as P	BRL	0.01	3.50	3.55	1.40	106			95.3			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649460 (mg/L), QC Sample No: CM71506 (CM71654)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			104			90 - 110	20
Nitrite-N	BRL	0.01	0.018	0.01	NC	102			104			90 - 110	20
QA/QC Batch 650020 (mg/L), QC Sample No: CM70691 (CM71654)													
Nitrogen Tot Kjeldahl	BRL	0.10	20.7	20.2	2.40	94.2			111			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 03, 2022

Thursday, November 03, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM71654 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

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PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 03, 2022 SDG I.D.: GCM71654

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 2.6°C Pg of

CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Berthon Date: 10/26/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO_2 & NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H_3PO_4 [ ] $NAHSO_4$	Soil VOA Vials [ ] methanol [ ] H_2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H_2SO_4 [X] 250ml [X] 500ml	PL HNO_3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
71654	SLT3-F	SW	10/26/22	0940	X	X	X							1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Berth		10-27-22	920
		10/27	1603

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☑ Standard
☐ Other

* SURCHARGE APPLIES

RI
☐ (Residential) Direct Exposure
☐ Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ SWPC
☐ Residential DEC
☐ I/C DEC

MA
☐ MCP Certification
☐ GW-1 ☐ MWRA eSMART
☐ GW-2 ☐ S-1 10% CALC
☐ GW-3
☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
☑ Excel
☑ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 03, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM71652
Sample ID#s: CM71652 - CM71653

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

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Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 03, 2022

SDG I.D.: GCM71652

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
FPD	CM71652	SURFACE WATER
EPD	CM71653	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	12:00
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71652
Phoenix ID: CM71652

Project ID: SILVER LAKE WQMP
Client ID: FPD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	5.8	5.00	mg/L	1	10/28/22	IW/ML/KD	SM2320B-11
Phosphorus, Dissolved as P low level	0.017	0.003	mg/L	0.5	10/28/22 14:58	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:07	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/27/22 22:07	ER	E353.2
Nitrogen Tot Kjeldahl	0.51	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.51	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.024	0.003	mg/L	0.5	10/28/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 03, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	13:00
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71652
Phoenix ID: CM71653

Project ID: SILVER LAKE WQMP
Client ID: EPD

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	9.0	5.00	mg/L	1	10/28/22	IW/ML/KD	SM2320B-11
Phosphorus, Dissolved as P low level	0.012	0.003	mg/L	0.5	10/28/22 14:59	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:08	ER	E353.2
Nitrate-N	0.04	0.02	mg/L	1	10/27/22 22:08	ER	E353.2
Nitrogen Tot Kjeldahl	0.33	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.37	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.023	0.003	mg/L	0.5	10/28/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 03, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 03, 2022

QA/QC Data

SDG I.D.: GCM71652

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649496 (mg/L), QC Sample No: CM71414 (CM71652, CM71653)													
Alkalinity-CaCO3	BRL	5.00	23	24	NC	93.7						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649505 (mg/L), QC Sample No: CM71712 (CM71652, CM71653)													
Phosphorus, as P	BRL	0.01	3.50	3.55	1.40	106			95.3			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649460 (mg/L), QC Sample No: CM71506 (CM71652, CM71653)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			104			90 - 110	20
Nitrite-N	BRL	0.01	0.018	0.01	NC	102			104			90 - 110	20
QA/QC Batch 650020 (mg/L), QC Sample No: CM70691 (CM71652, CM71653)													
Nitrogen Tot Kjeldahl	BRL	0.10	20.7	20.2	2.40	94.2			111			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 03, 2022

Thursday, November 03, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM71652 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 03, 2022 SDG I.D.: GCM71652

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 2.6°C Pg of

CHAIN OF CUSTODY RECORD

PHOENIX Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☑ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC Companies
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Beatt Date: 10/26/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	Alkalinity	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
71652	FPD	SW	10/26/22	1200	X	X	X	X							1	1	2				
71653	EPD	SW	10/26/22	1300	X	X	X	X							1	1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Beatt		10-27-22	930
	Emma Johnson	10/27	1603

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/(Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 03, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM71650
Sample ID#s: CM71650

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 03, 2022

SDG I.D.: GCM71650

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
EPD-F	CM71650	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	12:40
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71650
Phoenix ID: CM71650

Project ID: SILVER LAKE WQMP
Client ID: EPD-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	< 5.00	5.00	mg/L	1	10/28/22	IW/ML/KD	SM2320B-11
Phosphorus, Dissolved as P low level	0.010	0.003	mg/L	0.5	10/28/22 14:39	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:05	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/27/22 22:05	ER	E353.2
Nitrogen Tot Kjeldahl	0.16	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	0.16	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.010	0.003	mg/L	0.5	10/28/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 03, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 03, 2022

QA/QC Data

SDG I.D.: GCM71650

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649496 (mg/L), QC Sample No: CM71414 (CM71650)													
Alkalinity-CaCO3	BRL	5.00	23	24	NC	93.7						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649503 (mg/L), QC Sample No: CM71506 (CM71650)													
Phosphorus, as P	BRL	0.01	5.62	5.88	4.50	101			107			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649460 (mg/L), QC Sample No: CM71506 (CM71650)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			104			90 - 110	20
Nitrite-N	BRL	0.01	0.018	0.01	NC	102			104			90 - 110	20
QA/QC Batch 650020 (mg/L), QC Sample No: CM70691 (CM71650)													
Nitrogen Tot Kjeldahl	BRL	0.10	20.7	20.2	2.40	94.2			111			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 03, 2022

Thursday, November 03, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM71650 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 03, 2022 SDG I.D.: GCM71650

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☒ No ☐
Coolant: IPK ☒ ICE ☐ No ☐
Temp 2.1 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☒ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC Companies
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bell Date: 10/26/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	Alkalinity	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container( )oz	GL Soil container( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/hio	Bacteria Bottle as is
71650	EPD-F	SW	10/26/22	1240	X	X	X	X						04	1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bell		10-27-22	920
	Tamara Johnson	10/27	1603

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 03, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM71651
Sample ID#s: CM71651

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 03, 2022

SDG I.D.: GCM71651

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
FPD-F	CM71651	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 03, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/26/22	11:40
Location Code:	ESSGRPRI	Received by:	CP	10/27/22	16:03
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM71651
Phoenix ID: CM71651

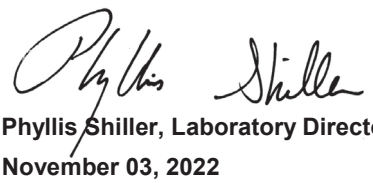
Project ID: SILVER LAKE WQMP
Client ID: FPD-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	< 5.00	5.00	mg/L	1	10/28/22	IW/ML/KD	SM2320B-11
Phosphorus, Dissolved as P low level	0.009	0.003	mg/L	0.5	10/28/22 14:41	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/27/22 22:06	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/27/22 22:06	ER	E353.2
Nitrogen Tot Kjeldahl	< 0.10	0.10	mg/L	1	11/02/22	KDB	E351.1
Total Nitrogen	< 0.10	0.10	mg/L	1	11/02/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.009	0.003	mg/L	0.5	10/28/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 03, 2022
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 03, 2022

QA/QC Data

SDG I.D.: GCM71651

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649496 (mg/L), QC Sample No: CM71414 (CM71651)													
Alkalinity-CaCO3	BRL	5.00	23	24	NC	93.7						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649503 (mg/L), QC Sample No: CM71506 (CM71651)													
Phosphorus, as P	BRL	0.01	5.62	5.88	4.50	101			107			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649460 (mg/L), QC Sample No: CM71506 (CM71651)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			104			90 - 110	20
Nitrite-N	BRL	0.01	0.018	0.01	NC	102			104			90 - 110	20
QA/QC Batch 650020 (mg/L), QC Sample No: CM70691 (CM71651)													
Nitrogen Tot Kjeldahl	BRL	0.10	20.7	20.2	2.40	94.2			111			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 03, 2022

Thursday, November 03, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM71651 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 03, 2022 SDG I.D.: GCM71651

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 2.0 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☐ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC Companies
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bert Date: 10/26/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Total Nitrogen (NO2 & NO3,)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	Alkalinity						*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
71651	FPD-F	SW	10/26/22	1140	X	X	X	X											0	1	1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bert	Emma Tobin	10-27-22	920
		10/27	1603

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, November 07, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM72518
Sample ID#s: CM72518 - CM72520

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 07, 2022

SDG I.D.: GCM72518

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLIL-S	CM72518	SURFACE WATER
SLIL-M	CM72519	SURFACE WATER
SLIL-B	CM72520	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/27/22	12:30
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72518
Phoenix ID: CM72518

Project ID: SILVER LAKE WQMP
Client ID: SLIL-S

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	11.3	5.00	mg/L	1	10/29/22	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.010	0.003	mg/L	0.5	10/31/22 14:35	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/28/22 21:12	ER	E353.2
Nitrate-N	0.10	0.02	mg/L	1	10/28/22 21:12	ER	E353.2
Nitrogen Tot Kjeldahl	0.39	0.10	mg/L	1	11/04/22	KDB	E351.1
Total Nitrogen	0.49	0.10	mg/L	1	11/04/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.017	0.003	mg/L	0.5	10/31/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/27/22	12:50
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72518
Phoenix ID: CM72519

Project ID: SILVER LAKE WQMP
Client ID: SLIL-M

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	12.4	5.00	mg/L	1	10/29/22	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.010	0.003	mg/L	0.5	10/31/22 14:37	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/28/22 21:13	ER	E353.2
Nitrate-N	0.08	0.02	mg/L	1	10/28/22 21:13	ER	E353.2
Nitrogen Tot Kjeldahl	0.40	0.10	mg/L	1	11/04/22	KDB	E351.1
Total Nitrogen	0.48	0.10	mg/L	1	11/04/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.022	0.003	mg/L	0.5	10/31/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/27/22	13:00
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72518
Phoenix ID: CM72520

Project ID: SILVER LAKE WQMP
Client ID: SLIL-B

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	28.6	5.00	mg/L	1	10/29/22	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	0.142	0.003	mg/L	0.5	10/31/22 14:38	JR	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/28/22 21:14	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/28/22 21:14	ER	E353.2
Nitrogen Tot Kjeldahl	1.52	0.10	mg/L	1	11/04/22	KDB	E351.1
Total Nitrogen	1.52	0.10	mg/L	1	11/04/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	0.174	0.003	mg/L	0.5	10/31/22	JR	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 07, 2022

QA/QC Data

SDG I.D.: GCM72518

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649663 (mg/L), QC Sample No: CM72463 (CM72518, CM72519, CM72520)													
Alkalinity-CaCO3	BRL	5.00	114	112	1.80	92.4						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649752 (mg/L), QC Sample No: CM72582 (CM72518, CM72519, CM72520)													
Phosphorus, as P	BRL	0.01	0.141	0.142	0.70	103			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649643 (mg/L), QC Sample No: CM72463 (CM72518, CM72519, CM72520)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			103			90 - 110	20
Nitrite-N	BRL	0.01	0.014	0.01	NC	102			105			90 - 110	20
QA/QC Batch 650468 (mg/L), QC Sample No: CM71661 (CM72518, CM72519, CM72520)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.64	0.58	9.80	93.1			91.1			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 07, 2022

Monday, November 07, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM72518 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 07, 2022 SDG I.D.: GCM72518

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 1.1 °C Pg of

CHAIN OF CUSTODY RECORD

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC Companies, Inc.
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bucha Date: 10/27/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen ($NO_{2\&}$ NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container( ) oz	GL Soil container( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
72518	SLIL - S	SW	10/27/22	1230	X	X	X	X							1	1	2				
72519	SLIL - M	SW	10/27/22	1250	X	X	X	X							1	1	2				
72520	SLIL - B	SW	10/27/22	1300	X	X	X	X							1	1	2				

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bucha		10-28-22	840
	Emma Tobin	10/28	1455

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, November 07, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM72521
Sample ID#s: CM72521

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 07, 2022

SDG I.D.: GCM72521

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLIL-F	CM72521	SURFACE WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	SURFACE WATER	Collected by:		10/27/22	11:55
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72521
Phoenix ID: CM72521

Project ID: SILVER LAKE WQMP
Client ID: SLIL-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Alkalinity-CaCO3	< 5.00	5.00	mg/L	1	10/29/22	MW/EG	SM2320B-11
Phosphorus, Dissolved as P low level	< 0.003	0.003	mg/L	0.5	10/31/22 18:46	MI	SM4500PE-99
Nitrite-N	< 0.010	0.010	mg/L	1	10/28/22 21:15	ER	E353.2
Nitrate-N	< 0.02	0.02	mg/L	1	10/28/22 21:15	ER	E353.2
Nitrogen Tot Kjeldahl	< 0.10	0.10	mg/L	1	11/04/22	KDB	E351.1
Total Nitrogen	< 0.10	0.10	mg/L	1	11/04/22	KDB	SM4500NH3/E300.0-11
Phosphorus, as P	< 0.003	0.003	mg/L	0.5	10/31/22	MI	SM4500PE-11

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Ver 1

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 07, 2022

QA/QC Data

SDG I.D.: GCM72521

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649663 (mg/L), QC Sample No: CM72463 (CM72521)													
Alkalinity-CaCO3	BRL	5.00	114	112	1.80	92.4						85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649831 (mg/L), QC Sample No: CM73153 (CM72521)													
Phosphorus, as P	BRL	0.01	1.19	1.18	0.80	103			101			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 649643 (mg/L), QC Sample No: CM72463 (CM72521)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			103			90 - 110	20
Nitrite-N	BRL	0.01	0.014	0.01	NC	102			105			90 - 110	20
QA/QC Batch 650468 (mg/L), QC Sample No: CM71661 (CM72521)													
Nitrogen Tot Kjeldahl	BRL	0.10	0.64	0.58	9.80	93.1			91.1			85 - 115	20
Comment:													
TKN is reported as Organic Nitrogen in the Blank, LCS, DUP and MS.													
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.													

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 07, 2022

Monday, November 07, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM72521 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 07, 2022 SDG I.D.: GCM72521

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

Temp 4.1 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC Companies, Inc.
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Beal Date: 10/27/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = SW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Alkalinity	Total Nitrogen (NO_2 & NO_3)	Total Phosphorus, Total Kjeldahl N	Phosphorus, Dissolved**	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
72521	SLIL - F	SW	10/27/22	1155	X	X	X	X						1	1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Beal	Emma Tolin	10.28.22	840
		10/28	1455

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

***MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.**

* SURCHARGE APPLIES

State where samples were collected: MA

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, November 07, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM72513
Sample ID#s: CM72513 - CM72517

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 07, 2022

SDG I.D.: GCM72513

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLGW1	CM72513	GROUND WATER
SLGW2	CM72514	GROUND WATER
SLGW3	CM72515	GROUND WATER
SLGW4	CM72516	GROUND WATER
SLGW5	CM72517	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/27/22	14:10
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72513
Phoenix ID: CM72513

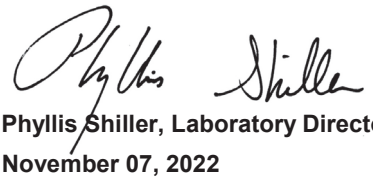
Project ID: SILVER LAKE WQMP
Client ID: SLGW1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.024	0.003	mg/L	0.5	10/31/22 14:09	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.10	0.10	mg/L	2	11/04/22	KDB	E350.1
Nitrite-N	< 0.010	0.010	mg/L	1	10/28/22 21:02	ER	E353.2
Nitrate-N	3.91	0.10	mg/L	5	10/28/22 21:05	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/27/22	16:35
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72513
Phoenix ID: CM72514

Project ID: SILVER LAKE WQMP
Client ID: SLGW2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.119	0.003	mg/L	0.5	10/31/22 14:10	JR	SM4500PE-99
Ammonia as Nitrogen	0.10	0.10	mg/L	2	11/04/22	KDB	E350.1
Nitrite-N	0.014	0.010	mg/L	1	10/28/22 21:06	ER	E353.2
Nitrate-N	0.03	0.02	mg/L	1	10/28/22 21:06	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/27/22	15:50
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72513
Phoenix ID: CM72515

Project ID: SILVER LAKE WQMP
Client ID: SLGW3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.022	0.003	mg/L	0.5	10/31/22 14:10	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	11/04/22	KDB	E350.1
Nitrite-N	< 0.010	0.010	mg/L	1	10/28/22 21:07	ER	E353.2
Nitrate-N	0.38	0.02	mg/L	1	10/28/22 21:07	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/27/22	15:20
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72513
Phoenix ID: CM72516

Project ID: SILVER LAKE WQMP
Client ID: SLGW4

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.025	0.003	mg/L	0.5	10/31/22 14:11	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.10	0.10	mg/L	2	11/04/22	KDB	E350.1
Nitrite-N	0.012	0.010	mg/L	1	10/28/22 21:08	ER	E353.2
Nitrate-N	1.86	0.02	mg/L	1	10/28/22 21:08	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/27/22	14:45
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72513
Phoenix ID: CM72517

Project ID: SILVER LAKE WQMP
Client ID: SLGW5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Phosphorus, Dissolved as P low level	0.025	0.003	mg/L	0.5	10/31/22 14:11	JR	SM4500PE-99
Ammonia as Nitrogen	< 0.10	0.10	mg/L	2	11/04/22	KDB	E350.1
Nitrite-N	< 0.010	0.010	mg/L	1	10/28/22 21:09	ER	E353.2
Nitrate-N	0.29	0.02	mg/L	1	10/28/22 21:09	ER	E353.2

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

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Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 07, 2022

QA/QC Data

SDG I.D.: GCM72513

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 649643 (mg/L), QC Sample No: CM72463 (CM72513, CM72514, CM72515, CM72516, CM72517)													
Nitrate-N	BRL	0.02	<0.02	<0.02	NC	101			103			90 - 110	20
Nitrite-N	BRL	0.01	0.014	0.01	NC	102			105			90 - 110	20
QA/QC Batch 650395 (mg/L), QC Sample No: CM72504 (CM72513, CM72514, CM72515, CM72516, CM72517)													
Ammonia as Nitrogen	BRL	0.05	0.15	0.16	NC	94.2			95.9			90 - 110	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 07, 2022

Monday, November 07, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM72513 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 07, 2022 SDG I.D.: GCM72513

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp ___ °C Pg ___ of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax: ___
☐ Phone: ___
☐ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC Companies, Inc.
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O: ___

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bath Date: 10/27/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = GW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Phosphorus, Dissolved**	Nitrate-Nitrogen	Ammonia	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
72513	SLGW1	GW	10/27/22	1410	X	X	X							1	2					
72514	SLGW2	GW		1635	X	X	X							1	2					
72515	SLGW3	GW		1550	X	X	X							1	2					
72516	SLGW4	GW		1520	X	X	X							1	2					
72517	SLGW5	GW	↓	1445	X	X	X							1	2					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bath		10-28-22	840
	Emma Taylor	10/28	1455

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
- 1 Day*
- 2 Days*
- 3 Days*
- ✓ Standard
- Other

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

* SURCHARGE APPLIES

RI
- ☐ (Residential) Direct Exposure
- ☐ Comm/Industrial) Direct Exposure
- ☐ GA Leachability
- ☐ GB Leachability
- ☐ GA-GW Objectives
- ☐ GB-GW Objectives
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ SWPC
- ☐ Residential DEC
- ☐ I/C DEC

MA
- ☐ MCP Certification
- ☐ GW-1 ☐ MWRA eSMART
- ☐ GW-2 ☐ S-1 10% CALC
- ☐ GW-3
- ☐ S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
- ☐ S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
- ☐ S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
- ☐ SW Protection

State where samples were collected: MA

Data Format
- ✓ Excel
- ✓ PDF
- GIS/Key
- EQuIS
- Other

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Monday, November 07, 2022

Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Project ID: SILVER LAKE WQMP
SDG ID: GCM72522
Sample ID#s: CM72522

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 07, 2022

SDG I.D.: GCM72522

Project ID: SILVER LAKE WQMP

Client Id	Lab Id	Matrix
SLGW-F	CM72522	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 07, 2022

FOR: Attn: Stephanie Martin
ESS Group Inc. A TRC Company
10 Hemingway Drive 2nd Floor
Riverside, RI 02915-2224

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		10/27/22	12:00
Location Code:	ESSGRPRI	Received by:	CP	10/28/22	14:55
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	016120.0000.0000				

Laboratory Data

SDG ID: GCM72522
Phoenix ID: CM72522

Project ID: SILVER LAKE WQMP
Client ID: SLGW-F

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	11/04/22	KDB	E350.1

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 07, 2022
Reviewed and Released by: Anil Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 07, 2022

QA/QC Data

SDG I.D.: GCM72522

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 650395 (mg/L), QC Sample No: CM72504 (CM72522)													
Ammonia as Nitrogen	BRL	0.05	0.15	0.16	NC	94.2			95.9			90 - 110	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 07, 2022

Monday, November 07, 2022

Criteria: None

State: MA

Sample Criteria Exceedances Report

GCM72522 - ESSGRPRI

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Comments

November 07, 2022 SDG I.D.: GCM72522

The following analysis comments are made regarding exceptions to criteria not already noted in the Analysis Report or QA/QC Report: None.

