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Algal identification and cyanotoxin detection report

Prepared For:

Painted Hills Lakes

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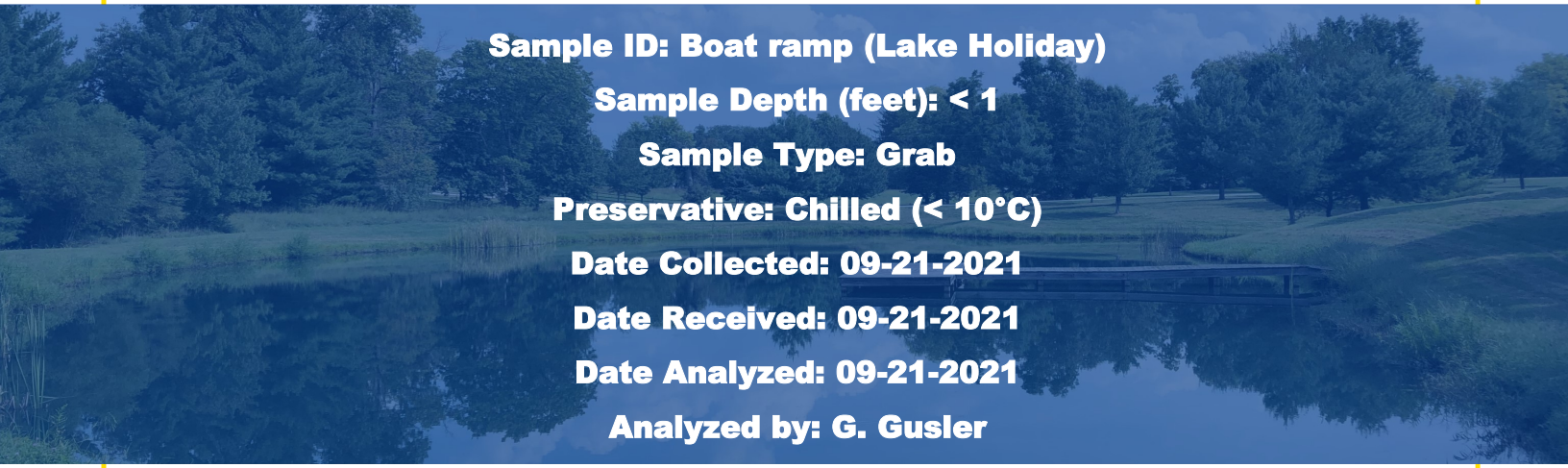
Report #1755



Sample ID: Boat ramp (Lake Holiday)
Sample Depth (feet): < 1
Sample Type: Grab
Preservative: Chilled (< 10°C)
Date Collected: 09-21-2021
Date Received: 09-21-2021
Date Analyzed: 09-21-2021
Analyzed by: G. Gusler

Algae ID + Enumeration

Explanation of Analysis

Algae identification and enumeration involves microscopic analysis of the submitted water sample at 100-400x magnification using a compound light microscope to screen for potential toxin-producing cyanobacteria (blue-green algae). Each genus of algae detected will be reported in the table below. Cell densities of each genus identified were enumerated utilizing a Sedgewick-Rafter counting chamber and standard operating procedures.

Results of Analysis:

Harmful algae detected?

☐ Yes ☑ No

Total Cell Density in Water Column: No algae detected

Genus	Taxonomic Class	Cell Density (cells/mL)	Potential Toxin Producer
No algae detected	-	-	-

Note: The data presented here pertain to water samples collected at the specified site on the collection date stated in this report. These data are used to determine whether algal species at a specific site are present that are capable of producing toxins. Results from a sample taken at a single point in time are not conclusive for predicting presence or absence of toxin-producing cyanobacteria at any other point in time at this site.

Sample ID: Clubhouse (Lake Holiday)
Sample Depth (feet): < 1
Sample Type: Grab
Preservative: Chilled (< 10°C)
Date Collected: 09-21-2021
Date Received: 09-21-2021
Date Analyzed: 09-21-2021
Analyzed by: G. Gusler

Algae ID + Enumeration

Explanation of Analysis

Algae identification and enumeration involves microscopic analysis of the submitted water sample at 100-400x magnification using a compound light microscope to screen for potential toxin-producing cyanobacteria (blue-green algae). Each genus of algae detected will be reported in the table below. Cell densities of each genus identified were enumerated utilizing a Sedgewick-Rafter counting chamber and standard operating procedures.

Results of Analysis:

Harmful algae detected?

Yes	No
☐	☑

Total Cell Density: No algae detected

Genus	Taxonomic Class	Cell Density (cells/mL)	Potential Toxin Producer
No algae detected	-	-	-

Note: The data presented here pertain to water samples collected at the specified site on the collection date stated in this report. These data are used to determine whether algal species at a specific site are present that are capable of producing toxins. Results from a sample taken at a single point in time are not conclusive for predicting presence or absence of toxin-producing cyanobacteria at any other point in time at this site.

Sample ID: Nebo Ramp (Lake Nebo)
Sample Depth (feet): < 1
Sample Type: Grab
Preservative: Chilled (< 10°C)
Date Collected: 09-21-2021
Date Received: 09-21-2021
Date Analyzed: 09-21-2021
Analyzed by: G. Gusler

Algae ID + Enumeration

Explanation of Analysis

Algae identification and enumeration involves microscopic analysis of the submitted water sample at 100-400x magnification using a compound light microscope to screen for potential toxin-producing cyanobacteria (blue-green algae). Each genus of algae detected will be reported in the table below. Cell densities of each genus identified were enumerated utilizing a Sedgewick-Rafter counting chamber and standard operating procedures.

Results of Analysis:

Harmful algae detected?

☑ **Yes** ☐ **No**

Total Cell Density: 27,500 cells/mL

Genus	Taxonomic Class	Cell Density (cells/mL)	Potential Toxin Producer
Dolichospermum sp.	Cyanophyceae	27,500	Yes

Note: The data presented here pertain to water samples collected at the specified site on the collection date stated in this report. These data are used to determine whether algal species at a specific site are present that are capable of producing toxins. Results from a sample taken at a single point in time are not conclusive for predicting presence or absence of toxin-producing cyanobacteria at any other point in time at this site.

Results: Toxin detection tests

Sample ID	Toxin Screened	Estimated Concentration (µg/L)
Lake Holiday Boat Ramp	Microcystins (Recreational)	**Non-detect**
Clubhouse	Microcystins (Recreational)	**Non-detect**
Nebo Boat Ramp	Microcystins (Recreational)	**Non-detect**

Summary of Results

Algae ID and Density

As part of the consultation service provided, algae are identified and enumerated in the collected samples to monitor for presence and densities of known toxin- or odor-producing algae. At the time of sampling, potential toxin-producing cyanobacteria (blue-green algae) were detected in the water sample collected from Lake Nebo at a low cell density.

Algal Toxin Analysis

At the time of testing, microcystins were non-detect at all sampling locations. These results place the water in both lakes under IDEM recreational use risk category 1 (<4 ppb, low or no risk of exposure).

Recommendations

Precautions

Given the lack of detectable microcystins and the low cell density of cyanobacteria only detected in Lake Nebo, we don't recommend any water use restrictions at this time. Since cyanobacteria may produce toxins intermittently, it is always best to avoid contact with the water when signs of growth are present.

Algae Management

At this time, cell densities are sufficiently low that a treatment is not necessary. Please notify us if there is an increase in signs of growth before the next sampling event.