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Mitchell Mysliwicz  
 Larry Walker Associates  
 707 Fourth Street  
 Suite 200  
 Davis, CA 95616-

Project Name: Machado Lake Nutrients  
 Physis Project ID: 1206006-001

Dear Mitchell,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 9/11/2012. A total of 15 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Conventionals
Total Suspended Solids by SM 2540 D
Total Phosphorus by SM 4500-P E
Total Orthophosphate (as P) by SM 4500-P E
Total Dissolved Solids by SM 2540 C
Total Dissolved Phosphorus by SM 4500-P E
Nitrite by SM 4500-NO <sub>2</sub> B
Nitrate by EPA 300.0
Ammonia by SM 4500-NH <sub>3</sub> D
Subcontract
Total Kjeldahl Nitrogen by EPA 353.2

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Misty Mercier  
 Extension 202  
 714-335-5918 cell  
[mistymercier@physislabs.com](mailto:mistymercier@physislabs.com)

## ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

## QUALITY ASSURANCE SUMMARY

**LABORATORY BATCH:** Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and are used to assess the validity of the sample analyses.

**PROCEDURAL BLANK:** Laboratory contamination introduced during method use was assessed through the analysis of procedural blanks at a minimum frequency of one per batch. Physis' QM requires that all procedural blanks be below 10 times the MDL and all detectable constituents in the procedural blanks be flagged in the project sample results with a B qualifier.

**ACCURACY:** Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

**PRECISION:** Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS<sub>1</sub>/MS<sub>2</sub>, BS<sub>1</sub>/BS<sub>2</sub>, LCS<sub>1</sub>/LCS<sub>2</sub>, LCM<sub>1</sub>/LCM<sub>2</sub>, CRM<sub>1</sub>/CRM<sub>2</sub>, surrogate spikes and/or replicate project sample analysis (R<sub>1</sub>/R<sub>2</sub>) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

**MATRIX SPIKES:** MS samples were employed to assess the effect a particular project sample matrix has on the accuracy of a measurement. It is prepared by adding a known amount of the target analyte(s) to an aliquot of the project sample. Matrix spikes indicate the bias of analytical measurements due to chemical interferences inherent in the sample matrix. If the matrix spike recovery does not fall within the specified acceptance limits, it may be an indication of sample matrix interference in the specific project sample used for the MS. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

**BLANK SPIKES:** BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

**CERTIFIED REFERENCE MATERIALS:** CRMs are pre-homogenized materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of a preparation and analytical method. CRMs are analyzed to provide evidence that the laboratory method produces results that are comparable to those obtained by an independent organization.

**SURROGATES:** Where CRMs are unavailable, target analyte recovery can be assessed by monitoring added surrogate compounds/elements. A surrogate is a pure analyte unlikely to be found in any project sample and most often used with organic analytical procedures. Percent recovery is calculated for each surrogate and is used to monitor method performance within each discrete sample and is indicative of the procedure's ability to recover the actual analytes of interest.

**HOLDING TIME:** Method recommended holding times are the length of time a project sample can be stored

under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes. Physis' QM requires that all samples analyzed beyond the method recommended holding time be flagged in the sample results with an H qualifier.

**TOTAL/DISSOLVED FRACTION:** In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

**PHYSIS QUALIFIER CODES**

<b>CODE</b>	<b>DEFINITION</b>
*	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified recovery and/or RPD acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore MS recovery and/or RPD acceptance limits do not apply
SL	analyte results for R1 and/or R2 were lower than 10 times the MDL, therefore RPD acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore MS recovery and/or RPD were outside the specified acceptance limits
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

# PHYSICS

**PANALYTICAL**

TERRA AURA

# REPORT

ENVIRONMENTAL LABORATORIES, INC.

