

## Algae Identification Report

Company: Painted Hills Lakes

Water body Name: **Holiday and Nebo**

Address: **4364 Rembrandt Dr.**

Surface Area: **107 (Holiday), 39 (Nebo)**

**Martinsville, IN 46151**

Contact Person: **Ms. Tina Thrasher**

Average Depth: **18 feet**

Phone: **812-650-2979**

Date Sample Collected: **2/19/2018**

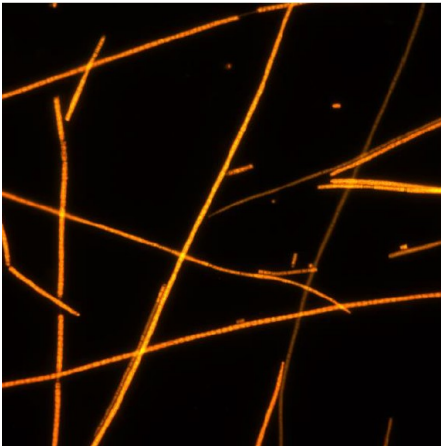
Email: **tthrasher6264@gmail.com**

Analysis Performed: **Colorimetric Cyanotoxin detection (Microcystin)**

### Algae Identification Results

(Holiday)-from previous sampling event

Identification	Classification	Growth Form Description	Density (Cells/mL)
<i>Planktothrix prolifica</i>	Cyanophyta (blue-green algae)	Planktonic /mat-former	1,705,787



Microscopic image of Planktothrix taken during previous sampling event.

## Toxin Analysis Results

Analysis	Site	Concentration (ppb)	IDEM Risk Level
Colorimetric test for Microcystin	Holiday 1	0.0	1: low/no risk
Colorimetric test for Microcystin	Holiday 2	0.0	1: low/no risk
Colorimetric test for Microcystin	Nebo 1	0.0	1: low/no risk
Colorimetric test for Microcystin	Nebo 2	0.0	1: low/no risk

## Summary of Results

### Algae ID and Density

No algae ID test were performed at the time of this analysis. Previous tests indicated *Planktothrix prolificata* as the dominant algae species in Holiday lake.

### Algal Toxin Test

At the time of initial identification (January 24,2018) microcystin was detected at 80-100ppb in Holiday Lake. These levels significantly exceeded recreational exposure guidelines from both the World Health Organization (WHO) and Indiana Department of Environmental Management (IDEM). A follow up test was scheduled to be collected upon ice out. On February 19, 2018, two samples were collected from both Holiday and Nebo Lakes by Aquatic Control. Holiday samples were collected at the boat launch where some remnant algae was observed and from a site downwind near the clubhouse. These sites were selected on the likelihood of being able to detect presence of the toxin. Samples at Nebo were collected at the boat ramp and a protected cove in the North end of the lake. Samples were sent to Phycotech for analysis. All 4 samples tested negative (0.0ppb) for Microcystin. This new testing places the water in both lakes under IDEM recreational use risk category 1 (<4ppb, low or no risk of exposure).

## Images and Figures

Remnant Planktothrix mats around the boat launch. Water samples collect here tested negative for microcystin



## Recommendations

### Precautions

At this time the results of toxin monitoring indicate that no water use restrictions need to be observed. Residents should remain observant if a bloom returns and prepare to resume monitoring if concerns arise. At this time an aggressive monitoring plan and schedule is not being recommended unless concern arises regarding water use. However, it may be desirable to have a routine monthly monitoring program in place as recreational use of the lakes will begin to increase.

### Algae Management

With the bloom dissipating and toxin levels below detectible limits, a targeted algae treatment is not deemed necessary to control the source. A sample of remnant algae was collected and sent to Clemson University to be evaluated through their Algal Challenge Test protocol. The results of this test will be sent in a separate report that can be used to guide future treatment recommendations if a toxic bloom were to occur.

## References Cited

List any publications referenced in the text.