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

CHAIN OF CUSTODY RECORD

Temp 1.1 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
■ Email: Stephanie.Martin@TRCCompanies.com

Customer: TRC Companies, Inc.
Address: 10 Hemingway Drive
East Providence, Rhode Island 02915

Project: Silver Lake WQMP
Report to: 016120.0000.0000 (Previously C663.000)
Invoice to: Barbara Cabral (BCabral@TRCCompanies.com)
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Joseph Bart Date: 10/27/22

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = GW (Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	Phosphorus, Dissolved**	Nitrate-Nitrogen	Ammonia as Nitrogen	*MS/MSD (May be billable at analysis unit rate)	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	120 ml Plastic	PL As is [X] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [X] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
72522	SLGW[illegible]F	GW	10/27/22	1200			X								1					

Relinquished by:	Accepted by:	Date:	Time:
Joseph Bart		10-28-22	840
	Emma Tobin	10/28	1455

Comments, Special Requirements or Regulations:

** Field Filtered within 15 minutes of collection

Turnaround Time:
| 1 Day*
| 2 Days*
| 3 Days*
| ✓ Standard
| Other

***MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.**

* SURCHARGE APPLIES

RI
☐ (Residential) Direct Exposure
☐ Comm/Industrial) Direct Exposure
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ SWPC
☐ Residential DEC
☐ I/C DEC

MA
| MCP Certification
| GW-1 ☐ MWRA eSMART
| GW-2 ☐ S-1 10% CALC
| GW-3
| S-1 GW-1 ☐ S-1 GW-2 ☐ S-1 GW-3
| S-2 GW-1 ☐ S-2 GW-2 ☐ S-2 GW-3
| S-3 GW-1 ☐ S-3 GW-2 ☐ S-3 GW-3
☐ SW Protection

State where samples were collected: MA

Data Format
| ✓ Excel
| ✓ PDF
| GIS/Key
| EQuIS
| Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 7-Sep-21 1015

Total Density (#/mL): 1,463
Total Biovolume (um^3/mL): 2,103,257
Trophic State Index: 55.2

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
5	Anabaena planctonica	61	4.2	267,675	12.7
2	Aphanizomenon flos-aquae	158	10.8	209,642	10.0
8	Aphanothece sp.	37	2.5	2,962	0.1
7	Asterionella formosa	49	3.3	64,359	3.1
10	Cosmarium sp.	12	0.8	2,560	0.1
11	Crucigenia crucifera	12	0.8	4,144	0.2
6	Cryptomonas erosa	61	4.2	31,692	1.5
19	Cyclotella comta	12	0.8	27,669	1.3
1	Cyclotella ocellata	731	50.0	91,419	4.3
9	Cyclotella stelligera	12	0.8	670	0.0
17	Fragilaria crotonensis	12	0.8	143,345	6.8
16	Microcystis aeruginosa	12	0.8	24,378	1.2
12	Oocystis lacustris	12	0.8	951	0.0
14	Oocystis pusilla	12	0.8	2,633	0.1
15	Peridinium cinctum	12	0.8	51,195	2.4
3	Rhodomonas minuta	146	10.0	2,925	0.1
13	Sphaerocystis schroeteri	12	0.8	3,413	0.2
18	Synedra radians	12	0.8	4,388	0.2
4	Tabellaria fenestrata	85	5.8	1,167,237	55.5

Anabaena planctonica cells/mL = 1,463

Aphanizomenon flos-aquae cells/mL = 3,328

Microcystis aeruginosa cells/mL = 3,047

Aquatic Analysts

Sample ID: YK17

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: S1
Sample Depth:
Sample Date: 14-Oct-21 1035

Total Density (#/mL): 2,030
Total Biovolume (um^3/mL): 2,005,482
Trophic State Index: 54.9

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Cyclotella ocellata	1,207	59.5	150,882	7.5
2	Rhodomonas minuta	192	9.5	3,841	0.2
3	Anabaena planctonica	137	6.8	652,633	32.5
4	Synedra rumpens	82	4.1	11,522	0.6
5	Achnanthes minutissima	69	3.4	4,801	0.2
6	Aphanizomenon flos-aquae	55	2.7	76,045	3.8
7	Tabellaria fenestrata	55	2.7	526,715	26.3
8	Navicula cryptocephala	41	2.0	7,613	0.4
9	Oscillatoria limnetica	27	1.4	26,336	1.3
10	Cymbella microcephala	14	0.7	727	0.0
11	Eunotia pectinalis	14	0.7	9,876	0.5
12	Gomphosphaeria wichurae	14	0.7	368,701	18.4
13	Melosira ambigua	14	0.7	16,158	0.8
14	Sphaerocystis schroeteri	14	0.7	7,681	0.4
15	Cryptomonas erosa	14	0.7	7,133	0.4
16	Anabaena flos-aquae	14	0.7	110,281	5.5
17	Ankistrodesmus falcatus	14	0.7	343	0.0
18	Navicula minima	14	0.7	604	0.0
19	Dinobryon sertularia	14	0.7	1,646	0.1
20	Ulothrix sp.	14	0.7	13,168	0.7
21	Microcystis sp.	14	0.7	8,779	0.4

Aphanizomenon flos-aquae cells/mL = 1,207

Anabaena planctonica cells/mL = 3,566

Anabaena flos-aquae cells/mL = 1,646

Oscillatoria limnetica cells/mL = 823

Microcystis sp. cells/mL = 1,097

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: S2
Sample Depth:
Sample Date: 9-Nov-21 1035

Total Density (#/mL): 488
Total Biovolume (um^3/mL): 605,672
Trophic State Index: 46.2

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Aphanizomenon flos-aquae	9	1.9	8,705	1.4
2	Asterionella formosa	5	0.9	1,013	0.2
3	Crucigenia quadrata	5	0.9	783	0.1
4	Cryptomonas erosa	28	5.7	14,370	2.4
5	Cyclotella kutzingiana	5	0.9	530	0.1
6	Cyclotella ocellata	46	9.4	5,757	1.0
7	Limnothrix sp.	28	5.7	24,871	4.1
8	Melosira granulata	5	0.9	5,066	0.8
9	Melosira italica	9	1.9	30,371	5.0
10	Nitzschia capitellata	5	0.9	1,658	0.3
11	Nitzschia paleacea	5	0.9	451	0.1
12	Oscillatoria limnetica	207	42.5	205,603	33.9
13	Pediastrum tetras	5	0.9	1,105	0.2
14	Rhodomonas minuta	92	18.9	1,842	0.3
15	Tabellaria fenestrata	28	5.7	285,191	47.1
16	Trachelomonas hispida	5	0.9	9,672	1.6
17	Trachelomonas volvocina	5	0.9	8,682	1.4

Oscillatoria limnetica cells/mL = 6,425

Limnothrix sp. cells/mL = 553

Aphanizomenon flos-aquae cells/mL = 138

Aquatic Analysts

Sample ID: YK24

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SA
Sample Depth:
Sample Date: 15-Dec-21 945

Total Density (#/mL): 1,158
Total Biovolume (um^3/mL): 1,572,179
Trophic State Index: 53.1

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Oscillatoria limnetica	599	51.7	555,410	35.3
2	Aphanizomenon flos-aquae	106	9.2	160,553	10.2
3	Melosira italica	77	6.7	451,031	28.7
4	Cryptomonas erosa	68	5.8	35,138	2.2
5	Melosira ambigua	48	4.2	181,945	11.6
6	Asterionella formosa	48	4.2	42,474	2.7
7	Rhodomonas minuta	39	3.3	772	0.0
8	Cyclotella kutzingiana	29	2.5	3,330	0.2
9	Ankistrodesmus falcatus	29	2.5	724	0.0
10	Tabellaria fenestrata	29	2.5	90,354	5.7
11	Limnothrix sp.	19	1.7	17,376	1.1
12	Sphaerocystis schroeteri	19	1.7	6,757	0.4
13	Mallomonas sp.	10	0.8	3,668	0.2
14	Cyclotella ocellata	10	0.8	1,207	0.1
15	Oocystis pusilla	10	0.8	2,085	0.1
16	Anomoeoneis vitrea	10	0.8	1,158	0.1
17	Trachelomonas volvocina	10	0.8	18,196	1.2

Oscillatoria limnetica cells/mL = 17,357

Aphanizomenon flos-aquae cells/mL = 2,548

Limnothrix sp. cells/mL = 386

Aquatic Analysts

Sample ID: YK25

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SB
Sample Depth:
Sample Date: 15-Dec-21 935

Total Density (#/mL): 1,320
Total Biovolume (um^3/mL): 1,865,876
Trophic State Index: 54.3

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Oscillatoria limnetica	530	40.1	593,624	31.8
2	Aphanizomenon flos-aquae	279	21.2	404,946	21.7
3	Rhodomonas minuta	154	11.7	3,084	0.2
4	Cryptomonas erosa	87	6.6	45,100	2.4
5	Melosira italica	77	5.8	275,966	14.8
6	Tabellaria fenestrata	58	4.4	277,538	14.9
7	Asterionella formosa	29	2.2	19,081	1.0
8	Ankistrodesmus falcatus	29	2.2	723	0.0
9	Melosira ambigua	19	1.5	124,873	6.7
10	Cyclotella kutzingiana	19	1.5	2,216	0.1
11	Trachelomonas volvocina	19	1.5	36,331	1.9
12	Melosira granulata	10	0.7	5,300	0.3
13	Stephanodiscus niagarae	10	0.7	77,094	4.1

Aphanizomenon flos-aquae cells/mL = 6,428

Oscillatoria limnetica cells/mL = 18,551

Aquatic Analysts

Sample ID: YK26

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 29-Mar-22 1220

Total Density (#/mL): 2,569
Total Biovolume (um^3/mL): 2,712,775
Trophic State Index: 57.0

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Aphanizomenon flos-aquae	1,276	49.7	1,928,956	71.1
2	Chrysococcus rufescens	569	22.1	48,358	1.8
3	Asterionella formosa	328	12.8	180,159	6.6
4	Rhodomonas minuta	103	4.0	2,069	0.1
5	Cyclotella ocellata	69	2.7	8,620	0.3
6	Cryptomonas erosa	52	2.0	26,894	1.0
7	Synedra rumpens	34	1.3	4,827	0.2
8	Cyclotella comta	34	1.3	78,270	2.9
9	Melosira italica	34	1.3	178,642	6.6
10	Kephyrion spirale	17	0.7	1,086	0.0
11	Ankistrodesmus falcatus	17	0.7	431	0.0
12	Tabellaria fenestrata	17	0.7	248,257	9.2
13	Synedra radians	17	0.7	6,206	0.2

Aphanizomenon flos-aquae cells/mL = 30,618

Aquatic Analysts

Sample ID: YK31

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: EPD
Sample Depth:
Sample Date: 29-Mar-22 1330

Total Density (#/mL): 2,638
Total Biovolume (um^3/mL): 509,710
Trophic State Index: 45.0

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Chrysococcus rufescens	987	37.4	83,898	16.5
2	Asterionella formosa	759	28.8	267,259	52.4
3	Synedra rumpens	304	11.5	42,519	8.3
4	Rhodomonas minuta	209	7.9	4,176	0.8
5	Cryptomonas erosa	171	6.5	88,833	17.4
6	Cyclotella stelligera	95	3.6	5,220	1.0
7	Kephyrion littorale	38	1.4	3,606	0.7
8	Eunotia elegans	19	0.7	4,176	0.8
9	Navicula cryptocephala	19	0.7	3,512	0.7
10	Sphaerocystis schroeteri	19	0.7	5,315	1.0
11	Kephyrion sp.	19	0.7	1,196	0.2

Aquatic Analysts **Sample ID:** YK32

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: FPD
Sample Depth:
Sample Date: 29-Mar-22 1430

Total Density (#/mL): 2,658
Total Biovolume (um^3/mL): 704,306
Trophic State Index: 47.3

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Asterionella formosa	15	0.6	13,444	1.9
2	Chrysococcus rufescens	275	10.3	23,375	3.3
3	Chrysosphaerella sp.	1,558	58.6	130,900	18.6
4	Cryptomonas erosa	61	2.3	31,778	4.5
5	Dinobryon sertularia	367	13.8	176,000	25.0
6	Gomphonema angustatum	15	0.6	2,750	0.4
7	Kephyrion littorale	46	1.7	4,354	0.6
8	Kephyrion sp.	138	5.2	8,663	1.2
9	Melosira ambigua	46	1.7	134,979	19.2
10	Rhodomonas minuta	31	1.1	611	0.1
11	Scenedesmus quadricauda	15	0.6	1,986	0.3
12	Stephanodiscus hantzschii	15	0.6	1,833	0.3
13	Synedra radians	46	1.7	16,500	2.3
14	Tabellaria fenestrata	15	0.6	128,333	18.2
15	Trachelomonas volvocina	15	0.6	28,799	4.1

Aquatic Analysts **Sample ID:** YK33

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 22-Apr-22 1200

Total Density (#/mL): 1,453
Total Biovolume (um^3/mL): 1,502,440
Trophic State Index: 52.8

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Aphanizomenon flos-aquae	866	59.6	1,255,243	83.5
2	Rhodomonas minuta	160	11.0	3,199	0.2
3	Chrysococcus rufescens	120	8.3	10,195	0.7
4	Kephyrion littorale	53	3.7	5,064	0.3
5	Cryptomonas erosa	40	2.8	20,791	1.4
6	Asterionella formosa	40	2.8	11,435	0.8
7	Cyclotella ocellata	27	1.8	3,332	0.2
8	Kephyrion sp.	27	1.8	1,679	0.1
9	Dinobryon sertularia	27	1.8	6,397	0.4
10	Melosira italica	13	0.9	25,109	1.7
11	Nitzschia acicularis	13	0.9	3,732	0.2
12	Trachelomonas scabra	13	0.9	21,324	1.4
13	Ankistrodesmus falcatus	13	0.9	333	0.0
14	Tabellaria fenestrata	13	0.9	127,943	8.5
15	Cyclotella meneghiniana	13	0.9	5,064	0.3
16	Pediastrum tetras	13	0.9	1,599	0.1

Aphanizomenon flos-aquae cells/mL = 19,924

Aquatic Analysts

Sample ID: YK34

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 23-May-22 1130

Total Density (#/mL): 826
Total Biovolume (um^3/mL): 457,541
Trophic State Index: 44.2

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Aphanizomenon flos-aquae	256	31.0	339,019	74.1
2	Kephyrion spirale	242	29.3	15,247	3.3
3	Rhodomonas minuta	93	11.2	1,851	0.4
4	Cryptomonas erosa	78	9.5	40,715	8.9
5	Kephyrion littorale	36	4.3	3,381	0.7
6	Cyclotella kutzingiana	28	3.4	3,274	0.7
7	Chrysococcus rufescens	21	2.6	1,815	0.4
8	Melosira ambigua	14	1.7	33,540	7.3
9	Cyclotella ocellata	7	0.9	890	0.2
10	Dinobryon sertularia	7	0.9	854	0.2
11	Melosira italica	7	0.9	13,410	2.9
12	Synedra rumpens	7	0.9	997	0.2
13	Asterionella formosa	7	0.9	1,566	0.3
14	Ankistrodesmus falcatus	7	0.9	178	0.0
15	Kephyrion sp.	7	0.9	448	0.1
16	Achnanthes minutissima	7	0.9	356	0.1

Aphanizomenon flos-aquae cells/mL = 5,381

Aquatic Analysts

Sample ID: YK35

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: EPD
Sample Depth:
Sample Date: 23-May-22 1340

Total Density (#/mL): 1,699
Total Biovolume (um^3/mL): 447,642
Trophic State Index: 44.1

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Cryptomonas erosa	784	46.2	407,861	91.1
2	Rhodomonas minuta	662	38.9	13,236	3.0
3	Ankistrodesmus falcatus	82	4.8	5,106	1.1
4	Kephyrion spirale	57	3.4	3,603	0.8
5	Kephyrion littorale	41	2.4	3,881	0.9
6	Scenedesmus quadricauda	16	1.0	4,249	0.9
7	Dinobryon sertularia	16	1.0	1,961	0.4
8	Asterionella formosa	16	1.0	3,595	0.8
9	Chlamydomonas sp.	8	0.5	2,655	0.6
10	Stephanodiscus hantzschii	8	0.5	980	0.2
11	Kephyrion sp.	8	0.5	515	0.1

Aquatic Analysts **Sample ID:** YK36

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: FPD
Sample Depth:
Sample Date: 23-May-22 1230

Total Density (#/mL): 731
Total Biovolume (um^3/mL): 333,278
Trophic State Index: 41.9

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Achnanthes minutissima	4	0.6	217	0.1
2	Ankistrodesmus falcatus	4	0.6	109	0.0
3	Asterionella formosa	9	1.2	2,871	0.9
4	Chlamydomonas sp.	4	0.6	1,414	0.4
5	Chrysococcus rufescens	4	0.6	370	0.1
6	Coscinodiscus sp.	4	0.6	3,262	1.0
7	Cryptomonas erosa	43	6.0	22,620	6.8
8	Cyclotella stelligera	9	1.2	478	0.1
9	Eunotia pectinalis	22	3.0	281,875	84.6
10	Rhodomonas minuta	600	82.1	12,006	3.6
11	Synedra rumpens	17	2.4	2,923	0.9
12	Tabellaria flocculosa	9	1.2	5,133	1.5

Aquatic Analysts **Sample ID:** YK37

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: LPD
Sample Depth:
Sample Date: 23-May-22 1330

Total Density (#/mL): 1,503
Total Biovolume (um^3/mL): 568,434
Trophic State Index: 45.8

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Cryptomonas erosa	940	62.5	488,583	86.0
2	Rhodomonas minuta	268	17.9	5,369	0.9
3	Kephyrion spirale	67	4.5	4,228	0.7
4	Kephyrion littorale	54	3.6	5,101	0.9
5	Ankistrodesmus falcatus	40	2.7	1,007	0.2
6	Sphaerocystis schroeteri	27	1.8	7,517	1.3
7	Scenedesmus quadricauda	27	1.8	6,980	1.2
8	Kephyrion sp.	13	0.9	846	0.1
9	Mallomonas sp.	13	0.9	5,101	0.9
10	Gomphonema angustatum	13	0.9	2,416	0.4
11	Cocconeis placentula	13	0.9	6,174	1.1
12	Oocystis pusilla	13	0.9	2,899	0.5
13	Tabellaria fenestrata	13	0.9	32,214	5.7