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CA ELAP #2769

## Conventionals

## ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
<b>Sample ID: 17427-R1</b>	<b>MLMRP-01-Q1-10_ACAD-1</b>	<b>Matrix: Freshwater</b>				
	Method: SM 2540 C	Batch ID: C-9071				
Total Dissolved Solids	NA	1292	0.1	5	mg/L	
	Method: SM 2540 D	Batch ID: C-9072				
Total Suspended Solids	NA	30	0.5	1	mg/L	
<b>Sample ID: 17428-R1</b>	<b>MLMRP-01-Q1-10_ACAD-2</b>	<b>Matrix: Freshwater</b>				
	Method: SM 4500-P E	Batch ID: C-9036				
Total Orthophosphate as P	NA	0.47	0.01	0.02	mg/L	
	Method: SM 4500-NO2 B	Batch ID: C-9047				
Nitrite-N	NA	0.02	0.01	0.05	mg/L	J
	Method: EPA 300.0	Batch ID: C-9052				
Nitrate-N by IC	NA	3.82	0.01	0.05	mg/L	
	Method: SM 4500-P E	Batch ID: C-9063				
Total Dissolved Phosphorus	NA	0.391	0.016	0.05	mg/L	
<b>Sample ID: 17430-R1</b>	<b>MLMRP-01-Q1-10_ACAD-4</b>	<b>Matrix: Freshwater</b>				
	Method: SM 4500-NH3 D	Batch ID: C-9050				
Ammonia-N	NA	0.32	0.02	0.06	mg/L	
	Method: SM 4500-P E	Batch ID: C-9063				
Total Phosphorus	NA	0.459	0.016	0.05	mg/L	
<b>Sample ID: 17431-R1</b>	<b>MLMRP-01Q1-30_VAND-1</b>	<b>Matrix: Freshwater</b>				
	Method: SM 2540 C	Batch ID: C-9071				
Total Dissolved Solids	NA	509	0.1	5	mg/L	
	Method: SM 2540 D	Batch ID: C-9072				
Total Suspended Solids	NA	4.7	0.5	1	mg/L	
<b>Sample ID: 17432-R1</b>	<b>MLMRP-01Q1-30_VAND-2</b>	<b>Matrix: Freshwater</b>				
	Method: SM 4500-P E	Batch ID: C-9036				
Total Orthophosphate as P	NA	0.24	0.01	0.02	mg/L	
	Method: SM 4500-NO2 B	Batch ID: C-9047				
Nitrite-N	NA	ND	0.01	0.05	mg/L	



