



5301 Northshore Drive  
North Little Rock, AR 72118  
Telephone: 501-682-0744

**Client Report For:** C&H Hog Farm 2016 2503-2504  
**Attention:**  
**Client Address:**

**Report Date:** October 25, 2016  
**LAB ID:** AR16JUL27-04  
**Comment:** Report contains Total Nitrogen results

Approved By: \_\_\_\_\_

Date: October 25, 2016

**Client:** Special Samples

**Client Sample ID:** Pond 1

**Lab ID:** 2016-2503

**Collection Date:** 7/27/2016 10:52:00 AM

**Matrix:** Water

**Analyses**

*E.Coli by MF*

*EPA 1103.1*

*Batch: 16072809 Run: 1*

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
E. Coli	145000	4		cfu/100ml
Analyzed By	Melanie Treat			
Analysis Date/Time	7/27/2016 16:03			

<b>Client:</b>	Special Samples	<b>Client Sample ID:</b>	Pond 2
<b>Lab ID:</b>	2016-2504	<b>Collection Date:</b>	7/27/2016 10:05:00 AM
		<b>Matrix:</b>	Water

**Analyses**

<i>E.Coli by MF</i>	<i>EPA 1103.1</i>	<i>Batch: 16072809</i>	<i>Run: 1</i>		
		<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
E. Coli		8000	4		cfu/100ml
Analyzed By		Melanie Treat			
Analysis Date/Time		7/27/2016 16:03			

<b>Client:</b>	Special Samples	<b>Client Sample ID:</b>	Pond 1
<b>Lab ID:</b>	2016-2503	<b>Collection Date:</b>	7/27/2016 10:52:00 AM
		<b>Matrix:</b>	Water

**Analyses**

<i>Alkalinity</i>	<i>EPA 310.2</i>	<i>Batch: 16080414</i>	<i>Run: 1</i>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>	
Total Alkalinity (as CaCO3)	6050	300			mg/L
Dilution Factor	50				
Analyzed By	Chad Carrington				
Analysis Date/Time	7/28/2016 8:22				

<i>Ammonia as Nitrogen</i>	<i>SM 4500-NH3 H (20th)</i>	<i>Batch: 16080409</i>	<i>Run: 1</i>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>	
Ammonia as N	1350	30			mg/L
Dilution Factor	1000				
Analyzed By	Chad Carrington				
Analysis Date/Time	7/27/2016 3:21:30 PM				

<i>Anions by Ion Chromatography</i>	<i>EPA 300.0</i>	<i>Batch: 16080401</i>	<i>Run: 1</i>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>	
Chloride	578	25			mg/L
Sulfate	73.8	25			mg/L
Dilution Factor	50				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	7/28/2016 9:29				

<i>Bicarbonate Alkalinity</i>	<i>SM 2320 B (1997)</i>	<i>Batch: 16081702</i>	<i>Run: 1</i>			
	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>	<u>Unit</u>	
Bicarbonate Alkalinity (as CaCO3)	6050**	300			mg/L	mg/L
Analyzed By	Chad Carrington					
Analysis Date/Time	7/28/2016 08:22					

\*\*Result is calculated using Total Alkalinity and pH

<b>Conductivity</b>		<b>EPA 120.1</b>	<b>Batch: 16080503</b>	<b>Run: 1</b>	
	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>	
Specific Conductance (EC)	14400	1			uMHOS
Dilution Factor	10				
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	7/27/2016 15:11				

<b>Nitrate and Nitrite</b>		<b>SM 4500-NO3 I (20th)</b>	<b>Batch: 16080411</b>	<b>Run: 1</b>	
	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>	
Nitrate/Nitrite as N	<50	50			mg/L
Dilution Factor	1000				
Analyzed By	Chad Carrington				
Analysis Date/Time	7/27/2016 3:21:30 PM				

