SPECIFICATIONS

I. Scope of Work:

The Commonwealth of Pennsylvania, Department of Environmental Protection (DEP) will be collecting ambient water samples with the intent of having those samples analyzed by a contractor (hereafter referred to as the analytical laboratory) for cyanobacteria and cyanotoxins. Each sample submitted by DEP to the analytical laboratory will incur a **Phycology Screen** analysis. The results of this phycology screen shall be used to determine the cyanotoxin analyses to be performed. The cyanotoxins tests that may be performed include:

- **Microcystin** toxin analysis
- **Cylindrospermopsin** toxin analysis
- **Saxitoxin** toxin analysis
- **Anatoxin-a** toxin analysis

A detailed description of each test type referred to above is provided in the **Requirements for Phytoxigene™ CyanoDTec, Phycology and Cyanotoxin Analyses** section contained in these specifications.

A **qPCR method** shall also be utilized to examine replicate samples submitted by DEP. Specifications for this qPCR method are also provided in the **Requirements for Phytoxigene™ CyanoDTec, Phycology and Cyanotoxin Analyses** section of the specifications.

II. Sample Collection Requirements:

The ambient water samples will be collected by various Commonwealth staff, as well as by various watershed groups coordinating with DEP. Collections may begin in June of 2019 and likely end in November of 2019. This timeframe shall hereinafter be referred to as the sampling season. These beginning and ending dates for the sampling season are speculative and may vary as a consequence of weather patterns that develop over the sampling time.

III. Sample Delivery Requirements:

Delivery of these samples, to the analytical laboratory, will be the responsibility of DEP. Typically, these samples will arrive at the analytical laboratory within 24 hours (but no longer than 72 hours) of field collection and will be delivered in a disposable shipping cooler box (cooler box will be provided by DEP). As a matter of practice, samples will have been stored, from the time of field collection, until the time of delivery to the analytical laboratory, on wet-ice or in a refrigerator/cooler that maintains the sample in an unfrozen state and between a temperature of 0°C and 5°C. If delivery of the sample

cannot be made within 72 hours of collection, the sample will be split by DEP so that one aliquot will be frozen (for cyanotoxin testing) and one aliquot preserved with formalin (for the phycology screen analysis). The formalin utilized by DEP shall consist of a mixture of water (45 – 48%, by weight), formaldehyde (37 – 40 %, by weight), and methyl alcohol (15%, by weight) and shall be applied to the sample at a rate of 5 to 7ml of formalin per 100ml of sample.

IV. Initial Laboratory Reporting Requirements:

Upon receipt of a DEP sample at the analytical laboratory, the analytical laboratory shall first conduct the Phycology Screen Analysis for cyanobacteria. After the analytical laboratory reports the results of this phycology screen to the responsible DEP personnel, DEP shall, in consultation with the analytical laboratory, authorize the analytical laboratory to proceed with those various cyanotoxin analyses recommended by the phycology results. Upon completion of these Cyanotoxin Analyses, the analytical laboratory shall promptly report the results from these analyses to the responsible personnel at DEP. Reporting requirements are specified in both the various analysis requirement sections and the **General Cyanotoxin Analysis Reporting Requirements** section of the specifications.

Because of the importance of DEP's need to promptly advise involved stakeholders of potential human and animal health consequences related to cyanotoxin exposure, the rapid timeliness within which field collections, delivery of samples to the analytical laboratory, phycology analysis, and ELISA and LC-MS/MS cyanotoxin analyses are to be conducted, is paramount to the success of DEP's cyanobacteria and cyanotoxin monitoring program. For this reason, the analytical laboratory shall be expected to adhere to the timelines of reporting as defined in the **Phycology Screen Analysis Requirements** and the **General Cyanotoxin Analysis Reporting Requirements** sections of the specifications. The qPCR method, on replicate samples, **shall not** adhere to these rapid timelines.