Aquatic Analysts **Sample ID:** YK38

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 28-Jun-22

Total Density (#/mL): 1,654
Total Biovolume (um^3/mL): 791,517
Trophic State Index: 48.2

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Achnanthes minutissima	12	0.7	578	0.1
2	Amphora perpusilla	12	0.7	1,920	0.2
3	Anabaena flos-aquae	12	0.7	6,198	0.8
4	Anabaena planctonica	23	1.4	105,812	13.4
5	Ankistrodesmus falcatus	35	2.1	867	0.1
6	Aphanizomenon flos-aquae	231	14.0	335,128	42.3
7	Cryptomonas erosa	69	4.2	36,080	4.6
8	Cyclotella kutzingiana	590	35.7	67,823	8.6
9	Navicula cryptocephala	23	1.4	4,279	0.5
10	Oocystis pusilla	12	0.7	1,249	0.2
11	Oscillatoria limnetica	150	9.1	149,131	18.8
12	Rhodomonas minuta	370	22.4	7,401	0.9
13	Sphaerocystis schroeteri	23	1.4	6,476	0.8
14	Synedra radians	69	4.2	24,978	3.2
15	Trachelomonas volvocina	23	1.4	43,597	5.5

Aphanizomenon flos-aquae cells/mL = 5,319

Oscillatoria limnetica cells/mL = 4,660

Anabaena planctonica cells/mL = 578

Anabaena flos-aquae cells/mL = 93

Aquatic Analysts

Sample ID: YK87

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 14-Jul-22

Total Density (#/mL): 4,723
Total Biovolume (um^3/mL): 2,042,085
Trophic State Index: 55.0

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Ankistrodesmus falcatus	198	4.2	4,945	0.2
2	Aphanizomenon flos-aquae	1,360	28.8	1,542,153	75.5
3	Chlamydomonas sp.	25	0.5	8,036	0.4
4	Cryptomonas erosa	99	2.1	51,430	2.5
5	Cyclotella kutzingiana	2,398	50.8	275,817	13.5
6	Gomphonema angustatum	25	0.5	4,451	0.2
7	Melosira ambigua	25	0.5	29,127	1.4
8	Oocystis pusilla	25	0.5	5,341	0.3
9	Oscillatoria limnetica	49	1.0	31,649	1.5
10	Rhodomonas minuta	396	8.4	7,912	0.4
11	Scenedesmus denticulatus	25	0.5	2,225	0.1
12	Synedra radians	49	1.0	17,803	0.9
13	Tabellaria flocculosa	25	0.5	14,588	0.7
14	Trachelomonas volvocina	25	0.5	46,608	2.3

Aphanizomenon flos-aquae cells/mL = 24,479

Oscillatoria limnetica cells/mL = 989

Aquatic Analysts

Sample ID: YK88

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 31-Aug-22

Total Density (#/mL): 2,024
Total Biovolume (um^3/mL): 2,243,211
Trophic State Index: 55.7

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Aphanizomenon flos-aquae	1,189	58.7	2,096,572	93.5
2	Cyclotella kutzingiana	273	13.5	31,400	1.4
3	Rhodomonas minuta	145	7.1	2,891	0.1
4	Sphaerocystis schroeteri	96	4.8	26,983	1.2
5	Crucigenia quadrata	64	3.2	5,461	0.2
6	Selenastrum minutum	48	2.4	3,855	0.2
7	Synedra radians	32	1.6	11,564	0.5
8	Cryptomonas erosa	32	1.6	16,704	0.7
9	Cocconeis placentula	32	1.6	14,776	0.7
10	Scenedesmus denticulatus	16	0.8	1,446	0.1
11	Ankistrodesmus falcatus	16	0.8	402	0.0
12	Navicula decussis	16	0.8	3,084	0.1
13	Anomoeoneis vitrea	16	0.8	1,927	0.1
14	Anabaena flos-aquae	16	0.8	21,522	1.0
15	Nitzschia palea	16	0.8	2,891	0.1
16	Oocystis pusilla	16	0.8	1,735	0.1

Aphanizomenon flos-aquae cells/mL = 33,279

Anabaena flos-aquae cells/mL = 321

Aquatic Analysts

Sample ID: YK89

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 13-Sep-22

Total Density (#/mL): 2,411
Total Biovolume (um^3/mL): 1,728,966
Trophic State Index: 53.8

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Aphanizomenon flos-aquae	1,197	49.7	1,508,655	87.3
2	Cyclotella kutzingiana	416	17.2	47,811	2.8
3	Rhodomonas minuta	233	9.7	4,656	0.3
4	Cryptomonas erosa	150	6.2	77,827	4.5
5	Synedra radians	83	3.4	29,934	1.7
6	Ankistrodesmus falcatus	67	2.8	1,663	0.1
7	Cyclotella stelligera	50	2.1	2,744	0.2
8	Sphaerocystis schroeteri	50	2.1	13,969	0.8
9	Crucigenia quadrata	33	1.4	2,827	0.2
10	Dinobryon sertularia	33	1.4	3,991	0.2
11	Navicula radiosa	17	0.7	5,405	0.3
12	Synedra rumpens	17	0.7	2,328	0.1
13	Oscillatoria limnetica	17	0.7	15,965	0.9
14	Microcystis aeruginosa	17	0.7	3,991	0.2
15	Chlamydomonas sp.	17	0.7	5,405	0.3
16	Oocystis pusilla	17	0.7	1,796	0.1

Aphanizomenon flos-aquae cells/mL = 23,947

Oscillatoria limnetica cells/mL = 499

Microcystis aeruginosa cells/mL = 499

Aquatic Analysts

Sample ID: YK90

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: EPD
Sample Depth:
Sample Date: 26-Oct-22

Total Density (#/mL): 1,093
Total Biovolume (um^3/mL): 164,572
Trophic State Index: 36.9

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Rhodomonas minuta	416	38.1	8,326	5.1
2	Chrysococcus rufescens	382	34.9	32,437	19.7
3	Cryptomonas erosa	191	17.5	99,220	60.3
4	Kephyrion sp.	26	2.4	1,639	1.0
5	Ankistrodesmus falcatus	26	2.4	650	0.4
6	Kephyrion spirale	17	1.6	1,093	0.7
7	Sphaerocystis schroeteri	9	0.8	4,857	3.0
8	Eunotia pectinalis	9	0.8	12,489	7.6
9	Chlamydomonas sp.	9	0.8	2,819	1.7
10	Dinobryon sertularia	9	0.8	1,041	0.6

Aquatic Analysts

Sample ID: ZM01

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: FPD
Sample Depth:
Sample Date: 20-Oct-22

Total Density (#/mL): 522
Total Biovolume (um^3/mL): 98,658
Trophic State Index: 33.2

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Ankistrodesmus falcatus	23	4.4	574	0.6
2	Chrysococcus rufescens	23	4.4	1,951	2.0
3	Cosmarium sp.	6	1.1	1,205	1.2
4	Cryptomonas erosa	52	9.9	26,853	27.2
5	Cyclotella stelligera	6	1.1	316	0.3
6	Glenodinium sp.	6	1.1	4,017	4.1
7	Kephyrion littorale	23	4.4	2,180	2.2
8	Kephyrion sp.	46	8.8	2,892	2.9
9	Kephyrion spirale	6	1.1	361	0.4
10	Mallomonas sp.	6	1.1	2,180	2.2
11	Melosira ambigua	6	1.1	20,278	20.6
12	Melosira granulata	6	1.1	9,468	9.6
13	Pediastrum duplex	6	1.1	390	0.4
14	Rhodomonas minuta	252	48.4	5,049	5.1
15	Scenedesmus quadricauda	11	2.2	1,865	1.9
16	Staurastrum dejectum	6	1.1	2,295	2.3
17	Staurastrum gracile	23	4.4	12,394	12.6
18	Synedra radians	11	2.2	4,131	4.2
19	Tetraedron minimum	6	1.1	258	0.3

Aquatic Analysts

Sample ID: ZM02

Phytoplankton Sample Analysis

Sample: Silver Lake
Sample Site: SLIL-S
Sample Depth:
Sample Date: 27-Oct-22

Total Density (#/mL): 1,799
Total Biovolume (um^3/mL): 540,536
Trophic State Index: 45.4

	Species	Density #/mL	Density Percent	Biovolume um^3/mL	Biovolume Percent
1	Rhodomonas minuta	1,016	56.4	20,311	3.8
2	Cryptomonas erosa	528	29.3	274,438	50.8
3	Aphanizomenon flos-aquae	56	3.1	67,002	12.4
4	Cyclotella stelligera	40	2.2	2,199	0.4
5	Oscillatoria limosa	40	2.2	99,156	18.3
6	Ankistrodesmus falcatus	32	1.8	1,439	0.3
7	Ulothrix sp.	24	1.3	9,596	1.8
8	Sphaerocystis schroeteri	16	0.9	3,359	0.6
9	Coscinodiscus sp.	16	0.9	11,995	2.2
10	Scenedesmus quadricauda	8	0.4	2,079	0.4
11	Cyclotella kutzingiana	8	0.4	920	0.2
12	Trachelomonas volvocina	8	0.4	15,073	2.8
13	Melosira ambigua	8	0.4	32,969	6.1

Aphanizomenon flos-aquae cells/mL = 1,064

Oscillatoria limosa cells/mL = 1,599

Aquatic Analysts

Sample ID: ZM03

Adda Microcystins/Nodularins Report

Project: ESS Group

Submitted to:	Matt Ladewig
Organization:	ESS Group
Address:	10 Hemingway Drive, East Providence, RI 02915
Email:	mladewig@essgroup.com
Sample Receipt Date:	19 January 2022
Sample Condition:	2.6 ºC upon arrival
Report#	211109-211215_ESS_Group
Date Prepared:	24 January 2022
Prepared by:	Kamil Cieslik

Table 1: Samples analyzed

Sample Identification	Site/Description	Collection Date
SLIL-SA	Silver Lake	15 December 2021
SLIL-CYN-A	Silver Lake	9 November 2021
SLIL-CYN-B	Silver Lake	9 November 2021

Analytes: Adda Microcystins/Nodularins (MCs/NODs)

Abbreviations

NA	Not Applicable	LFSM	Lab Fortified Sample Matrix
MDL	Method Detection Limit	LFSMD	Lab Fortified Sample Matrix Duplicate
MQL	Method Quantification Limit	LD	Lab Duplicate
ND	Not Detected above the MDL	IS	Internal Standard
Blank	Regent Water free from interferences	—	Not Analyzed
LFB	Lab Fortified Blank	MRL	Method Reporting Limit
CCC	Continued Calibration Check	CV	Low-range calibration verification

Sample Preparation

Water Sample Freeze-Thaw

The samples were inverted for 60 seconds to mix. A subset from each sample was transferred to a 15 mL vial. Three freeze-thaw cycles were employed prior to additional sample preparation and subsequent analysis.

Analytical Techniques

Enzyme-Linked Immunosorbent Assay (ELISA)

MCs/NODs

A microcystins/nodularins Adda ELISA (Abraxis) was utilized for the quantitative and sensitive congener-independent detection of Adda MCs/NODs (US EPA Method 546 & Ohio EPA DES 701.0). The current method reporting limit is 0.30 ng/mL (ppb) based on kit sensitivity (0.15 ng/mL), dilution factor, and initial demonstration of capability.

Qualifier	Flag
CL	Analytical result is estimated due to ineffective quenching.
J	Analyte was positively identified; the associated numerical value is estimated.
PT	The reported result is estimated because the sample was not analyzed within required holding time.
B	Analytical result is estimated. Analyte was detected in associated reagent blank as well as the samples.
E	Analytical result is estimated. Values achieved were outside calibration range.
N	Spiked sample control was outside limits
T	The reported result is estimated because the sample exceeded temperature threshold when received

Quality Control

Table 2: LFSM QC samples prepared for analyses post-sonication (unless otherwise noted). Additional Quality Control/Quality Assurance checks included method blanks, continued calibration checks, LFBs, and external curves.

Analyte	Concentration (ng/mL)	Sample ID	QC Type	Return
MC-LR	5.0	SLIL-SA	LFSM	121%

**Control limits: water LFSM ± 30%; complicated matrix LFSM and when LFSM within 2x MDL ±50%; IS ± 50%*

Table 3: Raw ELISA Data

Sample ID	Analyte	Dilution Factor	Assay Values (ng/mL)	%CV	Concentration (ng/mL)	Average (ng/mL)
SLIL-SA	MCs/NODs	5	0.92	12.9	4.60	**4.20**
		5	0.76		3.80	
SLIL-SA	MCs/NODs	5	2.21	10.9	11.05	**10.25**
LFSM		5	1.89		9.45	
SLIL-CYN-A	MCs/NODs	1	0.85	4.5	0.85	**0.83**
		1	0.80		0.80	
SLIL-CYN-B	MCs/NODs	1	0.40	28.3	0.40	**0.50**
		1	0.60		0.60	

Table 4: Adda MC-ELISA Quality Control Value Table

Date Analyzed:	**21 January 2022**	**Requirement**	**Pass/Fail**
R^2 value:	1.000	≥0.98	PASS
%CV range STDs:	0.4-3.7%	≤15%	PASS
LFB (1 ppb) recovery:	116%	±40% True Value	PASS
%CV range LFB:	4.0%	≤20%	PASS
Low CCC (0.15 ppb) recovery:	90%	±50% True Value	PASS
LRB	<0.08	<0.08	PASS

Date Analyzed:	**24 January 2022**	**Requirement**	**Pass/Fail**
R^2 value:	0.999	≥0.98	PASS
%CV range STDs:	0.6-4.5%	≤15%	PASS
LFB (1 ppb) recovery:	103%	±40% True Value	PASS
%CV range LFB:	13.3%	≤20%	PASS
Low CCC (0.15 ppb) recovery:	87%	±50% True Value	PASS
LRB	<0.08	<0.08	PASS

Summary of Results

Table 5: Summary of results in ng/mL

Sample ID	MCs/NODs (ng/mL)
SLIL-SA	**4.20**
SLIL-CYN-A	**0.83**
SLIL-CYN-B	**0.50**
MRL (ng/mL):	*0.30*
Analyst Initials:	*KC*
Date Analyzed:	*1/21/2022*
	1/24/2022

Interpretations:
The levels of Adda MCs/NODs detected in the submitted samples do not exceed the current 'Draft EPA Recommended Value for Recreational Criteria and Swimming Advisory', which is currently 8 ng/mL (ppb) total microcystins. The WHO recreational guidance value for microcystin is currently 24 ng/mL (ppb) (World Health Organization (WHO), 2020a).

World Health Organization (WHO), 2020a. Cyanobacterial toxins: microcystins. Guidel. Drink. Qual. Guidel. Safe Recreat. Water Environ. 63.

Submitted by: 

Mark T. Aubel, Ph.D.
Lab Director

Date: January 24, 2022

Adda Microcystins/Nodularins Report

Project: ESS Group, LLC – A TRC Company

Submitted to:	Stephanie Martin
Organization:	ESS Group, LLC – A TRC Company
Address:	10 Hemingway Drive, East Providence, RI 02915
Email:	stephanie.martin@trccompanies.com.com

Sample Receipt Date:	5 August 2022
Sample Condition:	3.2 ºC upon arrival
Report#	220329-220628_ESS_Group
Date Prepared:	13 August 2022
Prepared by:	Mark Aubel

Table 1: Samples analyzed

Sample Identification	Site/Description	Collection Date
SLIL-S-1	Silver Lake	29 March 2022
EPD-1	Silver Lake	29 March 2022
FPD-1	Silver Lake	29 March 2022
SLIL-S-2	Silver Lake	27 April 2022
FPD-3	Silver Lake	23 May 2022
SLIL-S-3	Silver Lake	23 May 2022
LFD-3	Silver Lake	23 May 2022
EPD-3	Silver Lake	23 May 2022
SLIL-S-4	Silver Lake	28 June 2022

Analytes: Adda Microcystins/Nodularins (MCs/NODs)

Abbreviations

NA	Not Applicable	LFSM	Lab Fortified Sample Matrix
MDL	Method Detection Limit	LFSMD	Lab Fortified Sample Matrix Duplicate
MQL	Method Quantification Limit	LD	Lab Duplicate
ND	Not Detected above the MDL	IS	Internal Standard
Blank	Regent Water free from interferences	—	Not Analyzed
LFB	Lab Fortified Blank	MRL	Method Reporting Limit
CCC	Continued Calibration Check	CV	Low-range calibration verification

Sample Preparation

Water Sample Freeze-Thaw

The samples were inverted for 60 seconds to mix. A subset from each sample was transferred to a 15 mL vial. Three freeze-thaw cycles were employed prior to additional sample preparation and subsequent analysis.

Analytical Techniques

Enzyme-Linked Immunosorbent Assay (ELISA)

MCs/NODs

A microcystins/nodularins Adda ELISA (Abraxis) was utilized for the quantitative and sensitive congener-independent detection of Adda MCs/NODs (US EPA Method 546 & Ohio EPA DES 701.0). The current method reporting limit is 0.30 ng/mL (ppb) based on kit sensitivity (0.15 ng/mL), dilution factor, and initial demonstration of capability.

Qualifier	Flag
CL	Analytical result is estimated due to ineffective quenching.
J	Analyte was positively identified; the associated numerical value is estimated.
PT	The reported result is estimated because the sample was not analyzed within required holding time.
B	Analytical result is estimated. Analyte was detected in associated reagent blank as well as the samples.
E	Analytical result is estimated. Values achieved were outside calibration range.
N	Spiked sample control was outside limits
T	The reported result is estimated because the sample exceeded temperature threshold when received

Quality Control

Table 2: LFSM QC samples prepared for analyses post-sonication (unless otherwise noted). Additional Quality Control/Quality Assurance checks included method blanks, continued calibration checks, LFBs, and external curves.

Analyte	Concentration (ng/mL)	Sample ID	QC Type	Return
MC-LR	1.0	FPD-3	LFSM	104%

**Control limits: water LFSM ± 30%; complicated matrix LFSM and when LFSM within 2x MDL ±50%; IS ± 50%*

Table 3: Adda MC-ELISA Quality Control Value Table

Date Analyzed:	**9-Aug-22**	**Requirement**	**Pass/Fail**
R^2 value:	0.999	≥0.98	PASS
%CV STDs:	0.8 - 5.0%	≤15%	PASS
LFB (1 ppb) recovery:	95%	±40% True Value	PASS
%CV LFB:	6.4%	≤20%	PASS
Low CCC (0.15 ppb) recovery:	115%	±50% True Value	PASS
LRB	<0.08	<0.08	PASS

Date Analyzed:	**11-Aug-22**	**Requirement**	**Pass/Fail**
R^2 value:	0.998	≥0.98	PASS
%CV STDs:	0.0 - 3.6%	≤15%	PASS
LFB (1 ppb) recovery:	105%	±40% True Value	PASS
%CV LFB:	6.3%	≤20%	PASS
Low CCC (0.15 ppb) recovery:	88%	±50% True Value	PASS
LRB	<0.08	<0.08	PASS

Results

Table 4: Raw ELISA Data including the sample identification, analyte, date analyzed, interpolated values 1 and 2, the dilution factor, %CV of the absorbance values, and average final concentration (ng/mL; ppb).