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## Conventionals

## ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
	Method: EPA 300.0	Batch ID: C-9052		Prepared: 12-Sep-12		Analyzed: 12-Sep-12
Nitrate-N by IC	NA	ND	0.01	0.05	mg/L	
	Method: SM 4500-P E	Batch ID: C-9063		Prepared: 19-Sep-12		Analyzed: 20-Sep-12
Total Dissolved Phosphorus	NA	0.267	0.016	0.05	mg/L	
<b>Sample ID: 17434-R1</b>	<b>MLMRP-01Q1-30_VAND-4</b>	<b>Matrix: Freshwater</b>		<b>Sampled: 11-Sep-12 11:45</b>		<b>Received: 11-Sep-12</b>
	Method: SM 4500-NH <sub>3</sub> D	Batch ID: C-9050		Prepared: 14-Sep-12		Analyzed: 14-Sep-12
Ammonia-N	NA	0.04	0.02	0.06	mg/L	J
	Method: SM 4500-P E	Batch ID: C-9063		Prepared: 19-Sep-12		Analyzed: 20-Sep-12
Total Phosphorus	NA	0.36	0.016	0.05	mg/L	
<b>Sample ID: 17435-R1</b>	<b>MLMRP-01-Q1-10_ACAD_DUPREE-1</b>	<b>Matrix: Freshwater</b>		<b>Sampled: 11-Sep-12 9:00</b>		<b>Received: 11-Sep-12</b>
	Method: SM 2540 C	Batch ID: C-9071		Prepared: 13-Sep-12		Analyzed: 13-Sep-12
Total Dissolved Solids	NA	1105	0.1	5	mg/L	
	Method: SM 2540 D	Batch ID: C-9072		Prepared: 13-Sep-12		Analyzed: 13-Sep-12
Total Suspended Solids	NA	22.2	0.5	1	mg/L	
<b>Sample ID: 17436-R1</b>	<b>MLMRP-01-Q1-10_ACAD_DUPREE-2</b>	<b>Matrix: Freshwater</b>		<b>Sampled: 11-Sep-12 9:00</b>		<b>Received: 11-Sep-12</b>
	Method: SM 4500-P E	Batch ID: C-9036		Prepared: 12-Sep-12		Analyzed: 12-Sep-12
Total Orthophosphate as P	NA	0.48	0.01	0.02	mg/L	
	Method: SM 4500-NO <sub>2</sub> B	Batch ID: C-9047		Prepared: 13-Sep-12		Analyzed: 13-Sep-12
Nitrite-N	NA	0.02	0.01	0.05	mg/L	J
	Method: EPA 300.0	Batch ID: C-9052		Prepared: 12-Sep-12		Analyzed: 12-Sep-12
Nitrate-N by IC	NA	3.61	0.01	0.05	mg/L	
	Method: SM 4500-P E	Batch ID: C-9063		Prepared: 19-Sep-12		Analyzed: 20-Sep-12
Total Dissolved Phosphorus	NA	0.347	0.016	0.05	mg/L	
<b>Sample ID: 17438-R1</b>	<b>MLMRP-01-Q1-10_ACAD_DUPREE-4</b>	<b>Matrix: Freshwater</b>		<b>Sampled: 11-Sep-12 9:00</b>		<b>Received: 11-Sep-12</b>
	Method: SM 4500-NH <sub>3</sub> D	Batch ID: C-9050		Prepared: 14-Sep-12		Analyzed: 14-Sep-12
Ammonia-N	NA	0.24	0.02	0.06	mg/L	
	Method: SM 4500-P E	Batch ID: C-9063		Prepared: 19-Sep-12		Analyzed: 20-Sep-12
Total Phosphorus	NA	0.434	0.016	0.05	mg/L	
<b>Sample ID: 17439-R1</b>	<b>MLMRP-01-Q1-10_ACAD_TAHOE-2</b>	<b>Matrix: Freshwater</b>		<b>Sampled: 11-Sep-12 9:15</b>		<b>Received: 11-Sep-12</b>



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## Conventionals

## ANALYTICAL REPORT

ANALYTE	FRACTION	RESULT	MDL	RL	UNITS	QA CODE
	Method: SM 4500-P E	Batch ID: C-9036		Prepared: 12-Sep-12		Analyzed: 12-Sep-12
Total Orthophosphate as P	NA	ND	0.01	0.02	mg/L	
	Method: SM 4500-NO2 B	Batch ID: C-9047		Prepared: 13-Sep-12		Analyzed: 13-Sep-12
Nitrite-N	NA	ND	0.01	0.05	mg/L	
	Method: EPA 300.0	Batch ID: C-9052		Prepared: 12-Sep-12		Analyzed: 12-Sep-12
Nitrate-N by IC	NA	0.05	0.01	0.05	mg/L	J
	Method: SM 4500-P E	Batch ID: C-9063		Prepared: 19-Sep-12		Analyzed: 20-Sep-12
Total Dissolved Phosphorus	NA	0.017	0.016	0.05	mg/L	J
<b>Sample ID: 17441-R1</b>	<b>MLMRP-01-Q1-10_ACAD_TAHOE-4</b>	<b>Matrix: Freshwater</b>		<b>Sampled: 11-Sep-12 9:15</b>		<b>Received: 11-Sep-12</b>
	Method: SM 4500-NH3 D	Batch ID: C-9050		Prepared: 14-Sep-12		Analyzed: 14-Sep-12
Ammonia-N	NA	ND	0.02	0.06	mg/L	
	Method: SM 4500-P E	Batch ID: C-9063		Prepared: 19-Sep-12		Analyzed: 20-Sep-12
Total Phosphorus	NA	ND	0.016	0.05	mg/L	