V. Requirements for Phytoxigene™ CyanoDTec qPCR, Phycology Screen, and Cyanotoxin Analyses:

A. Phytoxigene™ CyanoDTec Replicate Sample Requirements – a qPCR Method:

DEP will be stockpiling replicate sample material (stored at DEP in a -80°C freezer), over the duration of the sampling season, for later use in this Phytoxigene™ qPCR assay. As results are compiled from the Phycology and ELISA or LC-MS/MS toxin analyses (tests described below), DEP will decide which replicate sample material to provide to the analytical lab for processing, via this procedure. Because the quantity of samples to be submitted to this qPCR

method will be limited, DEP will select which replicate sample material to analyze, based upon the other cyanobacteria and cyanotoxin analyses results produced through the sampling season. DEP intends to submit material representative of the diversity in phycology and toxin concentrations, revealed by the season-long sampling effort. DEP field collection and preservation methods required to support this qPCR procedure will be coordinated with the analytical lab, prior to the beginning of sampling. The qPCR samples will be submitted to the analytical lab, in bulk, toward the end of the sampling season.

For each sample submitted by DEP for this analysis type, the analytical laboratory shall perform a real time quantitative PCR (qPCR) assay to detect and quantify, for the presence of cyanobacteria, and for the presence of microcystin/nodularin, cylindrospermopsin and saxitoxin producing genes. This assay shall utilize the following Phytoxigene™ products and procedures – **no substitutions** are permissible without the express permission of the responsible DEP personnel, as needed to adapt to new or revised Phytoxigene™ products and/or procedures:

- Catalogue number 205-0050 for CyanoDTec Total Cyanobacteria by 16S rRNA and Internal Amplification Control (IAC) target
- Catalogue number 205-0051 CyanoDTec Toxin Gene for microcystin/nodularin, cylindrospermopsin, and saxitoxin
- Catalogue number CyanoNAS for the nucleic acid standards for the CyanoDTec kit
- All portions of this assay performed according to the Phytoxigene™ CyanoDTec assay Protocol Version 8 dated July 2016 (available from https://www.phytoxigene.com)

For each sample submitted for qPCR processing, the analytical laboratory shall report the following results to DEP, as well as a quality control report:

- Report the presence or absence of cyanobacteria, as indicated by the CyanoDTec Total Cyanobacteria by 16S rRNA procedure.
- If cyanobacteria are present, as indicated by the above 16S rRNA procedure, then a quantitative report shall indicate the number of gene copies per ml of submitted sample, for each of microcystin/nodularin (mcyE/ndaF), saxitoxin (Sxt A) and cylindrospermopsin (cyrA).
- The analytical lab shall confer, after the award of contract, with the responsible personnel at DEP to develop a mutually-agreeable Quality Control method and report for this qPCR method.

B. Phycology Screen Analysis Requirements:

1. The analytical laboratory shall conduct the Phycology Screen Analysis on every sample submitted by DEP and shall perform this analysis first, and prior to DEP's authorization to conduct any recommended cyanotoxin analyses.

2. Microscopic observation of the sample using an inverted microscope with objectives at 4-5x, 10x, 20x, 40x with phase-contrast optics (20x & 40x). Samples are to be observed live or preserved (by formalin) to determine if potentially toxigenic cyanobacteria are present. If potentially toxigenic cyanobacteria are present, dominant cyanobacteria are identified and recommendations are made for toxin analysis.

3. The volume of sample to be observed shall be appropriate to the condition of the sample, and generally shall be 1ml, as observed in a Sedgewick Rafter counting chamber. This observation method would be typical of a sample collected from the water column of a lake, for example. If the sample contains some threshold quantity of algae scum material, such that high cell densities prevent the practical analysis of a 1mL aliquot in the Sedgewick Rafter, then this sample material may be observed as wet mounts at 3x.

4. The most current taxonomical classifications for cyanobacteria must be used. Identification literature citations must be provided for each reported cyanobacteria taxa. Cyanobacteria identifications must typically be reported to the genus level, and where floristic characteristics permit, reported to the species level.

5. Type micrograph images of each identified cyanobacteria taxa, for each named system (e.g. lake) in the sample delivery package, must be collected and provided in the phycology report to DEP. The micrograph image shall be accompanied with magnification information and a scale bar shown. Micrographs cannot be stock micrographs; they must be collected from the sample being reported at the time of analysis. The purpose of these micrographs is to allow DEP to better characterize the types of cyanobacteria present in each system, as well as their floristic development in that system, over time.

