

Microcystin, Cylindrospermopsin, & Saxitoxin Report
Project: Utah DEQ – Division of Water Quality

<u>Sample ID</u>	<u>Site</u>	<u>Date Collected</u>
4994631	Utah Salt Lake Canal	8/16/2016
5931231	Scofield SP Mtn View Boat Ramp	8/16/2016
5931234	Madsen Bar Boat Ramp	8/16/2016
5930960	Boatbridge below Scofield Dam	8/16/2016
5931015	Scofield Res Frandsen Boy Scout Camp	8/16/2016

Toxins – microcystins/nodularins (MCs), cylindrospermopsin (CYN), saxitoxin (STX),

Sample Prep

The samples were ultra-sonicated to lyse cells and release toxins. Duplicates of samples were prepared for lab fortified matrices (LFMs) with CYN (1 µg/L) and STX (0.2 µg/L) and MC-LR (1.0 µg/L).

Analytical Methodology**MC**

The Adda (Abraxis) microcystins enzyme linked immunosorbent assay (ELISA) was utilized for the quantitative and sensitive congener-independent detection of MCs. The current assay is sensitive to down to a LOD/LOQ of 0.15 µg/L for total MCs. The average recovery of a laboratory fortified blank (LFB) spiked with 1 µg/L MCLR was 104% and 94%.

CYN

A cylindrospermopsin ELISA (Abraxis) was utilized for the quantitative detection of CYN. The current assay is sensitive down to a LOD/LOQ limit of 0.10 µg/L for CYN. The average LFB recovery was 117%.

STX

A saxitoxin enzyme linked immunosorbent assay (ELISA) was utilized for the quantitative detection of STX. The current assay is sensitive down to a LOD/LOQ limit of 0.05 µg/L STX. The average LFB recovery was 105%.

Summary of Results

<u>Sample</u>	<u>MC levels</u> ($\mu\text{g/L}$)	<u>CYN levels</u> ($\mu\text{g/L}$)	<u>STX levels</u> ($\mu\text{g/L}$)
4994631	ND	ND	ND
5931231	2.10	ND	ND
5931234	58.0	ND	ND
5930960	3.38	ND	ND
5931015	67.7	ND	ND
<i>Detection Limits ($\mu\text{g/L}$)</i>	<i>0.15</i>	<i>0.10</i>	<i>0.05</i>

ND = Not detected above the detection limit

Submitted by:



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Date:

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