# QUALITY CONTROL

# REPORT

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## Conventionals

## QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE	
<b>Ammonia-N</b>			<b>Method: SM 4500-NH<sub>3</sub> D</b>			<b>Fraction: NA</b>			<b>Prepared: 14-Sep-12</b>			<b>Analyzed: 14-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9050	ND	0.02	0.06	mg/L							
17426-BS1	QAQC Procedural Blank	C-9050	0.26	0.02	0.06	mg/L	0.25	0	104		PASS		
17426-BS2	QAQC Procedural Blank	C-9050	0.27	0.02	0.06	mg/L	0.25	0	108		PASS	4 30 PASS	
17430-MS1	MLMRP-01-Q1-10_ACA	C-9050	0.61	0.02	0.06	mg/L	0.25	0.31	120	70-130%	PASS		
17430-MS2	MLMRP-01-Q1-10_ACA	C-9050	0.62	0.02	0.06	mg/L	0.25	0.31	124	70-130%	PASS	3 30 PASS	
17430-R2	MLMRP-01-Q1-10_ACA	C-9050	0.3	0.02	0.06	mg/L					PASS	6 30 PASS	
17441-R2	MLMRP-01-Q1-10_ACA	C-9050	ND	0.02	0.06	mg/L					PASS	0 30 PASS	
<b>Nitrate-N by IC</b>			<b>Method: EPA 300.0</b>			<b>Fraction: NA</b>			<b>Prepared: 12-Sep-12</b>			<b>Analyzed: 12-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9052	ND	0.01	0.05	mg/L							
17426-BS1	QAQC Procedural Blank	C-9052	0.11	0.01	0.05	mg/L	0.11	0	100	70-130%	PASS		
17426-BS2	QAQC Procedural Blank	C-9052	0.12	0.01	0.05	mg/L	0.11	0	109	70-130%	PASS	9 30 PASS	
17428-MS1	MLMRP-01-Q1-10_ACA	C-9052	4.95	0.01	0.05	mg/L	1.1	3.82	103	70-130%	PASS		
17428-MS2	MLMRP-01-Q1-10_ACA	C-9052	4.87	0.01	0.05	mg/L	1.1	3.82	95	70-130%	PASS	8 30 PASS	
17428-R2	MLMRP-01-Q1-10_ACA	C-9052	3.81	0.01	0.05	mg/L					PASS	0 30 PASS	
<b>Nitrite-N</b>			<b>Method: SM 4500-NO<sub>2</sub> B</b>			<b>Fraction: NA</b>			<b>Prepared: 13-Sep-12</b>			<b>Analyzed: 13-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9047	ND	0.01	0.05	mg/L							
17426-BS1	QAQC Procedural Blank	C-9047	0.15	0.01	0.05	mg/L	0.15	0	100	70-130%	PASS		
17426-BS2	QAQC Procedural Blank	C-9047	0.15	0.01	0.05	mg/L	0.15	0	100	70-130%	PASS	0 30 PASS	
17428-MS1	MLMRP-01-Q1-10_ACA	C-9047	0.17	0.01	0.05	mg/L	0.15	0.02	100	70-130%	PASS		
17428-MS2	MLMRP-01-Q1-10_ACA	C-9047	0.18	0.01	0.05	mg/L	0.15	0.02	107	70-130%	PASS	7 30 PASS	
17428-R2	MLMRP-01-Q1-10_ACA	C-9047	0.02	0.01	0.05	mg/L					PASS	0 30 PASS J	
<b>Total Dissolved Phosphorus</b>			<b>Method: SM 4500-P E</b>			<b>Fraction: NA</b>			<b>Prepared: 19-Sep-12</b>			<b>Analyzed: 20-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9063	ND	0.016	0.05	mg/L							
17426-BS1	QAQC Procedural Blank	C-9063	0.277	0.016	0.05	mg/L	0.3	0	92	70-130%	PASS		
17426-BS2	QAQC Procedural Blank	C-9063	0.276	0.016	0.05	mg/L	0.3	0	92	70-130%	PASS	0 30 PASS	
17428-MS1	MLMRP-01-Q1-10_ACA	C-9063	0.657	0.016	0.05	mg/L	0.3	0.365	97	70-130%	PASS		
17428-MS2	MLMRP-01-Q1-10_ACA	C-9063	0.603	0.016	0.05	mg/L	0.3	0.365	79	70-130%	PASS	20 30 PASS	
17428-R2	MLMRP-01-Q1-10_ACA	C-9063	0.339	0.016	0.05	mg/L					PASS	14 30 PASS	