6. Cyanotoxin analysis recommendations generated from this phycology analysis are to be based on the scientific literature, with references provided upon request of DEP. Cyanobacteria densities required for the recommendation of cyanotoxin analysis are to be calibrated to the taxa

observed in the sample. For example, nostocalean/oscillatorialean cyanobacteria, if observed at densities > 10 filaments per mL, would trigger a recommendation for the appropriate cyanotoxin testing, or, an observed chroococcalean cyanobacteria at densities >1 colony per mL, would trigger a recommendation for the appropriate cyanotoxin testing. Conservative recommendations may be made by empirical judgement of the analyst (*e.g.* presence = testing) but must be justified to the appropriate personnel at DEP before those recommendations are accepted. Once there is a history of toxin analysis in the system, then recommendations may be paired to previous toxin analysis data.

7. Minimum reporting requirements for the phycology analysis include:

   a. The turn-around time for phycology analysis and complete reporting to the responsible personnel at DEP is ≤ 48 hours from time of sample receipt at the analytical laboratory (if <10 samples submitted) or, ≤ 72 hours (if >10 samples submitted).

   b. Description of the cyanobacteria taxa observed in each sample. This description is also to include paired micrographs along with observed densities, and reported in the appropriate units, such as Natural Units per ml, for example. Relative abundances may also be used in samples where cell or natural unit densities are impractical to count, such as in a scum sample, for example. (Natural Units are natural groupings of algae, such as an individual filament, colony, or isolated cell, and represent the usual grouping of cells that occur in a natural setting. Each such natural grouping is counted as one Natural Unit. For example, a colony of microcystis, which may contain dozens or perhaps hundreds of cells, is counted in the sample as one Natural Unit.)

   c. A table pairing the observed cyanobacteria taxa with the potential cyanotoxins that may be produced by that taxa. The list of potential cyanotoxins shall include only those included in the **Cyanotoxin Analysis Requirements** section of the specifications.

   d. A description of the above table along with the rationale for each recommended cyanotoxin analysis.

C. **ELISA and LC-MS/MS Cyanotoxin Quantitation Analysis Requirements:**

The analytical laboratory shall conduct the Phycology Screen Analysis on every sample submitted by DEP, and shall perform this analysis first, and prior to

DEP's authorization to conduct any of recommended cyanotoxin analyses, as described below.

1. **Total Microcystins and Nodularin Analysis by ELISA (Enzyme-Linked Immunosorbent Assay):**

   a. This analysis type shall follow the US EPA Method 546 for total microcystins/nodularins by Adda ELISA. Proficiency in the use of this test must be provided in the form of documentation illustrating compliance with the Unregulated Contaminant Monitoring Rule 4 (UCMR4), or be accepted for Total Microcystin Testing by the Ohio EPA Total (Extracellular and Intracellular) Microcystins-ADDA by ELISA Analytical Methodology, Version 2.2, November 2015 (Ohio EPA DES 701.0), in addition to previously-passed proficiency testing.

   b. The only deviation accepted, to the above-defined method, is a deviation from the cell lysis procedure. If there is a deviation, the laboratory must submit documentation showing that the lysis technique used does not compromise the analysis in the form of a comparison of freeze-thaw to the laboratory method used, with clear demonstration through documentation, that the procedure has been used effectively in the contractor's own analytical laboratory setting.

   c. At minimum, 20% samples will be prepared as a lab fortified sample matrix (LFSM-an aliquot of a field sample to which a known quantity of MC-LR is added). The purpose of the LFSM is to determine whether the sample matrix contributes bias to the analytical results. A batch (per assay) will also have a second aliquot of the field sample used to prepare the LFSM that is fortified and assayed in the same Analysis Batch as the LFSM. Documentation of this procedure shall be included with each cyanotoxin analysis report to DEP, to demonstrate continued adherence to preferred quality control and quantitation procedures in the analytical laboratory setting. The information to be provided in each report (per ELISA assay as defined in US EPA Method 546) must include and meet the following minimum requirements:

      i. Calibration curve $R^2>0.98$
      ii. Percent CV range STD $\leq$ 10%
      iii. LFB (1ppb) recovery $\pm$ 40% true value
      iv. Percent CV range LFB < 15%

v. Low CV (0.15 ppb) recovery ± 50% true value
vi. Lab reagent blank < 0.08

2. **Microcystins and Nodularin Analysis by LC-MS/MS:**

a. The analysis of microcystins by LC-MS/MS must include (at minimum) the following microcystins variants: [DAsp^3]Microcystin-RR, Microcystin–RR, Microcystin-YR, Microcystin-LR, [DAsp^3]Microcystin-LR, [Dha^7]Microcystin-LR, Microcystin-WR, Microcystin-HilR, [DLeu^1]Microcystin-LR, Microcystin-LY, Microcystin-LA, Microcystin-LF, Microcystin-LW and Nodularin-R.