Sample ID	Sample Type	Analyte	Date analyzed	Value 1 (ng/mL)	Value 2 (ng/mL)	Dilution Factor	%CV	Average (ng/mL)
SLIL-S-1	FS	MCs/NODs	8/11/2022	2.31	2.71	5	5.3	**12.55**
EPD-1	FS	MCs/NODs	8/9/2022	0.03	0.00	1	1.9	< 0.30
FPD-1	FS	MCs/NODs	8/9/2022	0.02	0.05	1	2.2	< 0.30
SLIL-S-2	FS	MCs/NODs	8/11/2022	0.73	0.82	5	3.2	**3.88**
FPD-3	FS	MCs/NODs	8/9/2022	0.09	0.10	1	0.6	< 0.30
FPD-3	LSFM	MCs/NODs	8/9/2022	1.18	1.09	1	2.6	1.14
SLIL-S-3	FS	MCs/NODs	8/9/2022	3.20	3.75	1	4.8	**3.48**
LFD-3	FS	MCs/NODs	8/9/2022	0.05	0.06	1	0.9	< 0.30
EPD-3	FS	MCs/NODs	8/9/2022	0.06	0.08	1	1.0	< 0.30
SLIL-S-4	FS	MCs/NODs	8/9/2022	0.68	0.72	1	2.0	**0.70**

]

Summary of Results

Table 5: Summary of results in ng/mL

Sample ID	MCs/NODs (ng/mL)
SLIL-S-1	**12.55**
EPD-1	ND
FPD-1	ND
SLIL-S-2	**3.88**
FPD-3	ND
SLIL-S-3	**3.48**
LFD-3	ND
EPD-3	ND
SLIL-S-4	**0.70**
MRL (ng/mL):	*0.30*
Analyst Initials:	*AF*
Date Analyzed:	*8/9/2022* *8/11/2022*

Interpretations:
The levels of Adda MCs/NODs detected in the submitted samples only exceeded the current EPA recommended recreational & swimming threshold (8.0 ng/mL total microcystins) in one sample (SLIL-S-1). The WHO recreational guidance value for microcystin is currently 24 ng/mL (ppb) (World Health Organization (WHO), 2020a).

World Health Organization (WHO), 2020a. Cyanobacterial toxins: microcystins. Guidel. Drink. Qual. Guidel. Safe Recreat. Water Environ. 63.

Submitted by: Mark T. Aubel, Ph.D.
Lab Director
Date: August 13, 2022

The results in this report relate only to the samples listed above.
This report shall not be reproduced except in full without written approval of the laboratory.

Microcystins/Nodularins Report

Project: ESS Group, LLC – A TRC Company

Submitted to:	Stephanie Martin
Organization:	ESS Group, LLC – A TRC Company
Address:	10 Hemingway Drive, East Providence, RI 02915
Email:	stephanie.martin@trccompanies.com.com

Sample Receipt Date:	14 October 2022
Sample Condition:	2.4 ºC upon arrival
Report#	220714-0915_ESS
Date Prepared:	17 October 2022
Prepared by:	Amanda Foss

Table 1: Samples analyzed

Sample Identification	Site/Description	Collection Date
SLIL-S-220714	Silver Lake	14 July 2022
SLIL-S-220915	Silver Lake	15 September 2022

Analytes: Adda Microcystins/Nodularins (MCs/NODs)

Abbreviations

NA	Not Applicable	LFSM	Lab Fortified Sample Matrix
MDL	Method Detection Limit	LFSMD	Lab Fortified Sample Matrix Duplicate
MQL	Method Quantification Limit	LD	Lab Duplicate
ND	Not Detected above the MDL	IS	Internal Standard
Blank	Regent Water free from interferences	—	Not Analyzed
LFB	Lab Fortified Blank	MRL	Method Reporting Limit
CCC	Continued Calibration Check	CV	Low-range calibration verification

Sample Preparation

Water Sample Freeze-Thaw

The samples were inverted for 60 seconds to mix. A subset from each sample was transferred to a 15 mL vial. Three freeze-thaw cycles were employed prior to additional sample preparation and subsequent analysis.

Analytical Techniques

Enzyme-Linked Immunosorbent Assay (ELISA)

MCs/NODs

A microcystins/nodularins Adda ELISA (Abraxis) was utilized for the quantitative and sensitive congener-independent detection of Adda MCs/NODs (US EPA Method 546 & Ohio EPA DES 701.0). The current method reporting limit is 0.30 ng/mL (ppb) based on kit sensitivity (0.15 ng/mL), dilution factor, and initial demonstration of capability.

Qualifier	Flag
CL	Analytical result is estimated due to ineffective quenching.
J	Analyte was positively identified; the associated numerical value is estimated.
PT	The reported result is estimated because the sample was not analyzed within required holding time.
B	Analytical result is estimated. Analyte was detected in associated reagent blank as well as the samples.
E	Analytical result is estimated. Values achieved were outside calibration range.
N	Spiked sample control was outside limits
T	The reported result is estimated because the sample exceeded temperature threshold when received

Quality Control

Table 2: LFSM QC samples prepared for analyses post-sonication (unless otherwise noted). Additional Quality Control/Quality Assurance checks included method blanks, continued calibration checks, LFBs, and external curves.

Analyte	Concentration (ng/mL)	Sample ID	QC Type	Return
MC-LR	1.0	SLIL-S-220915	LFSM	118%

**Control limits: water LFSM ± 30%; complicated matrix LFSM and when LFSM within 2x MDL ±50%; IS ± 50%*

Table 3: Adda MC-ELISA Quality Control Value Table

Date Analyzed:	**18-Oct-22**	**Requirement**	**Pass/Fail**
R^2 value:	0.998	≥0.98	PASS
%CV STDs:	0.2-6.4%	≤15%	PASS
LFB (1 ppb) recovery:	99%	±40% True Value	PASS
%CV LFB:	1.2%	≤20%	PASS
Low CCC (0.15 ppb) recovery:	85%	±50% True Value	PASS
LRB	<0.08	<0.08	PASS

Results

Table 4: Raw ELISA Data including the sample identification, analyte, date analyzed, interpolated values 1 and 2, the dilution factor, %CV of the absorbance values, and average final concentration (ng/mL; ppb).

Sample ID	Sample Type	Analyte	Date analyzed	Value 1 (ng/mL)	Value 2 (ng/mL)	Dilution Factor	%CV	Average (ng/mL)
SLIL-S-220714	FS	MCs/NODs	10/18/2022	0.18	0.17	1	0.7	< 0.30
SLIL-S-220915	FS	MCs/NODs	10/18/2022	0.10	0.08	1	1.3	< 0.30
SLIL-S-220915	LFSM	MCs/NODs	10/18/2022	1.11	1.24	1	3.7	1.18

Summary of Results

Table 5: Summary of results in ng/mL

Sample ID	MCs/NODs (ng/mL)
SLIL-S-220714	ND
SLIL-S-220915	ND
MRL (ng/mL):	*0.30*
Analyst Initials:	*AF*
Date Analyzed:	*10/18/2022*

Interpretations:
Microcystins/Nodularins were not detected in the submitted samples above the method reporting limits (MRLs) and were below the current EPA recommended recreational & swimming threshold (8.0 ng/mL total microcystins).

Submitted by: Mark T. Aubel, Ph.D.
Lab Director
Date: October 18, 2022

The results in this report relate only to the samples listed above.
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Microcystins/Nodularins Report

Project: ESS Group, LLC – A TRC Company

Submitted to:	Stephanie Martin
Organization:	ESS Group, LLC – A TRC Company
Address:	10 Hemingway Drive, East Providence, RI 02915
Email:	stephanie.martin@trccompanies.com
Sample Receipt Date:	23 November 2022
Sample Condition:	0.6 ºC upon arrival
Report#	221026-221027_ESS
Date Prepared:	25 November 2022
Prepared by:	Mark Aubel

Table 1: Samples analyzed

Sample Identification	Site/Description	Collection Date
EPD	Silver Lake	26 October 2022
FPD	Silver Lake	26 October 2022
SLIL-S	Silver Lake	27 October 2022
SLIL-F	Silver Lake	27 October 2022

Analytes: Adda Microcystins/Nodularins (MCs/NODs)

Abbreviations

NA	Not Applicable	LFSM	Lab Fortified Sample Matrix
MDL	Method Detection Limit	LFSMD	Lab Fortified Sample Matrix Duplicate
MQL	Method Quantification Limit	LD	Lab Duplicate
ND	Not Detected above the MDL	IS	Internal Standard
Blank	Regent Water free from interferences	—	Not Analyzed
LFB	Lab Fortified Blank	MRL	Method Reporting Limit
CCC	Continued Calibration Check	CV	Low-range calibration verification

Sample Preparation

Water Sample Freeze-Thaw

The samples were inverted for 60 seconds to mix. A subset from each sample was transferred to a 15 mL vial. Three freeze-thaw cycles were employed prior to additional sample preparation and subsequent analysis.

Analytical Techniques

Enzyme-Linked Immunosorbent Assay (ELISA)

MCs/NODs

A microcystins/nodularins Adda ELISA (Abraxis) was utilized for the quantitative and sensitive congener-independent detection of Adda MCs/NODs (US EPA Method 546 & Ohio EPA DES 701.0). The current method reporting limit is 0.30 ng/mL (ppb) based on kit sensitivity (0.15 ng/mL), dilution factor, and initial demonstration of capability.

Qualifier	Flag
CL	Analytical result is estimated due to ineffective quenching.
J	Analyte was positively identified; the associated numerical value is estimated.
PT	The reported result is estimated because the sample was not analyzed within required holding time.
B	Analytical result is estimated. Analyte was detected in associated reagent blank as well as the samples.
E	Analytical result is estimated. Values achieved were outside calibration range.
N	Spiked sample control was outside limits
T	The reported result is estimated because the sample exceeded temperature threshold when received

Quality Control

Table 2: LFSM QC samples prepared for analyses post-sonication (unless otherwise noted). Additional Quality Control/Quality Assurance checks included method blanks, continued calibration checks, LFBs, and external curves.

Analyte	Concentration (ng/mL)	Sample ID	QC Type	Return
MC-LR	1.0	FPD	LFSM	92%

**Control limits: water LFSM ± 30%; complicated matrix LFSM and when LFSM within 2x MDL ±50%; IS ± 50%*

Table 3: Adda MC-ELISA Quality Control Value Table

Date Analyzed:	**25-Nov-22**	**Requirement**	**Pass/Fail**
R2 value:	0.998	≥0.98	PASS
%CV STDs:	0.1 - 9.9%	≤15%	PASS
LFB (1 ppb) recovery:	90%	±40% True Value	PASS
%CV LFB:	5.2%	≤20%	PASS
Low CCC (0.15 ppb) recovery:	93%	±50% True Value	PASS
LRB	<0.08	<0.08	PASS

Results

Table 4: Raw ELISA Data including the sample identification, analyte, date analyzed, interpolated values 1 and 2, the dilution factor, %CV of the absorbance values, and average final concentration (ng/mL; ppb).

Sample ID	Sample Type	Analyte	Date analyzed	Value 1 (ng/mL)	Value 2 (ng/mL)	Dilution Factor	%CV	Average (ng/mL)
EPD	FS	MCs/NODs	11/25/2022	0.12	0.08	1	2.4	< 0.30
FPD	FS	MCs/NODs	11/25/2022	0.06	0.03	1	2.0	< 0.30
FPD	LFSM	MCs/NODs	11/25/2022	1.01	0.93	1	2.5	0.97
SLIL-S	FS	MCs/NODs	11/25/2022	0.30	0.23	1	3.0	< 0.30
SLIL-F	FS	MCs/NODs	11/25/2022	0.07	0.03	1	3.7	< 0.30

Summary of Results

Table 5: Summary of results in ng/mL

Sample ID	MCs/NODs (ng/mL)
EPD	ND
FPD	ND
SLIL-S	ND
SLIL-F	ND
MRL (ng/mL):	*0.30*
Analyst Initials:	*MA*
Date Analyzed:	*11/25/2022*

Interpretations:
Microcystins/Nodularins were not detected in the submitted samples above the method reporting limits (MRLs) and were below the current EPA recommended recreational & swimming threshold (8.0 ng/mL total microcystins).

Submitted by: 
Mark T. Aubel, Ph.D.
Lab Director
Date: November 25, 2022

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Silver Lake, Massachusetts, sampled May/June 2022

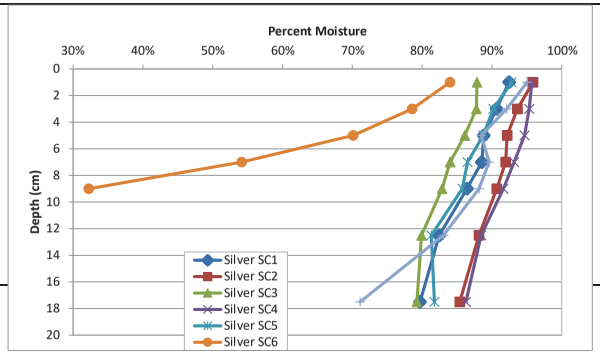
Summary of phosphorus fractionation results for the top 6 centimeters of sediment collected in

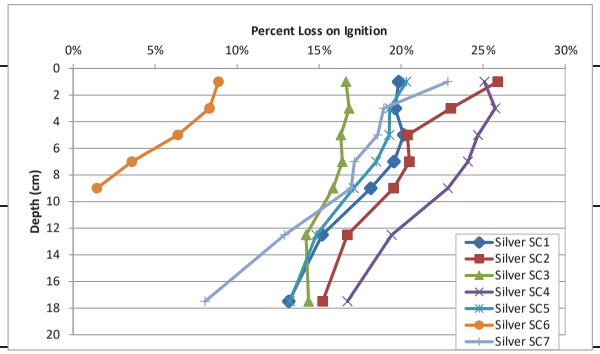
Coring Location	Mid-Depth	Iron Bound P (mg P/cm^3)	Aluminum Bound P (mg P/cm^3)	Organic + Aluminum P (mg P/cm^3)	Organically Bound P (mg P/cm^3)	Calcium Bound P (mg P/cm^3)	Total P (mg P/cm^3)
Silver SC1	3	0.1245	0.0155	0.0706	0.0551	0.0145	0.2096
Silver SC2	3	0.1330	0.0418	0.0954	0.0537	0.0101	0.2385
Silver SC3	3	0.0829	0.0380	0.1064	0.0685	0.0215	0.2108
Silver SC4	3	0.1136	0.0222	0.0694	0.0472	0.0088	0.1918
Silver SC5	3	0.0649	0.0195	0.0760	0.0565	0.0162	0.1571
Silver SC6	3	0.0994	0.0393	0.1071	0.0678	0.0463	0.2528
Silver SC7	3	0.1109	0.0293	0.0794	0.0501	0.0111	0.2014

Silver Lake

Iron Bound P (g P/cm-m^2)	Aluminum Bound P (g P/cm-m^2)	Organic + Aluminum P (m P/cm-m^2)	Aluminum BoundP (g P/cm-m^2)	Calcium Bound P (g P/cm-m^2)	Total P (g P/cm-m^2)	Maximum Potential Release Rate (mg/m^2/day)
1.245	0.155	0.706	0.551	0.145	2.096	18.10
1.330	0.418	0.954	0.537	0.101	2.385	19.38
0.829	0.380	1.064	0.685	0.215	2.108	11.81
1.136	0.222	0.694	0.472	0.088	1.918	16.45
0.649	0.195	0.760	0.565	0.162	1.571	9.10
0.994	0.393	1.071	0.678	0.463	2.528	14.31
1.109	0.293	0.794	0.501	0.111	2.014	16.04

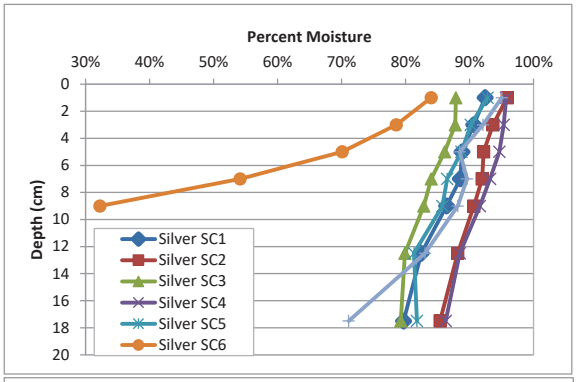
Vial	Core	Interval (cm)		Depth (cm	% Moisture				Loss on Ignition				Estimated density
					Empty (g)	With Wet Sample (g)	With Dry Sample (g)	% Moisture	Empty (g)	With Sample (g)	After 550 deg C (g)	% LOI	Density (g/cm3)
	Silver SC1	0	2	1	13.9935	23.0496	14.6777	92.4%	16.3427	16.6607	16.5976	19.8%	1.04
	Silver SC1	2	4	3	13.9884	20.9721	14.6412	90.7%	16.7414	17.0429	16.9837	19.6%	1.05
	Silver SC1	4	6	5	13.9782	19.3083	14.5735	88.83%	16.4592	16.7584	16.6981	20.2%	1.06
	Silver SC1	6	8	7	14.0341	19.2272	14.6288	88.55%	17.059	17.3949	17.3292	19.6%	1.06
	Silver SC1	8	10	9	13.9812	19.0602	14.671	86.4%	16.7879	16.9681	16.9354	18.1%	1.07
	Silver SC1	10	15	12.5	14.0216	21.8309	15.3919	82.5%	16.1275	16.3785	16.3404	15.2%	1.10
	Silver SC1	15	20	17.5	13.9815	20.4943	15.3038	79.7%	16.6312	16.9758	16.9305	13.1%	1.12
	Silver SC2	0	2	1	13.9897	23.2254	14.3706	95.9%	17.0055	17.1021	17.0771	25.9%	1.02
	Silver SC2	2	4	3	13.9871	22.8071	14.5476	93.6%	16.542	16.8178	16.7543	23.0%	1.03
	Silver SC2	4	6	5	13.988	22.6602	14.665	92.2%	16.9386	17.3415	17.2594	20.4%	1.04
	Silver SC2	6	8	7	13.9815	22.8051	14.6912	92.0%	16.1219	16.3487	16.3022	20.5%	1.04
	Silver SC2	8	10	9	14.0299	21.7535	14.7496	90.7%	15.6023	15.8993	15.8413	19.5%	1.05
	Silver SC2	10	15	12.5	13.9665	21.5488	14.8651	88.1%	16.7271	16.9975	16.9523	16.7%	1.06
	Silver SC2	15	20	17.5	14.0191	20.591	14.9795	85.4%	16.658	16.8769	16.8436	15.2%	1.08
	Silver SC3	0	2	1	14.0377	21.6399	14.9599	87.9%	16.7682	17.1829	17.1139	16.6%	1.07
	Silver SC3	2	4	3	13.9422	19.179	14.583	87.8%	16.031	16.3388	16.287	16.8%	1.07
	Silver SC3	4	6	5	14.0853	20.2513	14.9419	86.1%	16.2666	16.641	16.5799	16.3%	1.08
	Silver SC3	6	8	7	13.9743	19.5477	14.8655	84.0%	16.3429	16.6822	16.6265	16.4%	1.09
	Silver SC3	8	10	9	14.0334	19.614	14.9899	82.9%	16.741	16.9713	16.9348	15.8%	1.10
	Silver SC3	10	15	12.5	13.9945	19.7307	15.1469	79.9%	16.4592	16.7846	16.7384	14.2%	1.12
	Silver SC3	15	20	17.5	14.0043	19.4212	15.1281	79.3%	17.0588	17.2664	17.2366	14.4%	1.12
	Silver SC4	0	2	1	14.0219	23.2098	14.4144	95.7%	16.7877	16.9157	16.8836	25.1%	1.02
	Silver SC4	2	4	3	14.0322	23.0358	14.4529	95.3%	16.1278	16.2607	16.2265	25.7%	1.02
	Silver SC4	4	6	5	13.99	22.9859	14.4699	94.7%	16.6313	16.8027	16.7604	24.7%	1.03
	Silver SC4	6	8	7	14.0164	22.8113	14.6157	93.2%	17.0049	17.1836	17.1406	24.1%	1.03
	Silver SC4	8	10	9	13.9476	18.9007	14.3622	91.6%	16.5417	16.6669	16.6383	22.8%	1.04
	Silver SC4	10	15	12.5	14.0034	19.6824	14.6584	88.5%	16.9386	17.142	17.1025	19.4%	1.06
	Silver SC4	15	20	17.5	14.0573	20.6434	14.9614	86.3%	16.1217	16.3525	16.3139	16.7%	1.08
	Silver SC5	0	2	1	14.0214	23.1413	14.678	92.8%	15.6027	15.9217	15.8569	20.3%	1.04
	Silver SC5	2	4	3	14.0327	22.8434	14.8957	90.2%	16.726	17.1078	17.0341	19.3%	1.05
	Silver SC5	4	6	5	14.0754	19.9767	14.7401	88.7%	16.6573	17.0108	16.9427	19.3%	1.06
	Silver SC5	6	8	7	14.0249	20.2094	14.859	86.5%	16.7677	17.0666	17.0114	18.5%	1.07
	Silver SC5	8	10	9	13.9564	20.0847	14.8294	85.8%	16.0309	16.366	16.3087	17.1%	1.08
	Silver SC5	10	15	12.5	13.9281	19.6647	14.9999	81.3%	16.2671	16.7486	16.6772	14.8%	1.11
	Silver SC5	15	20	17.5	13.9515	19.6554	14.9912	81.8%	16.3438	16.8198	16.7569	13.2%	1.11
	Silver SC6	0	2	1	13.9313	23.3062	15.4309	84.0%	16.7421	17.4808	17.4154	8.9%	1.10
	Silver SC6	2	4	3	14.0281	24.9086	16.3619	78.6%	16.4595	17.0308	16.9833	8.3%	1.14
	Silver SC6	4	6	5	13.9627	21.5201	16.2224	70.1%	17.0599	17.5368	17.5064	6.4%	1.21
	Silver SC6	6	8	7	13.9431	22.8372	18.0221	54.1%	16.7881	17.8189	17.782	3.6%	1.37
	Silver SC6	8	10	9	13.9934	22.2336	19.5772	32.2%	16.1276	16.9663	16.9542	1.4%	1.70
	Silver SC7	0	2	1	13.9185	23.0924	14.3742	95.0%	16.6309	16.8708	16.816	22.8%	1.02
	Silver SC7	2	4	3	14.0394	22.9164	14.7399	92.1%	17.006	17.4189	17.3407	18.9%	1.04
	Silver SC7	4	6	5	14.0022	18.016	14.4647	88.5%	16.5421	16.8082	16.7588	18.6%	1.06
	Silver SC7	6	8	7	14.0195	22.6961	14.9223	89.6%	16.939	17.2475	17.1946	17.1%	1.06
	Silver SC7	8	10	9	14.0462	19.3821	14.6786	88.1%	16.1226	16.3568	16.3171	17.0%	1.06
	Silver SC7	10	15	12.5	13.9975	21.0242	15.1886	83.0%	15.6033	15.8834	15.8473	12.9%	1.10
	Silver SC7	15	20	17.5	14.0094	22.7542	16.5352	71.1%	16.7271	17.4545	17.396	8.0%	1.20
	BD 1				14.0103	18.8316	14.7189	85.3%	16.6586	16.857	16.8253	16.0%	1.08
	BD 2				13.1072	18.383	13.7165	88.5%	16.7688	16.8893	16.8674	18.2%	1.06

