



Microcystin Test Report

Result Summary

Client: GAL100
Reference: 08-2282- PPI

Client: Golder Associates; operation Edmonton

Sample: Tank #2

Collection: collected on 2008/12/12 at 0700 by M. Kawei

Receipt: received on 2008/12/18 at 1120 by A. Lavoie

Containers: received 1 x 250mL bottle at -1 °C, in good
with no seals and no initials

Description: type: water; collection method: grab

Contents

Result Summary.....1
Analysis2
Comments.....2
QA/QC.....3

Analysis: isolated on 2009/01/07 by C. Ehman; enumerated on 2009/01/07 by C. Ehman

Result: _____

Sample Information			Microcystin	Comment
lab reference	client	collection date	(µg LR equiv/L)	
08-2282	Tank #2	2008/12/12	0.69	none

The test data and results are authorized and verified correct.


C. Ehman, B.Sc., Technical Lead


S. Krishnappa, B.Sc., Quality Coordinator

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.



Microcystin Test Report

Analysis

Client: GAL100
Reference: 08-2282- PPI

Sample Information		Optical Density (430 nm)						Inhibition (%)
lab reference	client	avg	initial sd	cv	avg	final sd	cv	
08-2282	Tank #2	0.15	0.00	3	0.38	0.02	5	41

Standard Curve: microcystin LR (ug/L) = $a * x^2 + b * x + c$ $r^2 = 0.9801$
 where x is percent inhibition of protein phosphatase relative to controls
 $a = 0$ $b = 0.0174$ $c = -0.8714$

Method: Microcystin analysis by protein phosphatase inhibition assay (HQ 4.4.1.20)

Reference: Use of a Colorimetric Protein Phosphatase Inhibition Assay and Enzyme Linked Immunosorbent Assay for the Study of Microcystins and Nodularins.
 An, J.S. and W.W. Carmichael, 1994. Toxicon, 32, 1495-1507.

Comment: The lower and upper method detection limits are 0.22 and 5 µg microcystin - LR equiv/L, respectively.

The drinking water guideline for cyanobacterial toxins-microcystin-LR is 1.5 µg/L (Guidelines for Canadian Drinking Water Quality -Summary Table, March 2006 <http://www.hc-sc.gc.ca>)



Microcystin Test Report

Quality Assurance Information

Test Method: PPI Inhibition Assay

HydroQual Test Method Manual, section: 4.4.1.20

Reference: An J.S. and Carmichael W.W. (1994) Use of a colorimetric protein phosphatase inhibition assay and enzyme linked immunosorbent assay for the study of microcystins and nodularins. Toxicon, 32, 1495-1507

Standard: Microcystin LR

Source: Sigma

Lot: 057K1590

Received: 2007/08/02

Date Made: 2008/03/20

Enzyme: Protein Phosphatase-1

Source: Sigma

Lot: 018K4050

Date Made: 2009/01/06

Control Chart: Inhibition: IC50 at 4 ± 1 hour

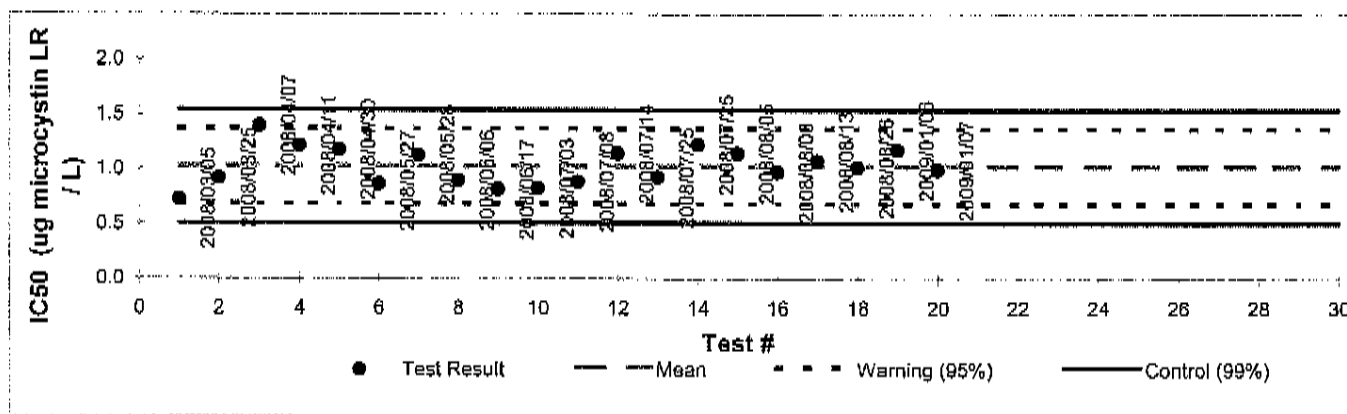
Current Test: started on 2009/01/07 ended on 2009/01/07

result: 1.00 IC50 for inhibition of protein phosphatase (ug microcystin LR / L)

Historical: mean: 1.0 std.dev: 0.2 cv(%): 17

warning limits: warning: 0.7 1.4 (lower and upper 95% confidence limit, two standard deviations)

control limits: control: 0.5 1.5 (lower and upper 99% confidence limit, three standard deviations)



Quality Assurance Unit:

Authorized by S. Krishnappa, B.Sc., Quality Assurance Officer

The test data and results are verified correct.

Our liability is limited to the cost of the test requested. The test results only relate to the sample as received. No liability in whole or in part is assumed for the collection, handling or transport of the sample, application or interpretation of the test data or results.