b. Extractions (when conducted) must include solid phase extraction using Waters HLB Oasis or Phenomenex Strata X cartridges.

c. High performance liquid chromatography (HPLC) is to be conducted using a reverse phase column and all MS/MS fragmentation is to be reported with data.

d. The microcystins/nodularin variant analysis must be compatible with a method detection limit of 0.5 ng/mL, or lower, for each variant.

e. The internal standard method must be employed utilizing an isotopically labelled microcystin (*e.g. d*7-MC-LR), in conjunction with the targeted microcystin variants (5-point standard curve or higher). This requires the laboratory to have working reference standards of each variant of microcystin, in order to calibrate the method and provide confidence in values reported. The certificates of analysis, for the reference standards, must be provided after bid opening and prior to award of contract.

f. In order for the analysis result to be accepted, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

i. Calibration curve R^2>0.99
ii. Calibration check ±30% (±50% if ≤2x MDL)
iii. Lab reagent blank must be <1/3 the lowest standard

g. In order for the analysis result to be reported, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

i. Spike (LFSM) returns of each sample ≥ 20% spiking rate
ii. The internal standard recoveries
iii Deviations from the method used

3. **Total Microcystins and Nodularin Analysis by MMPB Extraction and LC-MS/MS:**

a. Total Adda microcystins/nodularins must be oxidized to 2-methyl-3-methoxy-4-phenylbutyric acid (MMPB) and extracted (solid phase extraction) in accordance with Foss and Aubel, (2015) or Roy-Lachapelle et al. (2014).

b. Analysis is to be conducted using LC-MS/MS with a method detection limit 0.15 ng/mL, or lower. All quantification must be completed using standard addition with, at minimum, one lab fortified sample matrix (LFSM) prepared of each sample (100% spike rate). An external curve (≥5 point) of MC-LR oxidized to MMPB is used to calibrate the method.

c. In order for the analysis result to be accepted, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

i. Calibration curve R^2>0.99
ii. Calibration check ±30% (±50% if ≤2x MDL)
iii. Lab reagent blank must be <1/3 the lowest standard

d. In order for the analysis result to be reported, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

i. Spike (LFSM) returns of each sample at 100% spiking rate
ii. Deviations from the method used

4. **Saxitoxin Analysis by ELISA (Enzyme-Linked Immunosorbent Assay):**

a. The analysis of water sample by ELISA must follow the manufacturer methods outlined by the test

(http://www.abraxiskits.com/wp-content/uploads/2014/04/STXplateinsertR042414.pdf). Abraxis test kits are to be used with a reported method detection limit of 0.05 ng/mL. All required dilutions will be made with kit supplied diluent.

b. In order for kit data to be accepted, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

   i. A lab reagent blank must be <1/3 the lowest standard
   ii. Curve must illustrate an R^2 >0.99 for 4-parameter integration

c. In order for Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include, at a minimum, 20% of samples will also be prepared as lab fortified sample matrix (LFSM), and reported with recoveries and:

   i. If LFSM returns are <70% or >130%, the samples and LFSM/LFSMD will be re-analyzed
   ii. %RPD of LFSM/LFSMD must be <40%

5. **Anatoxin-a Analysis by LC-MS/MS:**

a. The analysis of anatoxin-a by LC-MS/MS must be conducted using the internal standard method, similar to Method 545, but can be modified to be conducted on ambient water. The method requires the use of an internal standard, such as isotopically labelled anatoxin-a, and a 5-point (or higher) standard curve. The method must have a method detection limit of 0.05 ng/mL or lower, with chromatographic separation from phenylalanine, a natural contaminant frequently mis-identified as anatoxin-a. At least 20% of samples will be spiked. The certificates of analysis for the reference standards (including IS) must be provided after bid opening and prior to award of contract.