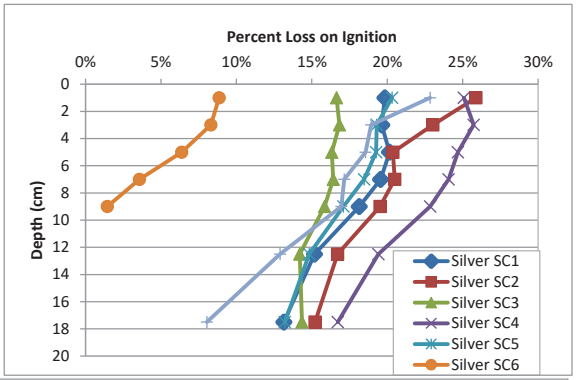


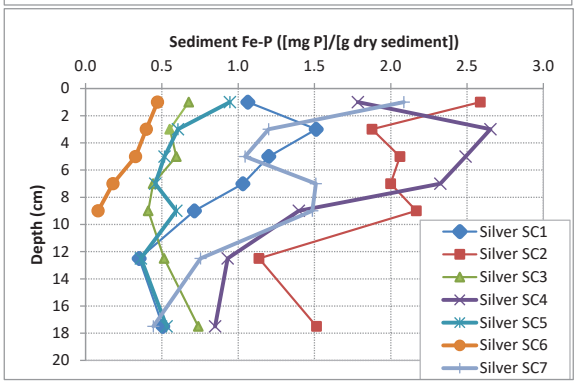


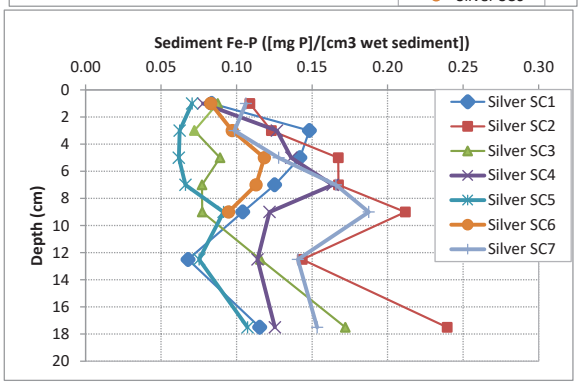
							Uncorrected Absorbance																							% Moisture Sample ID Check			
Vial #	Batch	Core	Interval (cm)		Mid (cm)	Sample Mass (g)	BD Abs.	NaOH Abs	Dig. Abs.	HCl	BD ug/L	NaOH ug/L	Dig. ug/L	HCl	BD	NaOH	Dig.	HCl	BD ug/L	NaOH ug/L	Dig. ug/L	HCl ug/L	BD (mg P/g wet)	NaOH (mg P/g wet)	Dig. (mg P/g wet)	Dig. - NaOH (mg P/g wet)	HCl	Core	Mid Depth (cm)	% Moisture	% LOI
1	1	Silver SC1	0	2	1	0.2377	236	43	87	40	382.2	68.3	138.2	63.4	2.0	2.0	1.0	2.0	1911	342	1382	317	0.0804	0.0144	0.0582	0.0438	0.0133	Silver SC1	1.000	92%	20%
2	1	Silver SC1	2	4	3	0.1847	322	34	82	32	522.0	53.7	130.1	50.4	2.0	2.0	1.0	2.0	2610	268	1301	252	0.1413	0.0145	0.0704	0.0559	0.0136	Silver SC1	3.000	91%	20%
3	1	Silver SC1	4	6	5	0.1843	305	36	85	34	494.4	56.9	135.0	53.7	2.0	2.0	1.0	2.0	2472	285	1350	268	0.1341	0.0154	0.0732	0.0578	0.0146	Silver SC1	5.000	89%	20%
4	1	Silver SC1	6	8	7	0.1811	264	47	91	42	427.7	74.8	144.7	66.7	2.0	2.0	1.0	2.0	2139	374	1447	333	0.1181	0.0207	0.0799	0.0593	0.0184	Silver SC1	7.000	89%	20%
5	1	Silver SC1	8	10	9	0.1627	195	51	86	40	315.5	81.3	136.6	63.4	2.0	2.0	1.0	2.0	1578	407	1366	317	0.0970	0.0250	0.0840	0.0590	0.0195	Silver SC1	9.000	86%	18%
6	1	Silver SC1	10	15	12.5	0.194	148	82	109	70	239.1	131.7	174.0	112.2	2.0	2.0	1.0	2.0	1195	659	1740	561	0.0616	0.0340	0.0897	0.0557	0.0289	Silver SC1	12.500	82%	15%
7	1	Silver SC1	15	20	17.5	0.1907	242	130	127	73	391.9	209.8	203.3	117.1	2.0	2.0	1.0	2.0	1960	1049	2033	585	0.1028	0.0550	0.1066	0.0516	0.0307	Silver SC1	17.500	80%	13%
8	1	Silver SC2	0	2	1	0.1959	258	91	101	18	418.0	146.4	161.0	27.6	2.0	2.0	1.0	2.0	2090	732	1610	138	0.1067	0.0374	0.0822	0.0448	0.0071	Silver SC2	1.000	96%	26%
9	1	Silver SC2	2	4	3	0.1725	254	61	90	18	411.5	97.6	143.1	27.6	2.0	2.0	1.0	2.0	2057	488	1431	138	0.1193	0.0283	0.0830	0.0547	0.0080	Silver SC2	3.000	94%	23%
10	1	Silver SC2	4	6	5	0.1835	364	127	129	33	590.3	204.9	206.5	52.0	2.0	2.0	1.0	2.0	2952	1025	2065	260	0.1609	0.0558	0.1126	0.0567	0.0142	Silver SC2	5.000	92%	20%
11	1	Silver SC2	6	8	7	0.1977	392	122	133	30	635.9	196.8	213.0	47.2	2.0	2.0	1.0	2.0	3179	984	2130	236	0.1608	0.0498	0.1078	0.0580	0.0119	Silver SC2	7.000	92%	21%
12	1	Silver SC2	8	10	9	0.1534	382	133	126	28	619.6	214.7	201.7	43.9	2.0	2.0	1.0	2.0	3098	1073	2017	220	0.2020	0.0700	0.1315	0.0615	0.0143	Silver SC2	9.000	91%	20%
13	1	Silver SC2	10	15	12.5	0.1847	307	269	203	61	497.6	435.8	326.9	97.6	2.0	2.0	1.0	2.0	2488	2179	3269	488	0.1347	0.1180	0.1770	0.0590	0.0264	Silver SC2	12.500	88%	17%
14	1	Silver SC2	15	20	17.5	0.1434	391	207	161	52	634.3	335.0	258.6	82.9	2.0	2.0	1.0	2.0	3171	1675	2586	415	0.2211	0.1168	0.1803	0.0635	0.0289	Silver SC2	17.500	85%	15%
15	1	Silver SC3	0	2	1	0.1775	180	69	112	42	291.1	110.6	178.9	66.7	2.0	2.0	1.0	2.0	1456	553	1789	333	0.0820	0.0312	0.1008	0.0696	0.0188	Silver SC3	1.000	88%	17%
16	1	Silver SC3	2	4	3	0.195	163	85	114	47	263.5	136.6	182.1	74.8	2.0	2.0	1.0	2.0	1317	683	1821	374	0.0676	0.0350	0.0934	0.0584	0.0192	Silver SC3	3.000	88%	17%
17	1	Silver SC3	4	6	5	0.178	182	89	116	50	294.4	143.1	185.4	79.7	2.0	2.0	1.0	2.0	1472	716	1854	398	0.0827	0.0402	0.1042	0.0640	0.0224	Silver SC3	5.000	86%	16%
18	1	Silver SC3	6	8	7	0.1863	163	110	134	58	263.5	177.3	214.7	92.7	2.0	2.0	1.0	2.0	1317	886	2147	463	0.0707	0.0476	0.1152	0.0677	0.0249	Silver SC3	7.000	84%	16%
19	1	Silver SC3	8	10	9	0.1594	139	81	106	56	224.4	130.1	169.1	89.4	2.0	2.0	1.0	2.0	1122	651	1691	447	0.0704	0.0408	0.1061	0.0653	0.0281	Silver SC3	9.000	83%	16%
20	1	Silver SC3	10	15	12.5	0.1541	197	128	120	70	318.8	206.5	191.9	112.2	2.0	2.0	1.0	2.0	1594	1033	1919	561	0.1034	0.0670	0.1245	0.0575	0.0364	Silver SC3	12.500	80%	14%
21	1	Silver SC3	15	20	17.5	0.1704	322	162	151	89	522.0	261.8	242.3	143.1	2.0	2.0	1.0	2.0	2610	1309	2423	716	0.1532	0.0768	0.1422	0.0654	0.0420	Silver SC3	17.500	79%	14%
22	1	Silver SC4	0	2	1	0.2282	215	52	80	23	348.0	82.9	126.9	35.8	2.0	2.0	1.0	2.0	1740	415	1269	179	0.0763	0.0182	0.0556	0.0374	0.0078	Silver SC4	1.000	96%	25%
23	1	Silver SC4	2	4	3	0.2348	359	51	93	22	582.2	81.3	148.0	34.2	2.0	2.0	1.0	2.0	2911	407	1480	171	0.1240	0.0173	0.0630	0.0457	0.0073	Silver SC4	3.000	95%	26%
24	1	Silver SC4	4	6	5	0.1971	323	73	105	27	523.7	117.1	167.5	42.3	2.0	2.0	1.0	2.0	2618	585	1675	211	0.1328	0.0297	0.0850	0.0553	0.0107	Silver SC4	5.000	95%	25%
25	1	Silver SC4	6	8	7	0.2022	395	141	150	37	640.8	227.7	240.7	58.5	2.0	2.0	1.0	2.0	3204	1138	2407	293	0.1584	0.0563	0.1190	0.0627	0.0145	Silver SC4	7.000	93%	24%
26	1	Silver SC4	8	10	9	0.1571	227	46	83	29	367.5	73.2	131.7	45.5	2.0	2.0	1.0	2.0	1838	366	1317	228	0.1170	0.0233	0.0839	0.0606	0.0145	Silver SC4	9.000	92%	23%
27	1	Silver SC4	10	15	12.5	0.2113	280	144	154	67	453.7	232.6	247.2	107.3	2.0	2.0	1.0	2.0	2269	1163	2472	537	0.1074	0.0550	0.1170	0.0620	0.0254	Silver SC4	12.500	88%	19%
28	1	Silver SC4	15	20	17.5	0.1968	283	295	217	112	458.6	478.1	349.7	180.5	2.0	2.0	1.0	2.0	2293	2391	3497	903	0.1165	0.1215	0.1777	0.0562	0.0459	Silver SC4	17.500	86%	17%
29	1	Silver SC5	0	2	1	0.2353	198	50	95	37	320.4	79.7	151.2	58.5	2.0	2.0	1.0	2.0	1602	398	1512	293	0.0681	0.0169	0.0643	0.0473	0.0124	Silver SC5	1.000	93%	20%
30	1	Silver SC5	2	4	3	0.2291	168	54	106	46	271.6	86.2	169.1	73.2	2.0	2.0	1.0	2.0	1358	431	1691	366	0.0593	0.0188	0.0738	0.0550	0.0160	Silver SC5	3.000	90%	19%
31	1	Silver SC5	4	6	5	0.1994	144	50	99	45	232.6	79.7	157.8	71.6	2.0	2.0	1.0	2.0	1163	398	1578	358	0.0583	0.0200	0.0791	0.0591	0.0179	Silver SC5	5.000	89%	19%
32	1	Silver SC5	6	8	7	0.2032	155	65	117	60	250.5	104.1	187.0	96.0	2.0	2.0	1.0	2.0	1252	520	1870	480	0.0616	0.0256	0.0920	0.0664	0.0236	Silver SC5	7.000	87%	18%
33	1	Silver SC5	8	10	9	0.168	176	77	108	51	284.6	123.6	172.4	81.3	2.0	2.0	1.0	2.0	1423	618	1724	407	0.0847	0.0368	0.1026	0.0658	0.0242	Silver SC5	9.000	86%	17%
34	1	Silver SC5	10	15	12.5	0.169	142	76	100	70	229.3	122.0	159.4	112.2	2.0	2.0	1.0	2.0	1147	610	1594	561	0.0678	0.0361	0.0943	0.0582	0.0332	Silver SC5	12.500	81%	15%
35	1	Silver SC5	15	20	17.5	0.1647	197	131	127	52	318.8	211.4	203.3	82.9	2.0	2.0	1.0	2.0	1594	1057	2033	415	0.0968	0.0642	0.1234	0.0592	0.0252	Silver SC5	17.500	82%	13%
36	1	Silver SC6	0	2	1	0.1952	182	70	105	98	294.4	112.2	167.5	157.8	2.0	2.0	1.0	2.0	1472	561	1675	789	0.0754	0.0287	0.0858	0.0571	0.0404	Silver SC6	1.000	84%	9%
37	1	Silver SC6	2	4	3	0.1448	153	54	83	65	247.2	86.2	131.7	104.1	2.0	2.0	1.0	2.0	1236	431	1317	520	0.0854	0.0298	0.0910	0.0612	0.0359	Silver SC6	3.000	79%	8%
38	1	Silver SC6	4	6	5	0.1702	206	92	109	94	333.4	148.0	174.0	151.2	2.0	2.0	1.0	2.0	1667	740	1740	756	0.0979	0.0435	0.1022	0.0588	0.0444	Silver SC6	5.000	70%	6%
39	1	Silver SC6	6	8	7	0.1822	185	115	106	185	299.2	185.4	169.1	299.2	2.0	2.0	1.0	2.0	1496	927	1691	1496	0.0821	0.0509	0.0928	0.0420	0.0821	Silver SC6	7.000	54%	4%
40	1	Silver SC6	8	10	9	0.2043	141	146	93	361	227.7	235.8	148.0	585.5	2.0	2.0	1.0	2.0	1138	1179	1480	2927	0.0557	0.0577	0.0724	0.0147	0.1433	Silver SC6	9.000	32%	1%
41	1	Silver SC7	0	2	1	0.2284	292	92	108	28	473.3	148.0	172.4	43.9	2.0	2.0	1.0	2.0	2366	740	1724	220	0.1036	0.0324	0.0755	0.0431	0.0096	Silver SC7	1.000	95%	23%
42	1	Silver SC7	2	4	3	0.1786	209	41	73	22	338.3	65.1	115.5	34.2	2.0	2.0	1.0	2.0	1691	325	1155	171	0.0947	0.0182	0.0647	0.0464	0.0096	Silver SC7	3.000	92%	19%
43	1	Silver SC7	4	6	5	0.2099	312	88	116	34	505.8	141.5	185.4	53.7	2.0	2.0	1.0	2.0	2529	707	1854	268	0.1205	0.0337	0.0883	0.0546	0.0128	Silver SC7	5.000	88%	19%
44	1	Silver SC7	6	8	7	0.1548	300	81	98	29	486.3	130.1	156.1	45.5	2.0	2.0	1.0	2.0	2431	651	1561	228	0.1571	0.0420	0.1009	0.0588	0.0147	Silver SC7	7.000	90%	17%
45	1	Silver SC7	8	10	9	0.1828	397	138	139	41	644.0	222.8	222.8	65.1	2.0	2.0	1.0	2.0	3220	1114	2228	325	0.1762	0.0609	0.1219	0.0609	0.0178	Silver SC7	9.000	88%	17%
46	1	Silver SC7	10	15	12.5	0.2061	325	260	205	80	526.9	421.2	330.1	128.5	2.0	2.0	1.0	2.0	2635	2106	3301	642	0.1278	0.1022	0.1602	0.0580	0.0312	Silver SC7	12.500	83%	13%
47	1	Silver SC7	15	20	17.5	0.1598	253	165	144	85	409.8	266.7	230.9	136.6	2.0	2.0	1.0	2.0	2049	1334	2309	683	0.1282	0.0835	0.1445	0.0611	0.0427	Silver SC7	17.500	71%	8%
48		BD 1				0.1685	556	134	139	49	902.6	216.3	222.8	78.1	2.0	2.0	1.0	2.0	4513	1081	2228	390	0.2678	0.0642	0.1322	0.0680	0.0232	BD 1		85%	16%
49		BD 2				0.1546	278	93	111	40	450.5	149.6	177.3	63.4	2.0	2.0	1.0	2.0	2252	748	1773	317	0.1457	0.0484	0.1147	0.0663	0.0205	BD 2		88%	18%