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## Conventionals

## QUALITY CONTROL REPORT

SAMPLE ID	BATCH ID	RESULT	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	LIMITS	PRECISION %	LIMITS	QA CODE	
<b>Total Dissolved Solids</b>			<b>Method: SM 2540 C</b>			<b>Fraction: NA</b>			<b>Prepared: 13-Sep-12</b>			<b>Analyzed: 13-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9071	ND	0.1	5	mg/L							
17426-BS1	QAQC Procedural Blank	C-9071	24860	0.1	5	mg/L	24959	0	100	70-130%	PASS		
17426-BS2	QAQC Procedural Blank	C-9071	68780	0.1	5	mg/L	69684	0	99	70-130%	PASS	1 30 PASS	
17427-R2	MLMRP-01-Q1-10_ACA	C-9071	1077	0.1	5	mg/L						18 30 PASS	
<b>Total Orthophosphate as P</b>			<b>Method: SM 4500-P E</b>			<b>Fraction: NA</b>			<b>Prepared: 12-Sep-12</b>			<b>Analyzed: 12-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9036	ND	0.01	0.02	mg/L							
17426-BS1	QAQC Procedural Blank	C-9036	0.54	0.01	0.02	mg/L	0.5	0	108	70-130%	PASS		
17426-BS2	QAQC Procedural Blank	C-9036	0.55	0.01	0.02	mg/L	0.5	0	110	70-130%	PASS	2 30 PASS	
17428-MS1	MLMRP-01-Q1-10_ACA	C-9036	0.8	0.01	0.02	mg/L	0.5	0.47	66	70-130%	FAIL	M	
17428-MS2	MLMRP-01-Q1-10_ACA	C-9036	0.8	0.01	0.02	mg/L	0.5	0.47	66	70-130%	FAIL	0 30 PASS M	
17428-R2	MLMRP-01-Q1-10_ACA	C-9036	0.47	0.01	0.02	mg/L						0 30 PASS	
<b>Total Phosphorus</b>			<b>Method: SM 4500-P E</b>			<b>Fraction: NA</b>			<b>Prepared: 19-Sep-12</b>			<b>Analyzed: 20-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9063	ND	0.016	0.05	mg/L							
17426-BS1	QAQC Procedural Blank	C-9063	0.277	0.016	0.05	mg/L	0.3	0	92	70-130%	PASS		
17426-BS2	QAQC Procedural Blank	C-9063	0.276	0.016	0.05	mg/L	0.3	0	92	70-130%	PASS	0 30 PASS	
17430-MS1	MLMRP-01-Q1-10_ACA	C-9063	0.732	0.016	0.05	mg/L	0.3	0.462	90	70-130%	PASS		
17430-MS2	MLMRP-01-Q1-10_ACA	C-9063	0.738	0.016	0.05	mg/L	0.3	0.462	92	70-130%	PASS	2 30 PASS	
17430-R2	MLMRP-01-Q1-10_ACA	C-9063	0.465	0.016	0.05	mg/L						1 30 PASS	
<b>Total Suspended Solids</b>			<b>Method: SM 2540 D</b>			<b>Fraction: NA</b>			<b>Prepared: 13-Sep-12</b>			<b>Analyzed: 13-Sep-12</b>	
17426-B1	QAQC Procedural Blank	C-9072	ND	0.5	1	mg/L							
17427-R2	MLMRP-01-Q1-10_ACA	C-9072	33	0.5	1	mg/L						10 30 PASS	

# **SUBCONTRACT**

# **REPORT**

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

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18 September 2012

Misty Mercier  
PHYSIS Environmental Laboratories, Inc.  
1904 E. Wright Circle  
Anaheim, CA 92806  
RE: 1206006-001

Enclosed are the results of analyses for samples received by the laboratory on 09/12/12 15:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Wendy Hsiao For Daniel Chavez  
Project Manager