<b>pH</b>		<b>EPA 150.1</b>	<b>Batch: 16081601</b>	<b>Run: 1</b>	
	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>	
pH	7.86 <sup>E</sup>				SU
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	7/27/2016 15:20				

<sup>E</sup> Estimated; analyzed out of holding time

<b>Salinity</b>		<b>SM 2520 B (2000)</b>	<b>Batch: 16081602</b>	<b>Run: 1</b>	
	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>	
Salinity	7.3				PSU
Dilution Factor	10	.1			(Practical Salinity Unity)
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	7/27/2016 15:00				

<b>Percent Solids</b>		<b>EPA 160.3</b>	<b>Batch: 16080102</b>	<b>Run: 1</b>	
	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>	
Percent Solids	4.1	0.2			%
Analyzed By	Robert Graddy				
Analysis Date/Time	7-29-2016 1500				

**Total Organic Carbon**

**SM 5310 C (20th)**

**Batch: 16080902 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Total Organic Carbon	844	100		mg/L
Dilution Factor	100			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	Jul 28 2016 8:30AM			

**Total Phosphorus**

**SM 4500-P J (20th)**

**Batch: 16080412 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Phosphorus-total	1280	40		mg/L
Dilution Factor	2000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 11:04:02 AM			

**Nitrogen - Total**

**SM4500-N C**

**Batch: 16101901 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Nitrogen, Total	1990	50		mg/L
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/16 13:00			

<b>Client:</b>	Special Samples	<b>Client Sample ID:</b>	Pond 2
<b>Lab ID:</b>	2016-2504	<b>Collection Date:</b>	7/27/2016 10:05:00 AM
		<b>Matrix:</b>	Water

**Analyses**

<i>Alkalinity</i>	<i>EPA 310.2</i>	<i>Batch: 16080414</i>	<i>Run: 1</i>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>	
Total Alkalinity (as CaCO3)	2320	300		mg/L	
Dilution Factor	50				
Analyzed By	Chad Carrington				
Analysis Date/Time	7/28/2016 8:23				

<i>Ammonia as Nitrogen</i>	<i>SM 4500-NH3 H (20th)</i>	<i>Batch: 16080409</i>	<i>Run: 1</i>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>	
Ammonia as N	369	30		mg/L	
Dilution Factor	1000				
Analyzed By	Chad Carrington				
Analysis Date/Time	7/27/2016 3:22:32 PM				

<i>Anions by Ion Chromatography</i>	<i>EPA 300.0</i>	<i>Batch: 16080401</i>	<i>Run: 1</i>		
	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>	
Chloride	531	25		mg/L	
Sulfate	33.1	25		mg/L	
Dilution Factor	50				
Analyzed By	Katy Hattenhauer				
Analysis Date/Time	7/28/2016 9:37				

**Bicarbonate Alkalinity**

**SM 2320 B (1997)**

**Batch: 16081702 Run: 1**

	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>
Bicarbonate Alkalinity (as CaCO3)	2320**	300		mg/L
Analysis Date/Time: 7/28/2016 8:23	**Result is calculated using Total Alkalinity and pH			
Analyzed By	Chad Carrington			

**Conductivity EPA 120.1**

**Batch: 16080503  
Run: 1**

	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>
Specific Conductance (EC)	7590	10		uMHOS
Dilution Factor	10			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	7/27/2016 15:13			

**Nitrate and Nitrite**

**SM 4500-NO3 I (20th)**

**Batch: 16080411 Run: 1**

	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>
Nitrate/Nitrite as N	<50	50		mg/L
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/27/2016 3:22:32 PM			

**pH**

**EPA 150.1**

**Batch: 16081601 Run: 1**

	<u>Result</u>	<u>Reporting Limit</u>	<u>Qual</u>	<u>Unit</u>
pH	8.27 <sup>E</sup>			SU
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	7/27/2016 15:20			

<sup>E</sup> Estimated; analyzed out of holding time.



**Salinity**

**SM 2520 B (2000)**

**Batch: 16081602 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Salinity	3.7	.1		PSU
Dilution Factor	10			(Practical Salinity Unity)
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	7/27/2016 15:00			

**Percent Solids**

**EPA 160.3**

**Batch: 16080102 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Percent Solids	5.4	0.2		%
Analyzed By	Robert Graddy			
Analysis Date/Time	7-29-2016 1500			

**Total Organic Carbon**

**SM 5310 C (20th)**

**Batch: 16080902 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Total Organic Carbon	395	100		mg/L
Dilution Factor	100			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	Jul 28 2016 8:45AM			

**Total Phosphorus**

**SM 4500-P J (20th)**

**Batch: 16080412 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Phosphorus-total	428	20		mg/L
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 10:50:56 AM			

**Nitrogen - Total**

**SM4500-N C**

**Batch: 16101901 Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Nitrogen, Total	590	50		mg/L
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/16 13:00			

<b>Client:</b>	Special Samples	<b>Client Sample ID:</b>	Pond 1
<b>Lab ID:</b>	2016-2503	<b>Collection Date:</b>	7/27/2016 10:52:00 AM
		<b>Matrix:</b>	Water

**Analyses**

<i>Total Metals by EPA 200.8</i>	<i>EPA 200.8</i>	<i>Batch: 16080103</i>	<i>Run: 2</i>		
	<b>Result</b>	<b>Reporting Limit</b>	<b>Qual</b>	<b>Unit</b>	
Calcium	968	125			mg/L
Magnesium	549	125			mg/L
Manganese	16100	375			ug/L
Potassium	1480	125			mg/L
Dilution Factor	500				
Analyzed By	Robert Graddy				
Analysis Date/Time	Aug 8 2016 3:49PM				
Prep By	Robert Graddy				
Prep Date/Time	Jul 29 2016 8:00AM				

<i>Total Metals by EPA 200.8</i>	<i>EPA 200.8</i>	<i>Batch: 16080103</i>	<i>Run: 3</i>		
	<b>Result</b>	<b>Reporting Limit</b>	<b>Qual</b>	<b>Unit</b>	
Zinc	59000	5000			ug/L
Dilution Factor	5000				
Analyzed By	Robert Graddy				
Analysis Date/Time	Aug 8 2016 3:43PM				
Prep By	Robert Graddy				
Prep Date/Time	Jul 29 2016 8:00AM				

<i>Total Metals by EPA 200.8</i>	<i>EPA 200.8</i>	<i>Batch: 16080103</i>	<i>Run: 1</i>		
	<b>Result</b>	<b>Reporting Limit</b>	<b>Qual</b>	<b>Unit</b>	
Sodium	328	12.5			mg/L
Dilution Factor	50				
Analyzed By	Robert Graddy				
Analysis Date/Time	Aug 8 2016 4:08PM				
Prep By	Robert Graddy				
Prep Date/Time	Jul 29 2016 8:00AM				

<b>Client:</b>	Special Samples	<b>Client Sample ID:</b>	Pond 2
<b>Lab ID:</b>	2016-2504	<b>Collection Date:</b>	7/27/2016 10:05:00 AM
		<b>Matrix:</b>	Water

**Analyses**

<i>Total Metals by EPA 200.8</i>		<i>EPA 200.8</i>	<i>Batch: 16080103</i>	<i>Run: 1</i>		
		<b>Result</b>	<b>Reporting Limit</b>	<b>Qual</b>	<b>Unit</b>	
Sodium		303	12.5		mg/L	
Dilution Factor		50				
Analyzed By		Robert Graddy				
Analysis Date/Time		Aug 8 2016 4:15PM				
Prep By		Robert Graddy				
Prep Date/Time		Jul 29 2016 8:00AM				

<i>Total Metals by EPA 200.8</i>		<i>EPA 200.8</i>	<i>Batch: 16080103</i>	<i>Run: 2</i>		
		<b>Result</b>	<b>Reporting Limit</b>	<b>Qual</b>	<b>Unit</b>	
Calcium		316	125		mg/L	
Magnesium		114	125		mg/L	
Manganese		7340	375		ug/L	
Potassium		1370	125		mg/L	
Zinc		11900	500		ug/L	
Dilution Factor		500				
Analyzed By		Robert Graddy				
Analysis Date/Time		Aug 8 2016 3:56PM				
Prep By		Robert Graddy				
Prep Date/Time		Jul 29 2016 8:00AM				

**Client:** Special Samples      **Client Sample ID:** Pond 1  
**Lab ID:** 2016-2503      **Collection Date:** 7/27/2016 10:52:00 AM  
**Matrix:** Water

**Analyses**

**Field Data**

**Batch: 16081810    Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Dissolved Oxygen	-			mg/L
pH	6.61			SU
Temperature	-			C
Analyzed By	Jason Bolenbaugh			
Analysis Date/Time	7/27/16 10:52			

**Client:** Special Samples      **Client Sample ID:** Pond 2  
**Lab ID:** 2016-2504      **Collection Date:** 7/27/2016 10:05:00 AM  
**Matrix:** Water

**Analyses**

**Field Data**

**Batch: 16081810    Run: 1**

	<b><u>Result</u></b>	<b><u>Reporting Limit</u></b>	<b><u>Qual</u></b>	<b><u>Unit</u></b>
Dissolved Oxygen	-			mg/L
pH	5.72			SU
Temperature	-			C
Analyzed By	Jason Bolenbaugh			
Analysis Date/Time	7/27/16 10:05			

## Analytical Quality Control Results Report

<b>Batch: 16072809</b>	<b>E.Coli - water</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

*E.Coli by MF - water DUP*

*Run: 1*

<i>Parameter</i>	<i>Result</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
E. Coli	12500 cfu/100ml	4		
E. Coli (RPD)	44 % Exceeds Precision Acceptance Limits			0 - 20
Analyzed By	Melanie Treat			
Analysis Date/Time	7/27/2016 16:03			

## Analytical Quality Control Results Report

<b>Batch: 16081810</b>	<b>Field Data</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

*Field Parameters DUP*

*Run: 1*

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
pH	7.73 SU				
pH (RPD)	29.9 % Exceeds Precision Acceptance limits				0 - 5
Analyzed By	Jason Bolenbaugh				
Analysis Date/Time	7/27/16 10:05				

<b>Batch: 16081601</b>	<b>pH - water</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

*pH - water DUP*

*Run: 1*

<i>Parameter</i>	<i>Result</i>	<i>DL</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
pH	8.27 SU <sup>E</sup>				
pH (RPD)	0 %				0 - 10
Analyzed By	Patrick Rawhouser				
Analysis Date/Time	7/27/2016 15:20				

<sup>E</sup> Estimated; analyzed out of holding time.

## Analytical Quality Control Results Report

<b>Batch: 16080102</b>	<b>Percent Solids - soil</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

*Solids, Percent DUP*

*Run: 1*

<i>Parameter</i>	<i>Result</i>	<i>RL</i>	<i>Accuracy Control</i>	<i>Precision Control</i>
Percent Solids (RPD)	7.7 %			0 - 20
Analyzed By	Robert Graddy			
Analysis Date/Time	7-29-2016 1500			



## Analytical Quality Control Results Report

<b>Batch: 16080103</b>	<b>ICP Metals - water (total)</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**ICP Metals - water (Total) DUP**

**Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Sodium	297 mg/L	12.5		
Sodium (RPD)	1.9 %			0 - 20
Dilution Factor	50			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 8 2016 4:21PM			

<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>
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**ICP Metals - water (Total) DUP**