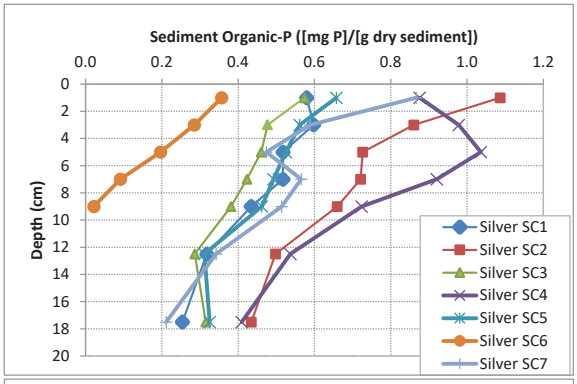
							Mobile-P	Al-P	Al-P+Org-P	Org-P	Ca-P	Total P	Mobile-P	Al-P	Al-P+Org-P	Org-P	Ca-P	Total P	Mobile-P	Al-P	Al-P+Org-P	Org-P	Ca-P	Total P
Density (g/cm3)	Vial #	Batch	Core	Interval (cm)		Mid (cm)	BD (mg P/g dry)	NaOH (mg P/g dry)	Dig. (mg P/g dry)	Dig. - NaOH (mg P/g dry)	HCl	Total (mg P/g dry)	BD (mg P/cm3)	NaOH (mg P/cm3)	Dig. (mg P/cm3)	Dig. - NaOH (mg P/cm3)	HCl	Total (mg P/cm3)	BD (g P/cm-m2)	NaOH (g P/cm-m2)	Dig. (m P/cm-m2)	Dig. - NaOH (g P/cm-m2)	HCl	Total (g P/cm-m2)
1.04	1	1	Silver SC1	0	2	1	1.064	0.190	0.770	0.580	0.177	2.010	0.084	0.015	0.060	0.045	0.014	0.158	0.835	0.149	0.604	0.455	0.139	1.578
1.05	2	1	Silver SC1	2	4	3	1.512	0.155	0.754	0.598	0.146	2.411	0.148	0.015	0.074	0.059	0.014	0.236	1.482	0.152	0.739	0.586	0.143	2.363
1.06	3	1	Silver SC1	4	6	5	1.201	0.138	0.656	0.518	0.130	1.987	0.142	0.016	0.077	0.061	0.015	0.235	1.419	0.163	0.775	0.612	0.154	2.348
1.06	4	1	Silver SC1	6	8	7	1.031	0.180	0.698	0.518	0.161	1.890	0.125	0.022	0.085	0.063	0.020	0.229	1.252	0.219	0.847	0.628	0.195	2.294
1.07	5	1	Silver SC1	8	10	9	0.714	0.184	0.618	0.434	0.144	1.476	0.104	0.027	0.090	0.063	0.021	0.215	1.041	0.268	0.901	0.633	0.209	2.151
1.10	6	1	Silver SC1	10	15	12.5	0.351	0.193	0.511	0.318	0.165	1.027	0.068	0.037	0.099	0.061	0.032	0.198	0.678	0.374	0.987	0.614	0.318	1.984
1.12	7	1	Silver SC1	15	20	17.5	0.506	0.271	0.525	0.254	0.151	1.182	0.115	0.062	0.120	0.058	0.034	0.269	1.153	0.617	1.196	0.579	0.344	2.693
1.02	8	1	Silver SC2	0	2	1	2.587	0.906	1.993	1.087	0.171	4.750	0.109	0.038	0.084	0.046	0.007	0.200	1.087	0.381	0.838	0.457	0.072	1.997
1.03	9	1	Silver SC2	2	4	3	1.877	0.445	1.306	0.860	0.126	3.308	0.123	0.029	0.086	0.056	0.008	0.217	1.230	0.292	0.855	0.564	0.083	2.168
1.04	10	1	Silver SC2	4	6	5	2.061	0.715	1.442	0.727	0.182	3.684	0.167	0.058	0.117	0.059	0.015	0.299	1.673	0.581	1.170	0.590	0.147	2.990
1.04	11	1	Silver SC2	6	8	7	1.999	0.619	1.340	0.721	0.148	3.488	0.167	0.052	0.112	0.060	0.012	0.292	1.674	0.518	1.122	0.604	0.124	2.920
1.05	12	1	Silver SC2	8	10	9	2.167	0.751	1.411	0.660	0.154	3.732	0.212	0.073	0.138	0.064	0.015	0.365	2.117	0.734	1.378	0.645	0.150	3.646
1.06	13	1	Silver SC2	10	15	12.5	1.137	0.996	1.493	0.498	0.223	2.853	0.143	0.126	0.188	0.063	0.028	0.360	1.434	1.256	1.884	0.628	0.281	3.600
1.08	14	1	Silver SC2	15	20	17.5	1.513	0.799	1.234	0.435	0.198	2.945	0.239	0.126	0.195	0.069	0.031	0.466	2.394	1.265	1.952	0.688	0.313	4.659
1.07	15	1	Silver SC3	0	2	1	0.676	0.257	0.831	0.574	0.155	1.662	0.087	0.033	0.107	0.074	0.020	0.215	0.874	0.332	1.075	0.743	0.200	2.149
1.07	16	1	Silver SC3	2	4	3	0.552	0.286	0.763	0.477	0.157	1.472	0.072	0.037	0.100	0.062	0.020	0.192	0.721	0.374	0.996	0.623	0.205	1.922
1.08	17	1	Silver SC3	4	6	5	0.595	0.289	0.750	0.460	0.161	1.506	0.089	0.043	0.112	0.069	0.024	0.225	0.891	0.433	1.122	0.689	0.241	2.253
1.09	18	1	Silver SC3	6	8	7	0.442	0.298	0.721	0.423	0.156	1.318	0.077	0.052	0.126	0.074	0.027	0.230	0.770	0.518	1.256	0.737	0.271	2.297
1.10	19	1	Silver SC3	8	10	9	0.411	0.238	0.619	0.381	0.164	1.194	0.077	0.045	0.116	0.072	0.031	0.224	0.773	0.448	1.164	0.717	0.308	2.245
1.12	20	1	Silver SC3	10	15	12.5	0.515	0.334	0.620	0.286	0.181	1.316	0.116	0.075	0.139	0.064	0.041	0.296	1.157	0.750	1.393	0.643	0.407	2.957
1.12	21	1	Silver SC3	15	20	17.5	0.738	0.370	0.685	0.315	0.202	1.626	0.172	0.086	0.160	0.073	0.047	0.379	1.720	0.863	1.597	0.734	0.471	3.788
1.02	22	1	Silver SC4	0	2	1	1.785	0.425	1.301	0.876	0.184	3.270	0.078	0.019	0.057	0.038	0.008	0.142	0.778	0.185	0.567	0.382	0.080	1.425
1.02	23	1	Silver SC4	2	4	3	2.653	0.371	1.349	0.978	0.156	4.158	0.127	0.018	0.064	0.047	0.007	0.199	1.267	0.177	0.644	0.467	0.074	1.985
1.03	24	1	Silver SC4	4	6	5	2.490	0.557	1.593	1.036	0.201	4.284	0.136	0.030	0.087	0.057	0.011	0.234	1.362	0.305	0.871	0.567	0.110	2.344
1.03	25	1	Silver SC4	6	8	7	2.325	0.826	1.747	0.921	0.212	4.285	0.164	0.058	0.123	0.065	0.015	0.302	1.637	0.582	1.230	0.648	0.150	3.016
1.04	26	1	Silver SC4	8	10	9	1.397	0.278	1.002	0.723	0.173	2.572	0.122	0.024	0.087	0.063	0.015	0.224	1.218	0.243	0.873	0.631	0.151	2.242
1.06	27	1	Silver SC4	10	15	12.5	0.931	0.477	1.014	0.537	0.220	2.165	0.114	0.058	0.124	0.066	0.027	0.265	1.139	0.584	1.241	0.657	0.269	2.649
1.08	28	1	Silver SC4	15	20	17.5	0.849	0.885	1.294	0.409	0.334	2.477	0.125	0.131	0.191	0.060	0.049	0.366	1.253	1.307	1.911	0.604	0.493	3.658
1.04	29	1	Silver SC5	0	2	1	0.946	0.235	0.893	0.658	0.173	2.011	0.071	0.018	0.067	0.049	0.013	0.150	0.706	0.176	0.666	0.491	0.129	1.501
1.05	30	1	Silver SC5	2	4	3	0.605	0.192	0.754	0.562	0.163	1.522	0.062	0.020	0.078	0.058	0.017	0.157	0.623	0.198	0.776	0.578	0.168	1.567
1.06	31	1	Silver SC5	4	6	5	0.518	0.177	0.702	0.525	0.159	1.379	0.062	0.021	0.084	0.063	0.019	0.165	0.618	0.212	0.838	0.626	0.190	1.646
1.07	32	1	Silver SC5	6	8	7	0.457	0.190	0.682	0.493	0.175	1.314	0.066	0.027	0.099	0.071	0.025	0.190	0.661	0.275	0.987	0.713	0.253	1.901
1.08	33	1	Silver SC5	8	10	9	0.595	0.258	0.720	0.462	0.170	1.485	0.091	0.040	0.111	0.071	0.026	0.228	0.913	0.397	1.107	0.710	0.261	2.281
1.11	34	1	Silver SC5	10	15	12.5	0.363	0.193	0.505	0.312	0.178	1.046	0.075	0.040	0.105	0.065	0.037	0.217	0.752	0.400	1.045	0.645	0.368	2.166
1.11	35	1	Silver SC5	15	20	17.5	0.531	0.352	0.677	0.325	0.138	1.346	0.107	0.071	0.137	0.066	0.028	0.272	1.072	0.711	1.367	0.656	0.279	2.718
1.10	36	1	Silver SC6	0	2	1	0.471	0.180	0.536	0.357	0.253	1.260	0.083	0.032	0.094	0.063	0.044	0.221	0.828	0.316	0.943	0.627	0.444	2.215
1.14	37	1	Silver SC6	2	4	3	0.398	0.139	0.424	0.285	0.168	0.990	0.097	0.034	0.103	0.070	0.041	0.241	0.971	0.339	1.035	0.696	0.409	2.415
1.21	38	1	Silver SC6	4	6	5	0.328	0.145	0.342	0.197	0.149	0.818	0.118	0.053	0.124	0.071	0.054	0.296	1.183	0.525	1.235	0.710	0.537	2.955
1.37	39	1	Silver SC6	6	8	7	0.179	0.111	0.202	0.091	0.179	0.561	0.113	0.070	0.128	0.058	0.113	0.353	1.128	0.699	1.275	0.576	1.128	3.532
1.70	40	1	Silver SC6	8	10	9	0.082	0.085	0.107	0.022	0.211	0.401	0.095	0.098	0.123	0.025	0.243	0.461	0.946	0.980	1.230	0.250	2.433	4.609
1.02	41	1	Silver SC7	0	2	1	2.086	0.652	1.519	0.867	0.194	3.799	0.106	0.033	0.077	0.044	0.010	0.193	1.061	0.332	0.773	0.441	0.098	1.932
1.04	42	1	Silver SC7	2	4	3	1.200	0.231	0.819	0.589	0.121	2.141	0.099	0.019	0.067	0.048	0.010	0.176	0.986	0.190	0.673	0.483	0.100	1.758
1.06	43	1	Silver SC7	4	6	5	1.046	0.292	0.767	0.474	0.111	1.923	0.128	0.036	0.094	0.058	0.014	0.235	1.279	0.358	0.937	0.580	0.136	2.352
1.06	44	1	Silver SC7	6	8	7	1.509	0.404	0.969	0.565	0.141	2.620	0.166	0.044	0.107	0.062	0.016	0.288	1.659	0.444	1.065	0.621	0.155	2.879
1.06	45	1	Silver SC7	8	10	9	1.486	0.514	1.028	0.514	0.150	2.665	0.188	0.065	0.130	0.065	0.019	0.336	1.875	0.649	1.297	0.649	0.189	3.362
1.10	46	1	Silver SC7	10	15	12.5	0.754	0.603	0.945	0.342	0.184	1.883	0.141	0.112	0.176	0.064	0.034	0.351	1.406	1.124	1.762	0.638	0.343	3.511
1.20	47	1	Silver SC7	15	20	17.5	0.444	0.289	0.500	0.211	0.148	1.092	0.153	0.100	0.173	0.073	0.051	0.377	1.533	0.998	1.728	0.730	0.511	3.771
1.08	48		BD 1				1.822	0.437	0.900	0.463	0.158	2.880	0.290	0.069	0.143	0.074	0.025	0.458	2.899	0.695	1.431	0.736	0.251	4.580
1.06	49		BD 2				1.262	0.419	0.993	0.574	0.178	2.432	0.155	0.051	0.122	0.070	0.022	0.298	1.547	0.514	1.217	0.704	0.218	2.982

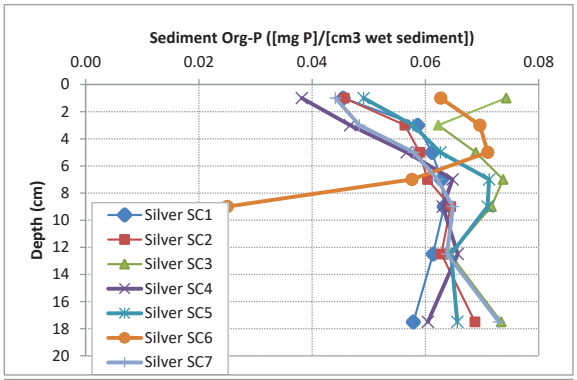

Percent Moisture
30% 40% 50% 60% 70% 80% 90% 100%
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6

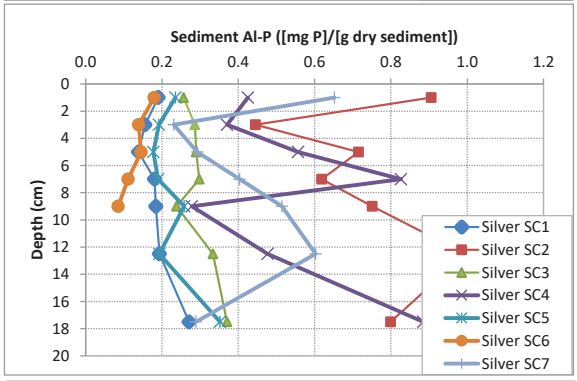

Percent Loss on Ignition
0% 5% 10% 15% 20% 25% 30%
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6

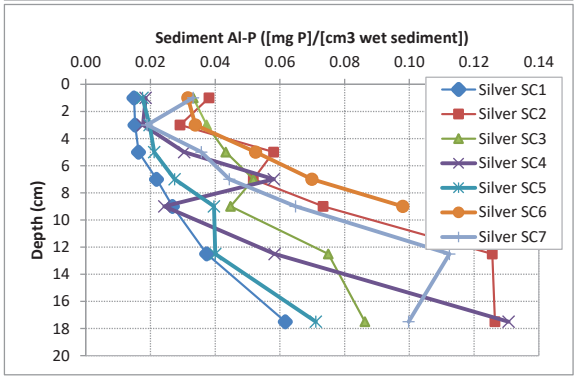

Sediment Fe-P ([mg P]/[g dry sediment])
0.0 0.5 1.0 1.5 2.0 2.5 3.0
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7

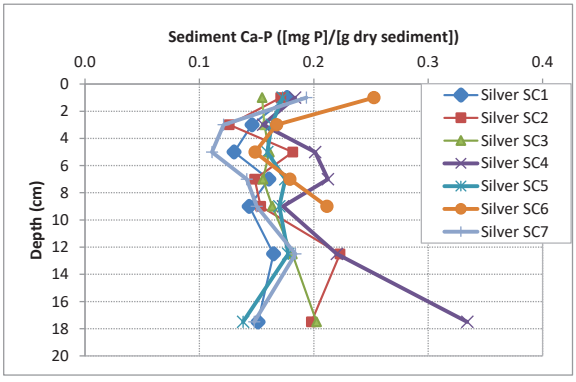

Sediment Fe-P ([mg P]/[cm3 wet sediment])
0.00 0.05 0.10 0.15 0.20 0.25 0.30
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7

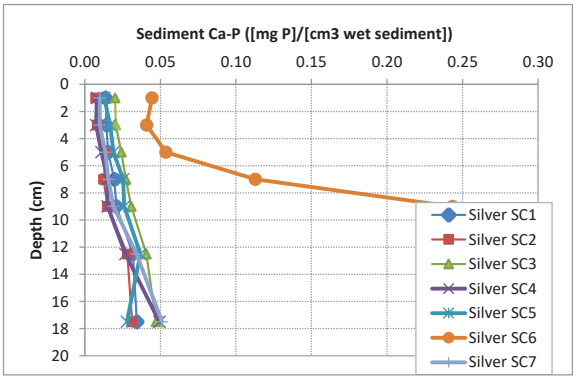

Sediment Organic-P ([mg P]/[g dry sediment])
0.0 0.2 0.4 0.6 0.8 1.0 1.2
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7


Sediment Org-P ([mg P]/[cm3 wet sediment])
0.00 0.02 0.04 0.06 0.08
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7


Sediment Al-P ([mg P]/[g dry sediment])
0.0 0.2 0.4 0.6 0.8 1.0 1.2
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7


Sediment Al-P ([mg P]/[cm3 wet sediment])
0.00 0.02 0.04 0.06 0.08 0.10 0.12 0.14
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7


Sediment Ca-P ([mg P]/[g dry sediment])
0.0 0.1 0.2 0.3 0.4
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7


Sediment Ca-P ([mg P]/[cm3 wet sediment])
0.00 0.05 0.10 0.15 0.20 0.25 0.30
Depth (cm)
Silver SC1
Silver SC2
Silver SC3
Silver SC4
Silver SC5
Silver SC6
Silver SC7

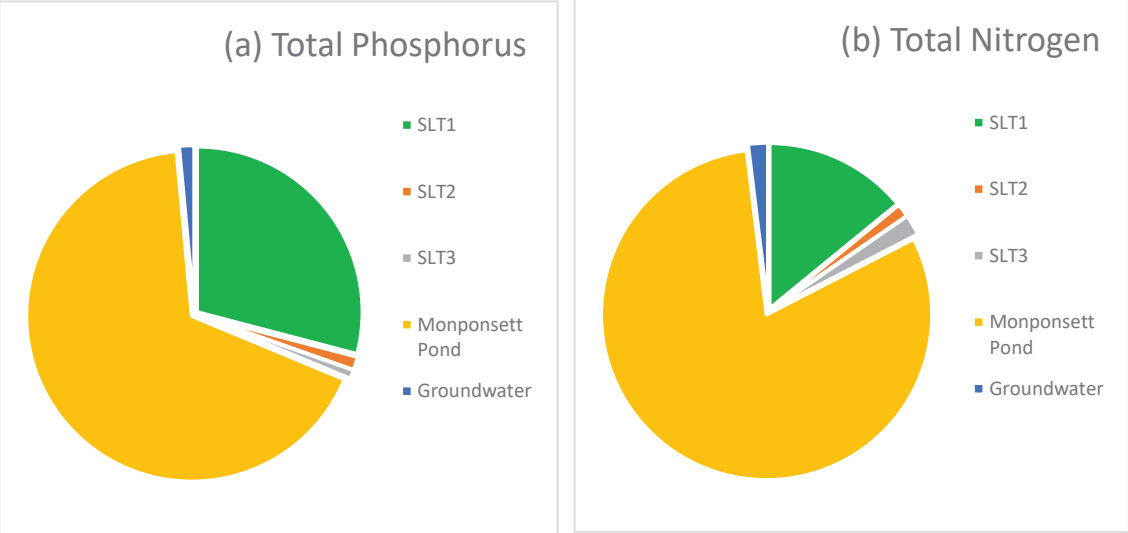
Appendix C: Field Data (Digital File)