25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

PHYSIS Environmental Laboratories, Inc. 1904 E. Wright Circle Anaheim CA, 92806	Project: 1206006-001 Project Number: 1206006 Project Manager: Misty Mercier	<b>Reported:</b> 09/18/12 17:43
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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MLMRP-01-Q1-10_ACAD-3	T121591-01	Water	09/11/12 08:45	09/12/12 15:15
MLMRP-01-Q1-30_VAND-3	T121591-02	Water	09/11/12 11:45	09/12/12 15:15
MLMRP-01-q1-10_ACAD_DUPREE-3	T121591-03	Water	09/11/12 09:00	09/12/12 15:15
MLMRP-01-q1-10_ACAD_TAHOE-3	T121591-04	Water	09/11/12 09:15	09/12/12 15:15

*Wandy Flisak*



25712 Commercentre Drive  
 Lake Forest, California 92630  
 949.297.5020 Phone  
 949.297.5027 Fax

PHYSIS Environmental Laboratories, Inc. 1904 E. Wright Circle Anaheim CA, 92806	Project: 1206006-001 Project Number: 1206006 Project Manager: Misty Mercier	<b>Reported:</b> 09/18/12 17:43
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**MLMRP-01-Q1-10\_ACAD-3**  
**T121591-01(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods**

<b>Total Kjeldahl Nitrogen</b>	<b>1.17</b>	0.0250	0.100	mg/l	1	2091331	09/13/12	09/18/12	EPA 353.2	
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SunStar Laboratories, Inc.

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

*eWandy Flsica*



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PHYSIS Environmental Laboratories, Inc. 1904 E. Wright Circle Anaheim CA, 92806	Project: 1206006-001 Project Number: 1206006 Project Manager: Misty Mercier	<b>Reported:</b> 09/18/12 17:43
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**MLMRP-01-Q1-30\_VAND-3**  
**T121591-02(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods**

<b>Total Kjeldahl Nitrogen</b>	<b>0.916</b>	0.0250	0.100	mg/l	1	2091331	09/13/12	09/18/12	EPA 353.2	
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*eWandy Flsiao*



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PHYSIS Environmental Laboratories, Inc. 1904 E. Wright Circle Anaheim CA, 92806	Project: 1206006-001 Project Number: 1206006 Project Manager: Misty Mercier	<b>Reported:</b> 09/18/12 17:43
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**MLMRP-01-q1-10\_ACAD\_DUPREE-3  
 T121591-03(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods**

<b>Total Kjeldahl Nitrogen</b>	<b>1.36</b>	0.0250	0.100	mg/l	1	2091331	09/13/12	09/18/12	EPA 353.2	
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PHYSIS Environmental Laboratories, Inc. 1904 E. Wright Circle Anaheim CA, 92806	Project: 1206006-001 Project Number: 1206006 Project Manager: Misty Mercier	<b>Reported:</b> 09/18/12 17:43
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**MLMRP-01-q1-10\_ACAD\_TAHOE-3**  
**T121591-04(Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SunStar Laboratories, Inc.

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods**

<b>Total Kjeldahl Nitrogen</b>	<b>0.0280</b>	0.0250	0.100	mg/l	1	2091331	09/13/12	09/18/12	EPA 353.2	J
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SunStar Laboratories, Inc.

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PHYSIS Environmental Laboratories, Inc.  
 1904 E. Wright Circle  
 Anaheim CA, 92806

Project: 1206006-001  
 Project Number: 1206006  
 Project Manager: Misty Mercier