b. In order for the analysis result to be accepted, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

   i. Calibration curve R^2>0.99
   ii. Calibration check ±30% (±50% if ≤2x MDL)
   iii Lab reagent blank must be <1/3 the lowest standard

c. In order for the analysis result to be reported, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

i. Spike (LFSM) returns of each sample at ≥ 20% spiking rate
ii. Deviations from the method used
iii. The internal standard recoveries will be reported

6. **Cylindrospermopsin and epi-Cylindrospermopsin Analysis by LC-MS/MS:**

a. The analysis of cylindrospermopsin by LC-MS/MS must be conducted using the internal standard method, similar to Method 545, but can be modified to be conducted on ambient water. The method requires the use of an internal standard, such as isotopically labelled cylindrospermopsin, and a 5-point (or higher) standard curve. The method must have a method detection limit of 0.05 ng/mL, or lower, with chromatographic separation from epi-cylindrospermopsin. At least 20% of samples will be spiked. The certificates of analysis for the reference standards (including IS) must be provided after bid opening and prior to award of contract.

b. In order for the analysis result to be accepted, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

i. Calibration curve R^2>0.99
ii. Calibration check ±30% (±50% if ≤2x MDL)
iii. Lab reagent blank must be <1/3 the lowest standard

c. In order for the analysis result to be reported, Quality Control to be met and demonstrated in each cyanotoxin analysis, the report shall include:

i. Spike (LFSM) returns of each sample at ≥ 20% spiking rate
ii. Deviations from the method used
iii. The internal standard recoveries will be reported

D. General Cyanotoxin Analysis Reporting Requirements:

1. Toxin analysis reports must be transmitted by the analytical laboratory via e-mail to the responsible personnel at DEP, ≤ 72 hours after the receipt of

cyanotoxin analysis authorizations from DEP. Note that the reporting requirements for the phycology analysis were previously specified.

2. The analytical laboratory shall include, in addition to that previously specified in the method specific requirement sections, the following information in each cyanotoxin analysis report:

   a. Each report shall be titled with appropriate sample locations and sample dates.

   b. The name and address of the laboratory, the location of the laboratory, if different from the address.

   c. Unique identification of the test report in report name.

   d. Page numbers.

   e. The name and e-mail address of the client.

   f. The identification of the method used or short method synopsis.

   g. A description of, condition of, and unambiguous identification of the sample(s) tested, including the client identification code.

   h. The date of sample receipt, date of sample collection, dates the tests were performed, and non-conformance, if times or temperatures exceed acceptable criteria.

   i. The test results, units of measurement and failures identified.

   j. The name, function, signature, or an equivalent electronic identification, of the person authorizing the test report, and the date of issue.

   k. Where relevant, a statement to the effect that the results relate only to the samples.

   l. Deviations from, additions to, or exclusions from the test method, information on specific test conditions, such as environmental conditions, and any non-standard conditions that may have affected the quality of the results, and any information on the use and definitions of data qualifiers.

m. A statement of compliance/non-compliance when requirements of the management system are not met, including identification of test results that did not meet the laboratory and regulatory sample acceptance requirements, such as holding time, preservation, etc.

n. Where applicable, and when requested by the client, a statement on the estimated uncertainty of the measurement.

o. Opinions and interpretations (when opinions and interpretations are included, the basis upon which the opinions and interpretations are documented, are clearly marked as such in the test report).

p. Additional information which may be required by specific methods.

q. Qualification of results with values outside the calibration range, as appropriate.

E. Deliverables with Bid Submission, Validating the Analytical Laboratory Qualifications and Readiness to Receive and Process Samples:

1. A signed and notarized document, stating that all work described herein, will be conducted within the facilities of the analytical laboratory and that work will not be subcontracted to another entity or provider.

2. Proof of appropriate supplies and equipment, to include all certificates of analysis for each analyte to be tested, shall be provided after bid opening and prior to award of contract.

   The following certificates of analysis are required:

   a. [DAsp3]Microcystin-RR
   b. Microcystin-RR
   c. Nodularin-R
   d. Microcystin-YR
   e. Microcystin-HtyR
   f. Microcystin-LR
   g. [Dha7]Microcystin-LR
   h. [DAsp3]Microcystin-LR
   i. Microcystin-HilR
   j. Microcystin-WR
   k. [DLeu1]Microcystin-LR
   l. Microcystin-LA

m. Microcystin-LY
n. Microcystin-LW
o. Microcystin-LF
p. Anatoxin-a
q. Homoanatoxin-a
r. Cylindrospermopsin
s. Saxitoxin

3. Documentation illustrating the laboratory has met US EPA application and Proficiency Testing (PT) criteria for the fourth Unregulated Contaminant Monitoring Rule (UCMR 4) Laboratory Approval Program for the Assessment Monitoring (AM) total microcystins by Adda ELISA via Method 546, or be accepted for Total Microcystin Testing by the Ohio EPA Total (Extracellular and Intracellular) Microcystins- ADDA by ELISA Analytical Methodology, Version 2.2, November 2015 (Ohio EPA DES 701.0).

4. Documentation supporting the laboratory has passed proficiency testing for the following tests in the past 24 months:

   a. microcystins by ELISA
   b. microcystins by LC-MS/MS
   c. anatoxin-a by LC-MS/MS
   d. cylindrospermopsin by LC-MS/MS

5. After bid opening and prior to award of contract, the analytical laboratory must submit a quality assurance project plan addressing minimum Quality Control listed above, or if there is a quality system in place, the quality assurance manual.

VI. Contract Term:

The contract shall commence upon execution and terminate December 31, 2019. Further, the parties hereto may agree to renew this contract for up to four (4) additional consecutive annual terms with a final termination date of December 31, 2023, upon the same terms and conditions set forth in the original contract. In the event of contract renewal, contractor shall provide a written notice to the DEP, at least sixty (60) days prior to contract expiration date, of their intent to renew. Contractor may increase their unit price bid by an amount not to exceed three percent (3%) of the unit price currently in affect.

VII. Payment Terms:

The analytical laboratory shall submit invoices to DEP only for those tests that are received from DEP. Payment shall be made upon receipt of invoice for services rendered.

VIII. Bid Award:

Contract shall be awarded to the lowest responsive/responsible bidder in accordance with **Attachment A – Bid Award**. **Attachment A – Bid Award** is for informational purposes, only. Unit prices shall be provided in the bidder's bid submission.

All bids must be submitted electronically through the Department of General Services' (DGS) eMarketplace website. The eMarketplace website is located at http://www.emarketplace.state.pa.us. DEP is not responsible for the maintenance of the eMarketplace website.

DGS's Supplier Service Center (Supplier Service Center) is available to assist vendors with registration, bidding and account management. For questions regarding registration help, send an e-mail to RA-PSC_Supplier_Requests@pa.gov or call (877) 435-7363, choose option 1. For questions regarding bidding help, send an e-mail to srmhelp@pa.gov or call (877) 435-7363, choose option 2.

Estimated Quantities: Since the opportunity and need for cyanobacteria and cyanotoxin sampling, during the sampling season will be contingent upon unpredictable weather patterns, the test types and quantities indicated in the specifications shall be interpreted by the analytical laboratory as not-to-exceed quantities for the initial contract term, only.

Further, upon mutual agreement and in the event of contract renewal, the DEP may increase or decrease test type analyses to be performed by the analytical laboratory.

ATTACHMENT A – BID AWARD

The contract shall be awarded on a per test basis, as follows:

Test Description	Estimated Quantity of Tests				Total
A. qPCR Method via the Phytoxigene™ CyanoDTec procedure -	15	x	$_____/test	=	$_____
B. Phycology Screen Analysis -	100	x	$_____/test	=	$_____
C. Total Microcystins and Nodularin Analysis by ELISA -	60	x	$_____/test	=	$_____
D. Microcystin and Nodularin Analysis by LC-MS/MS -	6	x	$_____/test	=	$_____
E. Total Microcystins and Nodularin Analysis by MMPB Extraction and LC-MS/MS -	6	x	$_____/test	=	$_____
F. Saxitoxin Analysis by ELISA -	60	x	$_____/test	=	$_____
G. Anatoxin-a Analysis by LC-MS/MS -	16	x	$_____/test	=	$_____
H. Cylindrospremopsin Epi-Cylindrospermopsin Analysis by LC-MS/MS -	6		$_____/test	=	$_____
I. Combined Anatoxin-a and Cylindrospermopsin Analyses by LC-MS/MS -	35		$_____/test	=	$_____
			Total A through I		**$_____**