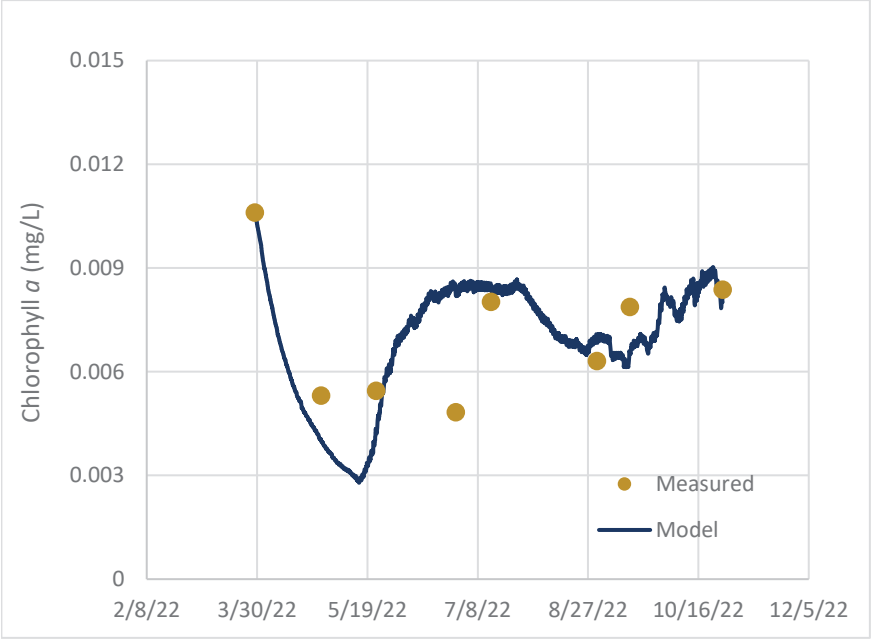
Appendix D: Silver Lake Modeling Outputs

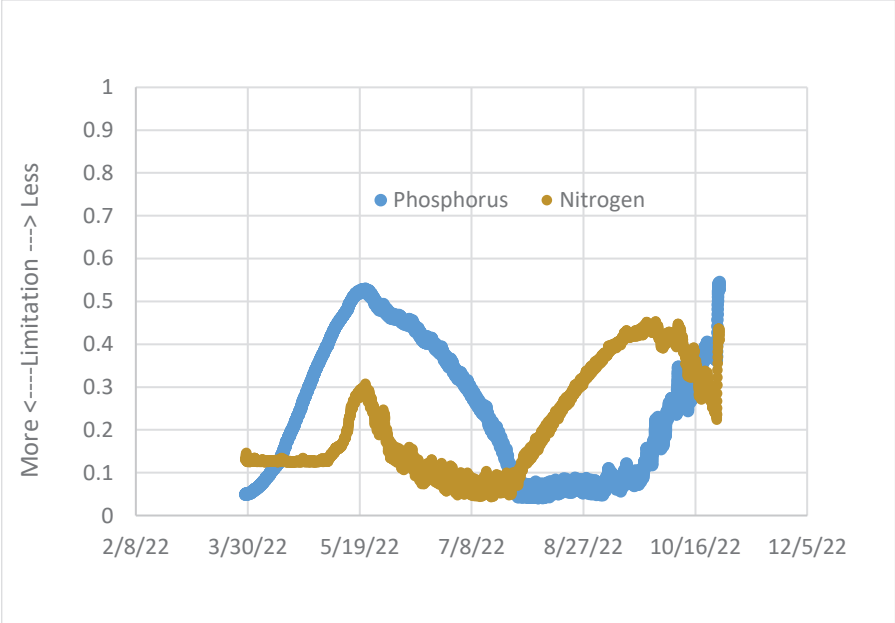
Table X. Accounting of Total Phosphorus and Nitrogen Loads by Source and Losses by Mechanism

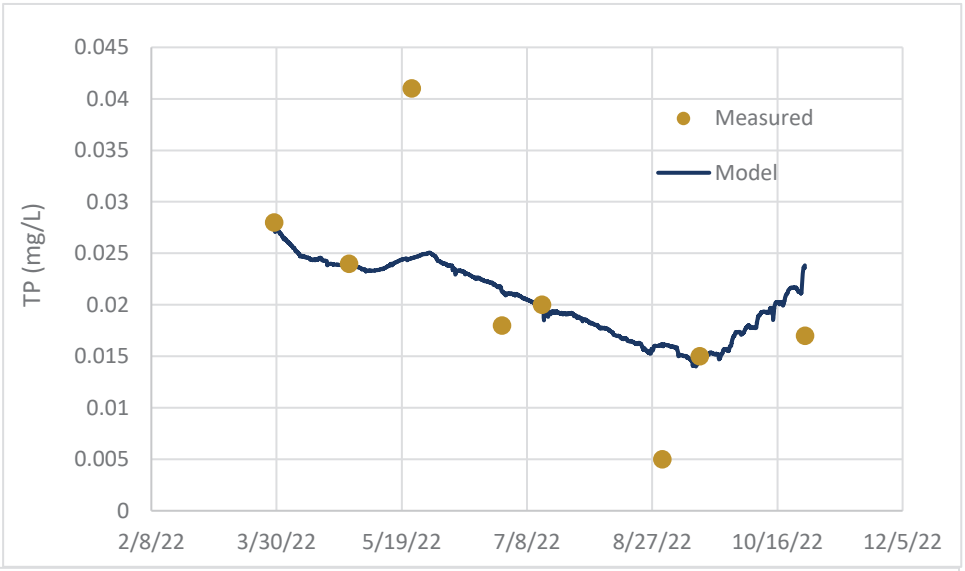
	Source or Sink	Phopshorus Loading (kg)		Percent	Nitrogen Loading (kg)		Percent
		Model Period	Daily		Model Period	Daily	
Loads	Internal Loading	631	3.0	83%	1399	6.6	34%
	Atmospheric Deposition	6.1	0.03	1%	1185	5.6	28%
	Groundwater	1.25	0.01	0.2%	22.1	0.1	1%
	Surface Inflows	125	0.6	16%	1569	7.4	38%
	Total Loading	*763*	*3.6*	100%	4175	20	100%
Losses	Outflow	87	0.4	23%	1678	7.915	40%
	Settling	284	1.3	77%	2486	11.724	60%
	Total Losses	372	1.8	1.0	4164	19.6	100%

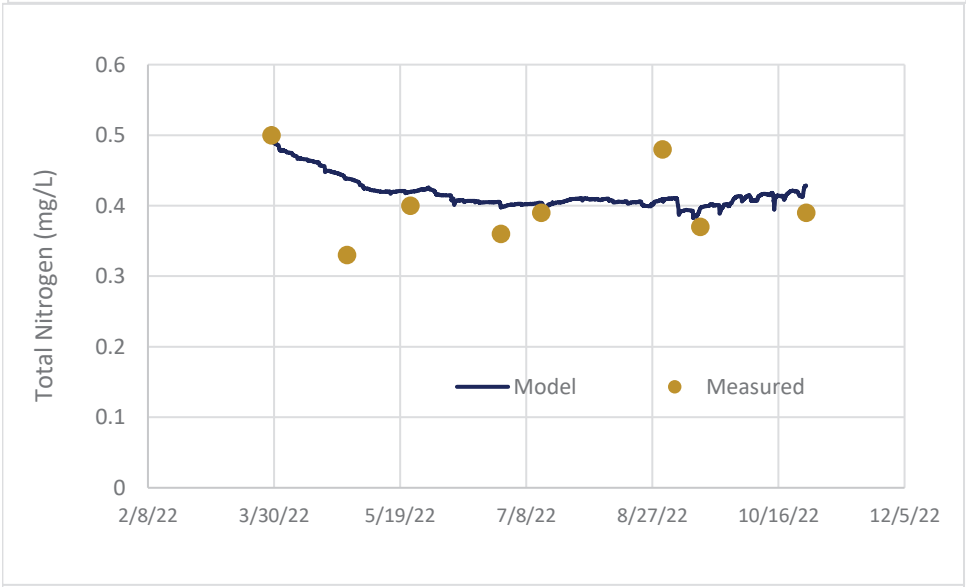
Figure X. Estimated Relative External Load Contribution by Source

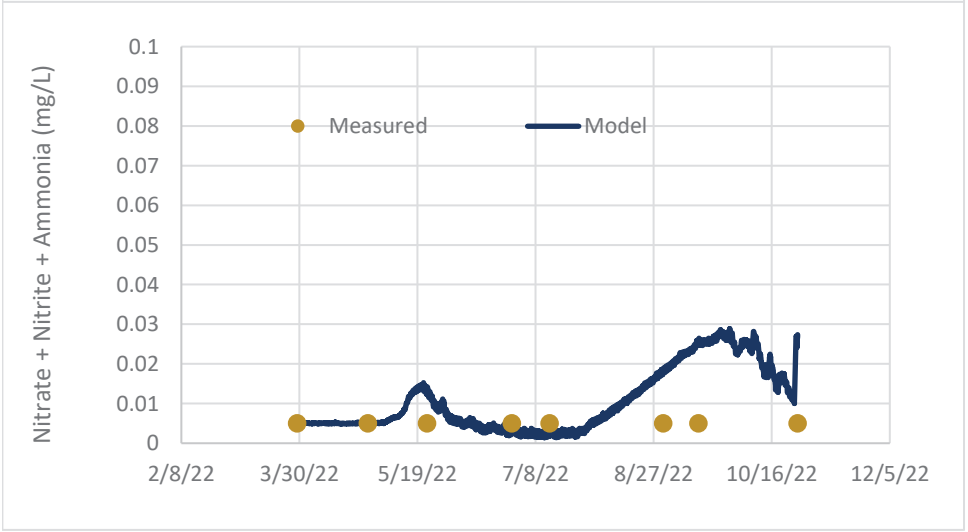


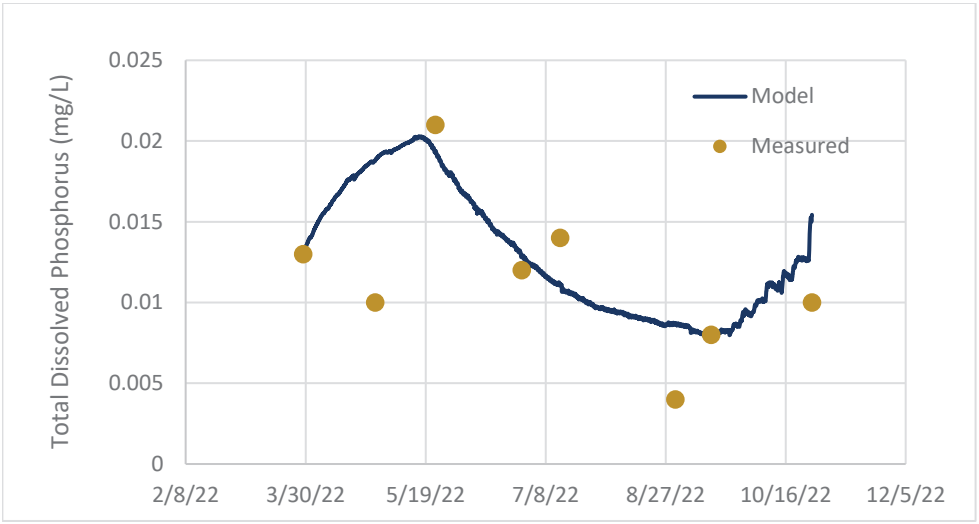

0.015
0.012
0.009
0.006
0.003
0
Chlorophyll a (mg/L)
Measured
Model
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22

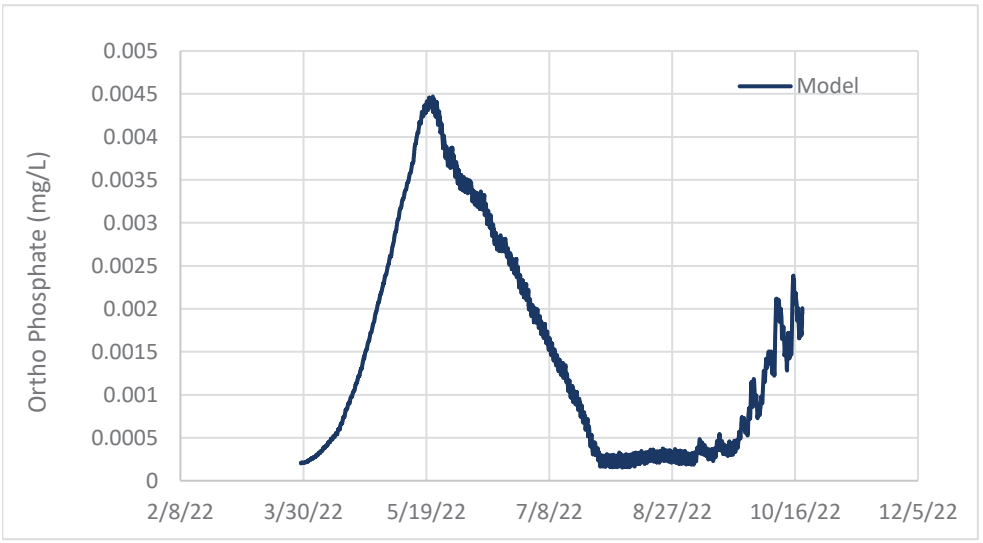

1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
More <----Limitation ---> Less
Phosphorus
Nitrogen
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22

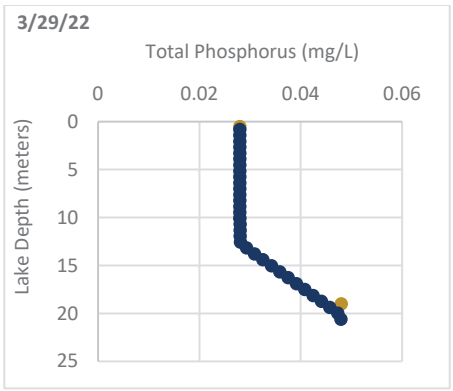

TP (mg/L)
0.045
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22
Measured
Model

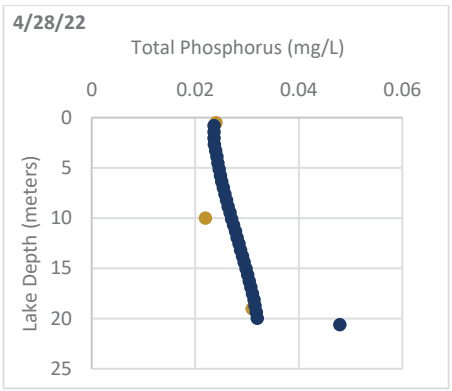

Total Nitrogen (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22
Model
Measured

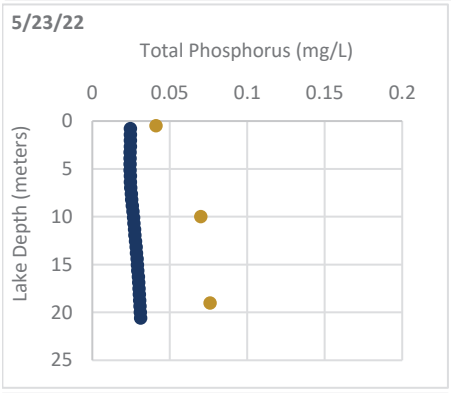

Nitrate + Nitrite + Ammonia (mg/L)
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22
Measured
Model

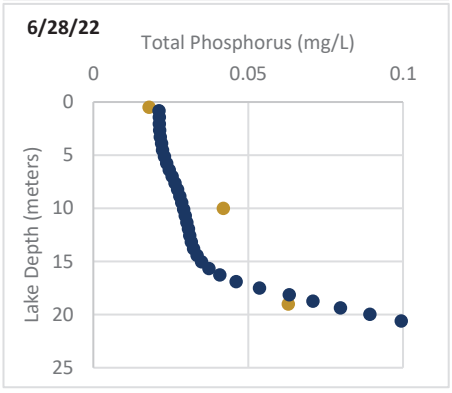

Total Dissolved Phosphorus (mg/L)
0.025
0.02
0.015
0.01
0.005
0
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22
Model
Measured

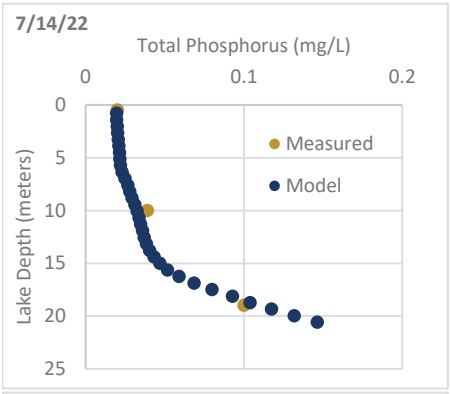

Ortho Phosphate (mg/L)
0.005
0.0045
0.004
0.0035
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22
Model

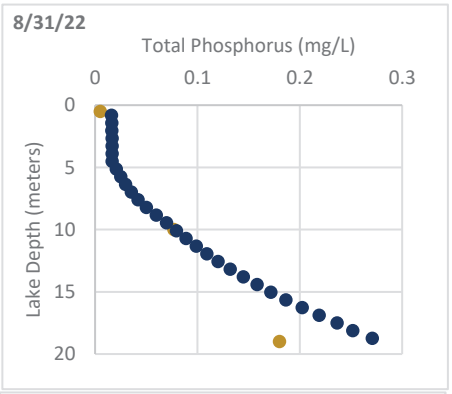

3/29/22
Total Phosphorus (mg/L)
0
0.02
0.04
0.06
Lake Depth (meters)
0
5
10
15
20
25

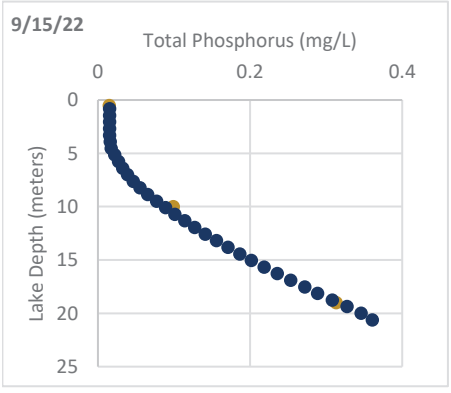

4/28/22
Total Phosphorus (mg/L)
0
0.02
0.04
0.06
Lake Depth (meters)
0
5
10
15
20
25

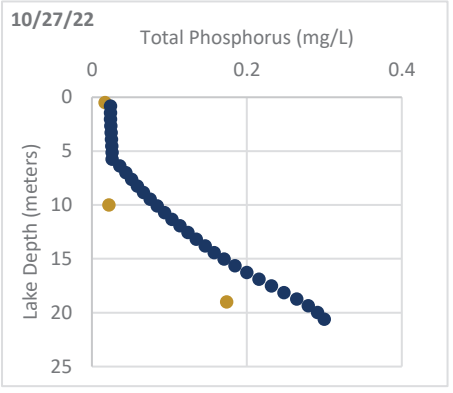

5/23/22
Total Phosphorus (mg/L)
0
0.05
0.1
0.15
0.2
Lake Depth (meters)
0
5
10
15
20
25

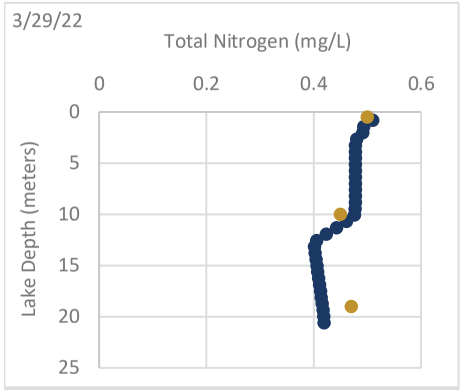

6/28/22
Total Phosphorus (mg/L)
0
0.05
0.1
Lake Depth (meters)
0
5
10
15
20
25

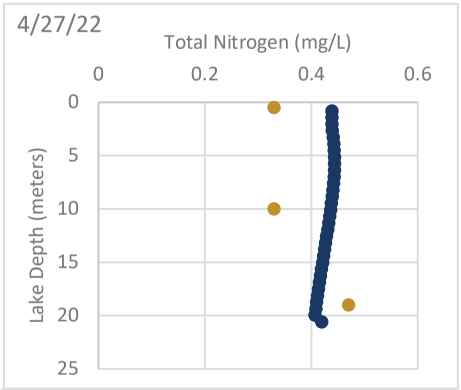

7/14/22
Total Phosphorus (mg/L)
0
0.1
0.2
Lake Depth (meters)
0
5
10
15
20
25
Measured
Model