**Reported:**  
 09/18/12 17:43

**Conventional Chemistry Parameters by APHA/EPA/ASTM Methods - Quality Control**  
**SunStar Laboratories, Inc.**

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 2091331 - General Preparation</b>											
<b>Blank (2091331-BLK1)</b>						Prepared: 09/13/12 Analyzed: 09/18/12					
Total Kjeldahl Nitrogen	ND	0.0250	0.100	mg/l							
<b>LCS (2091331-BS1)</b>						Prepared: 09/13/12 Analyzed: 09/18/12					
Total Kjeldahl Nitrogen	1.05	0.0250	0.100	mg/l	1.00		105	80-120			
<b>Matrix Spike (2091331-MS1)</b>						Source: T121576-02 Prepared: 09/13/12 Analyzed: 09/18/12					
Total Kjeldahl Nitrogen	1.56	0.0250	0.100	mg/l	1.00	0.616	94.8	75-125			
<b>Matrix Spike Dup (2091331-MSD1)</b>						Source: T121576-02 Prepared: 09/13/12 Analyzed: 09/18/12					
Total Kjeldahl Nitrogen	1.53	0.0250	0.100	mg/l	1.00	0.616	91.7	75-125	2.00	20	

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PHYSIS Environmental Laboratories, Inc.  
1904 E. Wright Circle  
Anaheim CA, 92806

Project: 1206006-001  
Project Number: 1206006  
Project Manager: Misty Mercier

**Reported:**  
09/18/12 17:43

### Notes and Definitions

- J Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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SunStar Laboratories, Inc.

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## SAMPLE RECEIVING REVIEW SHEET

BATCH # 7121591

Client Name: PHYSICS ENV.

Project: 1206006-001

Received by: Sunny

Date/Time Received: 9.12.12 / 15:15

Delivered by :  Client  SunStar Courier  GSO  FedEx  Other \_\_\_\_\_

Total number of coolers received 0 Temp criteria = 6°C > 0°C (no frozen containers)

Temperature: cooler #1 5.2 °C +/- the CF (- 0.2°C) = 5.0 °C corrected temperature

cooler #2 \_\_\_\_\_ °C +/- the CF (- 0.2°C) = \_\_\_\_\_ °C corrected temperature

cooler #3 \_\_\_\_\_ °C +/- the CF (- 0.2°C) = \_\_\_\_\_ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.  Yes  No\*  N/A

Custody Seals Intact on Cooler/Sample  Yes  No\*  N/A

Sample Containers Intact  Yes  No\*

Sample labels match COC ID's  Yes  No\*

Total number of containers received match COC  Yes  No\*

Proper containers received for analyses requested on COC  Yes  No\*

Proper preservative indicated on COC/containers for analyses requested  Yes  No\*  N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times.  Yes  No\*

\* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date SL 9.12.12

Comments:

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**PHYSICS**  
**CHAIN OF**  
**CUSTODY**

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*Innovative Solutions for Nature*

**LARRY WALKER ASSOCIATES**

720 Wilshire Blvd, Suite 204, Santa Monica, CA 90401 (Phone: 310-394-1036 - Fax: 310-394-8959)

**CHAIN-OF-CUSTODY RECORD**

DATE: 9/11/12

Lab ID:

DESTINATION LAB: Physis  ADDRESS: 1904 E. Wright Circle Anaheim, CA 92806  PHONE: (714) 602-5320 FAX: (714) 602-5321  SAMPLED BY: LWA PROJECT: Machado Lake Nurients LWA CONTACT: Reni Keane-Dengel LWA PROJECT MANAGER: Mitch Mysliwiec	 <p>LARRY WALKER ASSOCIATES</p>	<b>REQUESTED ANALYSIS</b>  Ammonia as Nitrogen (EPA 350.1 RL = 0.06 mg/L) (MS/MSD required)  Total Phosphorus (SM 4500-P, E, or F RL = 0.05 ug/L) (MS/MSD required)  Dissolved Phosphorus (SM 4500-P, E, or F RL = 0.05 mg/L) (MS/MSD required)  Total Orthophosphate (SM 4500-P, E, or F RL = 0.02 mg/L) (MS/MSD required)  Total Kjeldahl Nitrogen (TKN) (EPA 351.1 RL = 0.1 mg/L) (MS/MSD required)  Nitrate as Nitrogen, Nitrite as Nitrogen (EPA 300.0 RL = 0.05, 0.05 mg/L) (MS/MSD required)  Total Dissolved Solids (SM 2540C RL = 5 mg/L)  Total Suspended Solids (SM 2540D RL = 1 mg/L)
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Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container			Ammonia as Nitrogen (EPA 350.1 RL = 0.06 mg/L) (MS/MSD required)	Total Phosphorus (SM 4500-P, E, or F RL = 0.05 ug/L) (MS/MSD required)	Dissolved Phosphorus (SM 4500-P, E, or F RL = 0.05 mg/L) (MS/MSD required)	Total Orthophosphate (SM 4500-P, E, or F RL = 0.02 mg/L) (MS/MSD required)	Total Kjeldahl Nitrogen (TKN) (EPA 351.1 RL = 0.1 mg/L) (MS/MSD required)	Nitrate as Nitrogen, Nitrite as Nitrogen (EPA 300.0 RL = 0.05, 0.05 mg/L) (MS/MSD required)	Total Dissolved Solids (SM 2540C RL = 5 mg/L)	Total Suspended Solids (SM 2540D RL = 1 mg/L)	Notes:	
				#	Type	Pres.										
MLMRP-01-Q1-10_ACAD-1	9/11/12	0845	FW	2	1 L HDPE											Second 1 L HDPE is for TSS/TDS QC (R2). <b>10 business day TAT</b>  <div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;">                         M (6-12)                     </div>
MLMRP-01-Q1-10_ACAD-2	9-11-12	0845	FW	1	250 mL HDPE			X	X			X				
MLMRP-01-Q1-10_ACAD-3	9-11-12	0845	FW	1	250 mL HDPE	H <sub>2</sub> SO <sub>4</sub>					X					
MLMRP-01-Q1-10_ACAD-4	9-11-12	0845	FW	1	500 mL Amber	H <sub>2</sub> SO <sub>4</sub>	X	X								
MLMRP-01-Q1-30_VAND-1	9-11-12	1145	FW	1	1 L HDPE								X	X		
MLMRP-01-Q1-30_VAND-2	9-11-12	1145	FW	1	250 mL HDPE			X	X			X				
MLMRP-01-Q1-30_VAND-3	9-11-12	1145	FW	1	250 mL HDPE	H <sub>2</sub> SO <sub>4</sub>					X					
MLMRP-01-Q1-30_VAND-4	9-11-12	1145	FW	1	500 mL Amber	H <sub>2</sub> SO <sub>4</sub>	X	X								
MLMRP-01-Q1-10_ACAD_DUPREE-1	9-11-12	0900	FW	1	1 L HDPE								X	X		
MLMRP-01-Q1-10_ACAD_DUPREE-2	9-11-12	0900	FW	1	250 mL HDPE			X	X			X				
MLMRP-01-Q1-10_ACAD_DUPREE-3	9-11-12	0900	FW	1	250 mL HDPE	H <sub>2</sub> SO <sub>4</sub>					X					
MLMRP-01-Q1-10_ACAD_DUPREE-4	9-11-12	0900	FW	1	500 mL Amber	H <sub>2</sub> SO <sub>4</sub>	X	X								
MLMRP-01-Q1-10_ACAD_TAHOE-2	9-11-12	0915	FW	1	250 mL HDPE			X	X			X				
MLMRP-01-Q1-10_ACAD_TAHOE-3	9-11-12	0915	FW	1	250 mL HDPE	H <sub>2</sub> SO <sub>4</sub>					X					
MLMRP-01-Q1-10_ACAD_TAHOE-4	9-11-12	0915	FW	1	500 mL Amber	H <sub>2</sub> SO <sub>4</sub>	X	X								

**SENDER COMMENTS:**  
 Please pdf signed COCs to Reni Keane-Dengel at renik-d@lwa.com  
  
 PLEASE CALL IF THERE ARE ANY QUESTIONS

RELINQUISHED BY		RELINQUISHED BY	
Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:
Print: Reni Keane-Dengel	Print:	Print:	Print:
Company: LWA	Company:	Company:	Company:
Date: 9/11/12 Time: 1:30	Date:	Date:	Time:

**LABORATORY COMMENTS:**

RECEIVED BY		RECEIVED BY	
Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:
Print: M. D. Walker	Print:	Print:	Print:
Company: PHYSIS	Company:	Company:	Company:
Date: 9/11/12 Time: 13:00	Date:	Date:	Time:

