

Microcystins/Nodularins Toxins Report

Project: Lake Carroll Association

Submitted to: Joe Rush
 Organization: Lake Carroll Association
 Email: jrush@golakecarroll.com
 Sample Receipt Date: 26 October 17
 Sample Condition: 1.9 °C upon arrival
 Report# 171025 – Lake Carroll Association
 Date Prepared: 27 October 17
 Prepared by: Kamil Cieslik

<u>Sample Identification</u>	<u>Description/Site</u>	<u>Sample Collection Date</u>
Lake Carroll	West Marina Open Water	25 October 17
Lake Carroll	East Marina Open Water	25 October 17
Lake Carroll	East Marina Scum	25 October 17

Analytes: Microcystins/Nodularins (MCs/NODs)

Sample Preparation

Water Sample Ultrasonication

The samples were received and inverted for 60 seconds to mix. Subsets were removed prior to dismembration for algal identification purposes. The remaining sample was sonicated to release toxins and prepared for analyses.

Quality Control

Table 1: LFSM QC samples prepared for analyses.

Analyte	Concentration(s) (ng/mL)	Sample ID(s)	Return(s)
MC-LR	1.0	West Marina Open Water	69% ^N

Additional Quality Control/Quality Assurance checks included method blanks, LFBs, and standard curves.

Qualifier	Flag
N	Spiked sample control was outside limits

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 MCs/NODs (US EPA Method 546 & Ohio EPA DES 701.0). The current method reporting limit is 0.15 ng/mL (ppb) based on kit sensitivity, dilution factors and initial demonstration of capability.


Summary of Results

Sample ID	MCs/NODs (ng/mL)
West Marina Open Water	ND
East Marina Open Water	ND
East Marina Scum	21.5
<i>MDL (ng/mL)</i>	<i>0.15</i>
<i>Analyst Initials</i>	<i>KC</i>
<i>Date Analyzed</i>	<i>10/27/17</i>

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	SUR	Surrogate
Blank	Regent Water free from interferences	—	Not Analyzed
LFB	Lab Fortified Blank		

Submitted by:


Mark T. Aubel, Ph.D.

Date:

October 27, 2017

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