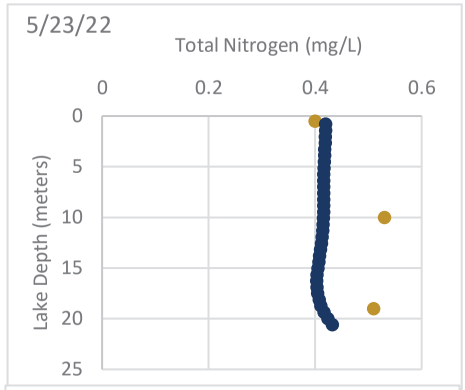

8/31/22
Total Phosphorus (mg/L)
0
0.1
0.2
0.3
Lake Depth (meters)
0
5
10
15
20

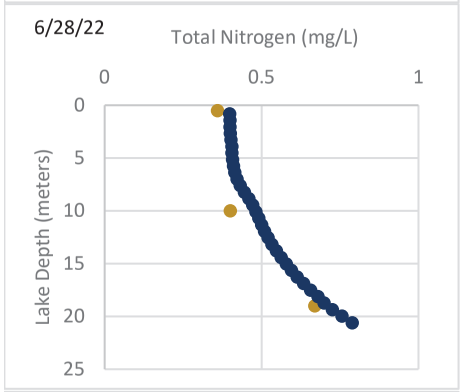

9/15/22
Total Phosphorus (mg/L)
0
0.2
0.4
Lake Depth (meters)
0
5
10
15
20
25

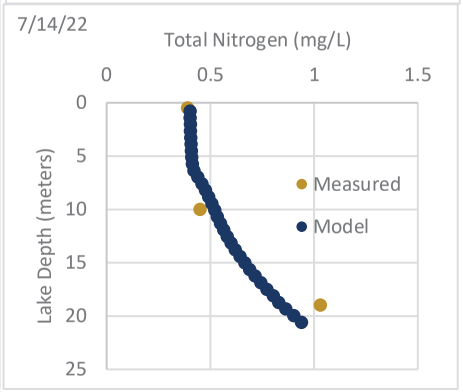

10/27/22
Total Phosphorus (mg/L)
0
0.2
0.4
Lake Depth (meters)
0
5
10
15
20
25

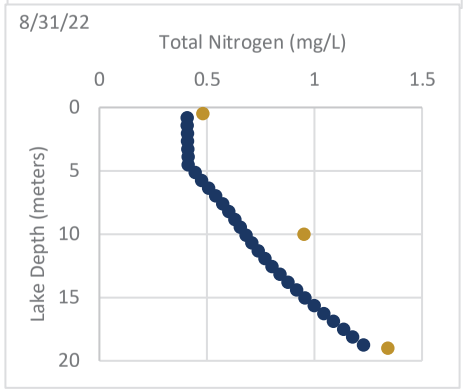

3/29/22
Total Nitrogen (mg/L)
0
0.2
0.4
0.6
Lake Depth (meters)
0
5
10
15
20
25

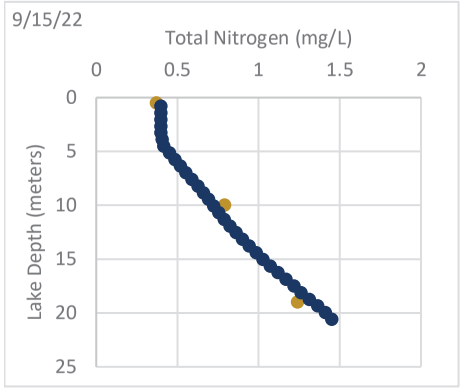

4/27/22
Total Nitrogen (mg/L)
0
0.2
0.4
0.6
Lake Depth (meters)
0
5
10
15
20
25

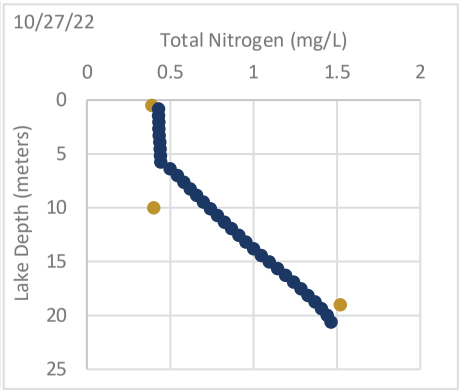

5/23/22
Total Nitrogen (mg/L)
0
0.2
0.4
0.6
Lake Depth (meters)
0
5
10
15
20
25

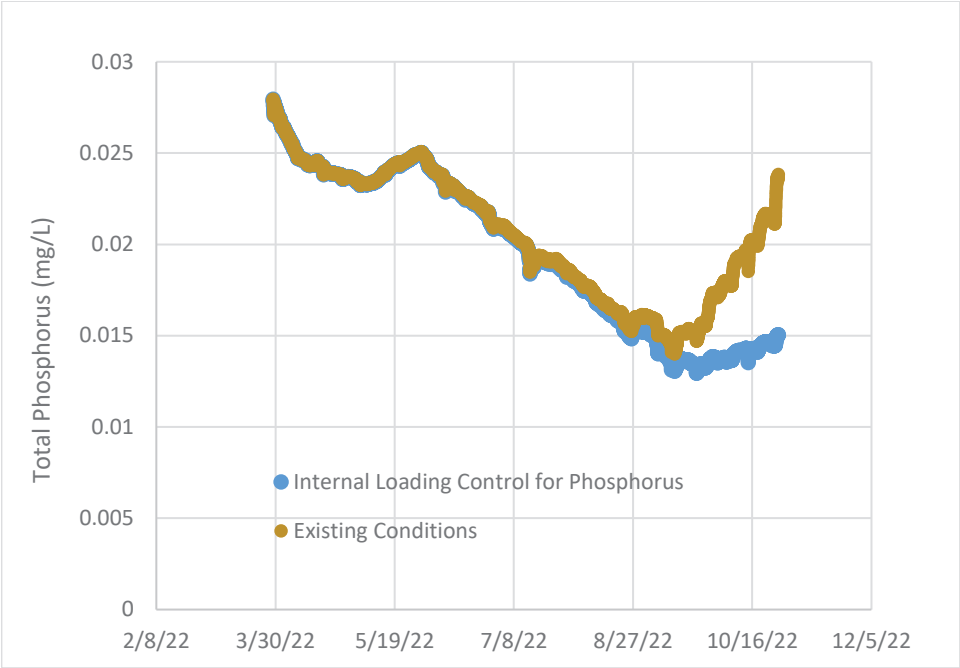

6/28/22
Total Nitrogen (mg/L)
0
0.5
1
Lake Depth (meters)
0
5
10
15
20
25

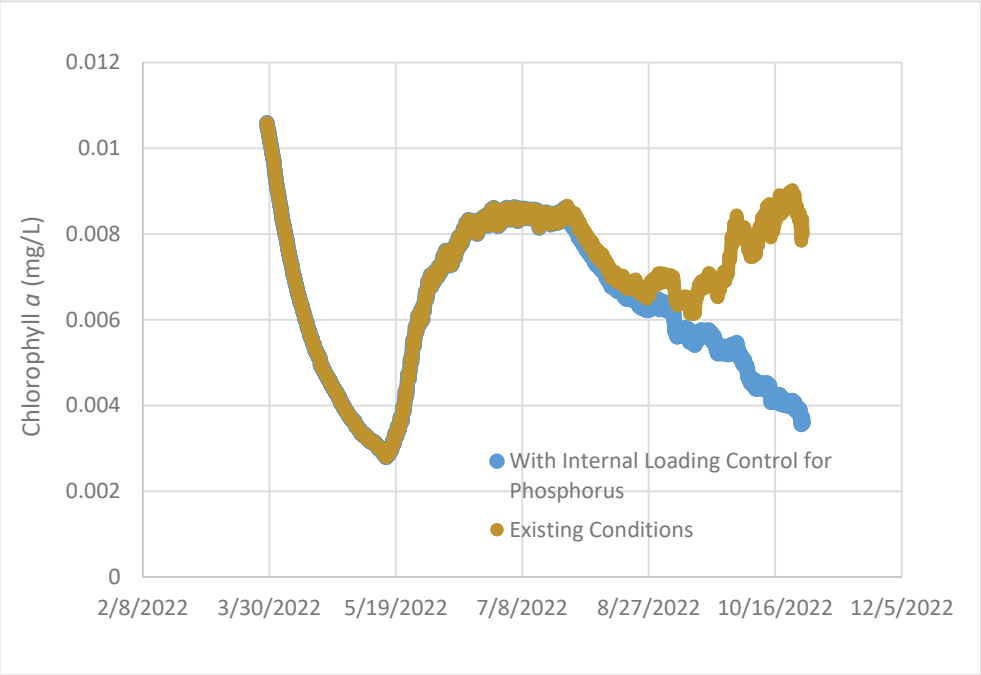

7/14/22
Total Nitrogen (mg/L)
0
0.5
1
1.5
Lake Depth (meters)
0
5
10
15
20
25
Measured
Model

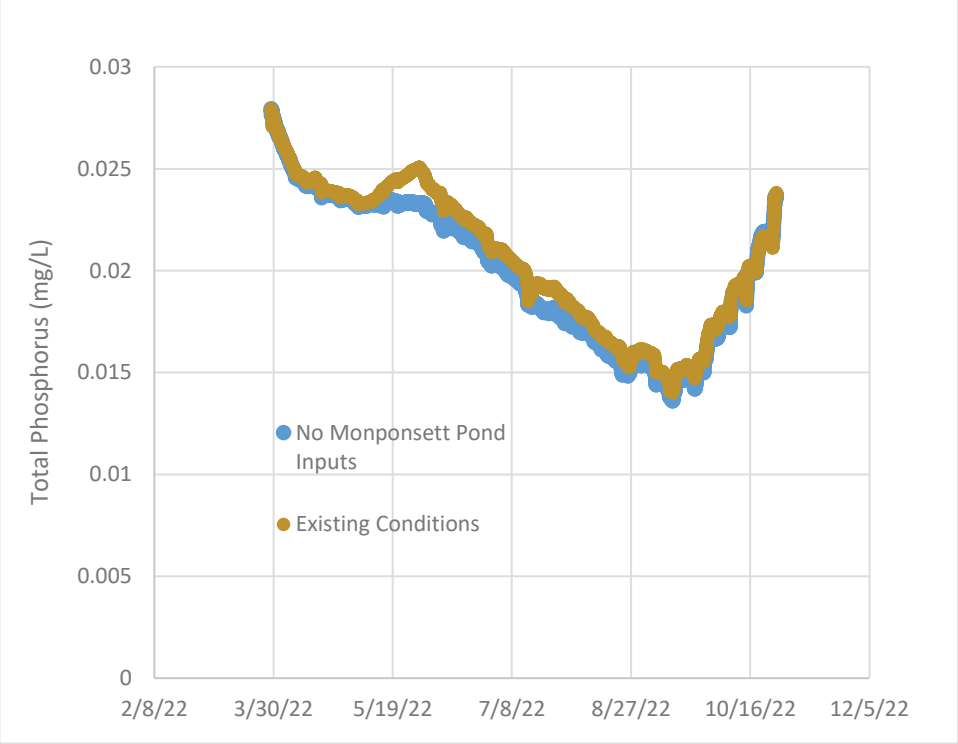

8/31/22
Total Nitrogen (mg/L)
0
0.5
1
1.5
Lake Depth (meters)
0
5
10
15
20

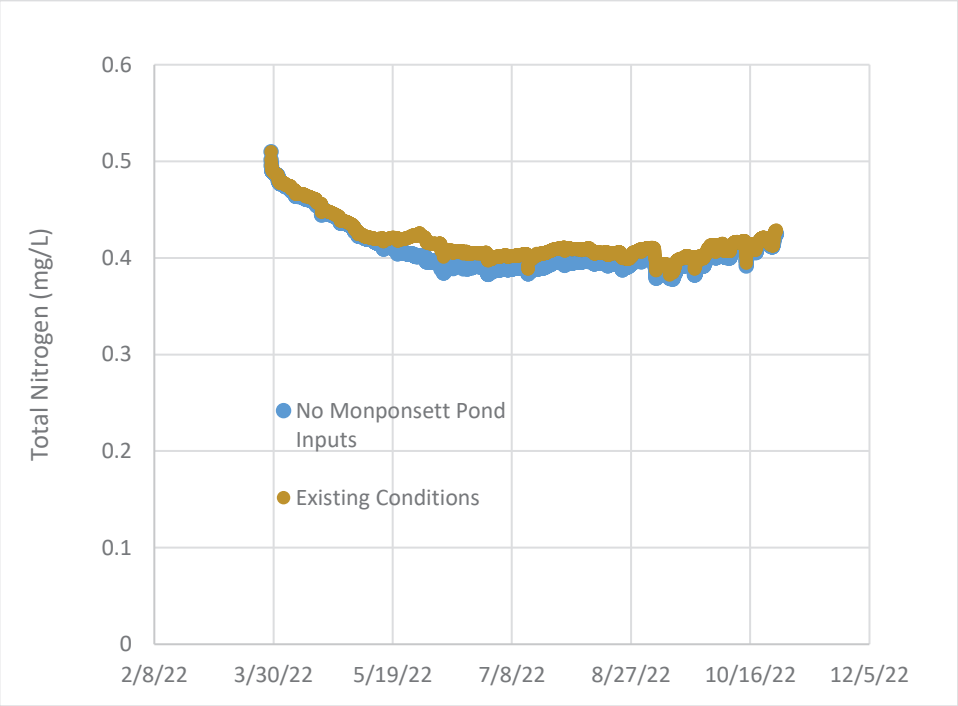

9/15/22
Total Nitrogen (mg/L)
0
0.5
1
1.5
2
Lake Depth (meters)
0
5
10
15
20
25

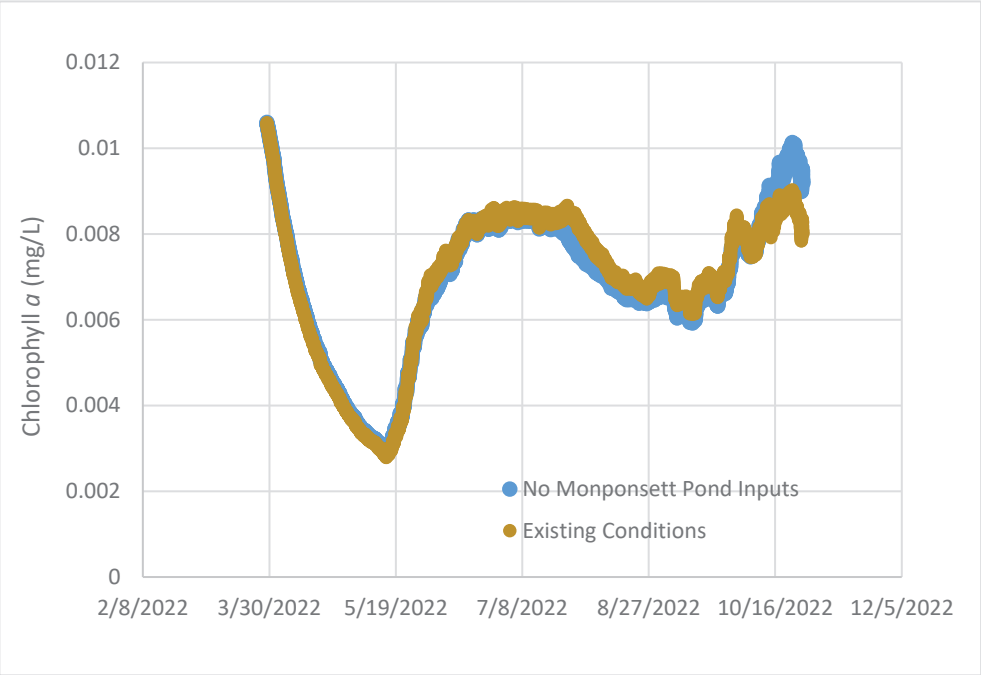

10/27/22
Total Nitrogen (mg/L)
0
0.5
1
1.5
2
Lake Depth (meters)
0
5
10
15
20
25

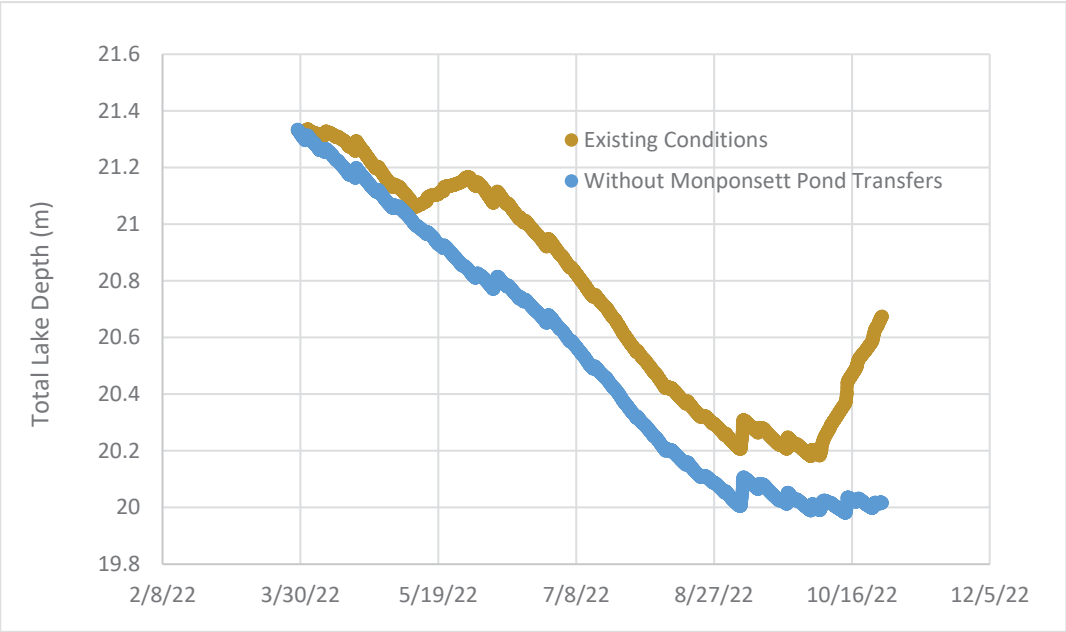

0.03
0.025
0.02
0.015
0.01
0.005
0
Total Phosphorus (mg/L)
Internal Loading Control for Phosphorus
Existing Conditions
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22


0.012
0.01
0.008
0.006
0.004
0.002
0
Chlorophyll a (mg/L)
2/8/2022
3/30/2022
5/19/2022
7/8/2022
8/27/2022
10/16/2022
12/5/2022
With Internal Loading Control for Phosphorus
Existing Conditions


0.03
0.025
0.02
0.015
0.01
0.005
0
Total Phosphorus (mg/L)
No Monponsett Pond Inputs
Existing Conditions
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22


0.6
0.5
0.4
0.3
0.2
0.1
0
Total Nitrogen (mg/L)
No Monponsett Pond Inputs
Existing Conditions
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22


0.012
0.01
0.008
0.006
0.004
0.002
0
Chlorophyll a (mg/L)
2/8/2022
3/30/2022
5/19/2022
7/8/2022
8/27/2022
10/16/2022
12/5/2022
No Monponsett Pond Inputs
Existing Conditions


Total Lake Depth (m)
21.6
21.4
21.2
21
20.8
20.6
20.4
20.2
20
19.8
2/8/22
3/30/22
5/19/22
7/8/22
8/27/22
10/16/22
12/5/22
Existing Conditions
Without Monponsett Pond Transfers