**Run: 2**

Parameter	Result	RL	Accuracy Control	Precision Control
Calcium	269 mg/L	125		
Calcium (RPD)	16.1 %			0 - 20
Magnesium (RPD)	3.3 %			0 - 20
Magnesium	110 mg/L	125		
Manganese	7000 ug/L	375		
Manganese (RPD)	5.0 %			0 - 20
Potassium (RPD)	3.7 %			0 - 20
Potassium	1320 mg/L	125		
Zinc	11200 ug/L	500		
Zinc (RPD)	6.0 %			0 - 20
Dilution Factor	500			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 8 2016 4:02PM			

<b>MB</b>	<b>LIMS ID: 16080103-MB-01</b>
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**ICP Metals - water (Total) MB**

**Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Calcium	<0.25 mg/L	0.25		
Magnesium	<0.25 mg/L	0.25		
Manganese	<0.75 ug/L	0.75		
Potassium	<0.25 mg/L	0.25		
Sodium	<0.25 mg/L	0.25		
Zinc	<1 ug/L	1		
Dilution Factor	1			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 8 2016 3:31PM			

<b>LCS</b>	<b>LIMS ID: 16080103-LCS-01</b>
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**ICP Metals - water (Total) LCS**

**Run: 1**

<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Accuracy Control</b>	<b>Precision Control</b>
Calcium (% Recovery)	110 %		70 - 130	
Magnesium (% Recovery)	108 %		70 - 130	
Manganese (% Recovery)	100 %		70 - 130	
Potassium (% Recovery)	109 %		70 - 130	
Sodium (% Recovery)	103 %		70 - 130	
Zinc (% Recovery)	115 %		70 - 130	
Dilution Factor	1			
Analyzed By	Robert Graddy			
Analysis Date/Time	Aug 8 2016 3:37PM			

## Analytical Quality Control Results Report

<b>Batch: 16080503</b>	<b>Conductivity - water</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**Conductivity - water DUP** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Specific Conductance (EC)	7590 uMHOS	10		
Specific Conductance (EC) (RPD)	0 %			0 - 20
Dilution Factor	10			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	7/27/2016 15:14			

<b>MB</b>	<b>LIMS ID: 16080503-MB-04</b>
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**Conductivity - water MB** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Specific Conductance (EC)	<1 uMHOS	1		
Dilution Factor	1			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	7/27/2016 13:40			

<b>LCS</b>	<b>LIMS ID: 16080503-LCS-04</b>
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**Conductivity - water LCS** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Specific Conductance (EC) (% Recovery)	99 %		95 - 105	
Dilution Factor	1			
Analyzed By	Patrick Rawhouser			
Analysis Date/Time	7/27/2016 13:40			

## Analytical Quality Control Results Report

<b>Batch: 16080409</b>	<b>Lachat - Ammonia (water)</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**Ammonia as N - water DUP** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Ammonia as N (RPD)	1.1 %			0 - 20
Ammonia as N	365 mg/L	30		
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/27/2016 3:23:34 PM			

<b>MB</b>	<b>LIMS ID: 16080409-MB-03</b>
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**Ammonia as N - water MB** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Ammonia as N	<0.03 mg/L	0.03		
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/27/2016 3:01:43 PM			

<b>LCS</b>	<b>LIMS ID: 16080409-LCS-03</b>
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**Ammonia as N - water LCS** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Ammonia as N (% Recovery)	102 %		80 - 120	
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/27/2016 3:02:45 PM			

## Analytical Quality Control Results Report

<b>Batch: 16080411</b>	<b>Lachat - NO3+NO2 (water)</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**Nitrate and Nitrite - water DUP**

**Run: 1**

<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Accuracy Control</b>	<b>Precision Control</b>
Nitrate/Nitrite as N	34.4 mg/L	50		
Nitrate/Nitrite as N (RPD)	44.4 %		Exceeds Precision Acceptance criteria	0 - 20
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/27/2016 3:23:34 PM			

<b>MB</b>	<b>LIMS ID: 16080411-MB-03</b>
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**Nitrate and Nitrite - water MB**

**Run: 1**

<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Accuracy Control</b>	<b>Precision Control</b>
Nitrate/Nitrite as N	<0.05 mg/L	0.05		
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/27/2016 3:01:43 PM			

<b>LCS</b>	<b>LIMS ID: 16080411-LCS-03</b>
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**Nitrate and Nitrite - water LCS**

**Run: 1**

<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Accuracy Control</b>	<b>Precision Control</b>
Nitrate/Nitrite as N (% Recovery)	97.3 %		80 - 120	
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/27/2016 3:02:45 PM			

## Analytical Quality Control Results Report

<b>Batch: 16080412</b>	<b>Lachat - TP (water)</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**TP (Total Phosphorus) - water DUP** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Phosphorus-total	403 mg/L	20		
Phosphorus-total (RPD)	6.0 %			0 - 20
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 10:51:56 AM			

<b>MB</b>	<b>LIMS ID: 16080412-MB-03</b>
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**TP (Total Phosphorus) - water MB** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Phosphorus-total	<0.02 mg/L	0.02		
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 10:30:46 AM			

<b>LCS</b>	<b>LIMS ID: 16080412-LCS-03</b>
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**TP (Total Phosphorus) - water LCS** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Phosphorus-total (% Recovery)	105 %		80 - 120	
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 10:31:46 AM			

## Analytical Quality Control Results Report

<b>Batch: 16080414</b>	<b>Alkalinity - water</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**Alkalinity - water DUP** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Total Alkalinity (as CaCO3)	2310 mg/L	300		
Total Alkalinity (as CaCO3) (RPD)	0.4 %			0 - 20
Dilution Factor	50			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 8:24			

<b>MB</b>	<b>LIMS ID: 16080414-MB-04</b>
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**Alkalinity - water MB** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Total Alkalinity (as CaCO3)	<6 mg/L	6		
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 8:20			

<b>LCS</b>	<b>LIMS ID: 16080414-LCS-04</b>
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**Alkalinity - water LCS** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Total Alkalinity (as CaCO3)	73.5 mg/L			
Total Alkalinity (as CaCO3) (% Recovery)	98.0 %		90 - 110	
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/2016 8:21			

## Analytical Quality Control Results Report

<b>Batch: 16080902</b>	<b>TOC - water</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**TOC - water DUP**

**Run: 1**

<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Accuracy Control</b>	<b>Precision Control</b>
Total Organic Carbon	401 mg/L	100		
Total Organic Carbon (RPD)	1.5 %			0 - 20
Dilution Factor	100			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	Jul 28 2016 8:59AM			

<b>MB</b>	<b>LIMS ID: 16080902-MB-04</b>
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**TOC - water MB**

**Run: 1**

<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Accuracy Control</b>	<b>Precision Control</b>
Total Organic Carbon	<1 mg/L	1		
Dilution Factor	1			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	Jul 28 2016 8:02AM			

<b>LCS</b>	<b>LIMS ID: 16080902-LCS-04</b>
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**TOC - water LCS**

**Run: 1**

<b>Parameter</b>	<b>Result</b>	<b>RL</b>	<b>Accuracy Control</b>	<b>Precision Control</b>
Total Organic Carbon (% Recovery)	104 %		85 - 115	
Dilution Factor	1			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	Jul 28 2016 8:16AM			



## Analytical Quality Control Results Report

<b>Batch: 16080401</b>	<b>Anions - water</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**Anions - water DUP** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Chloride	538 mg/L	25		
Chloride (RPD)	1.2 %			0 - 20
Sulfate	31.3 mg/L	25		
Sulfate (RPD)	5.7 %			0 - 20
Dilution Factor	50			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	7/28/2016 9:45			

<b>MB</b>	<b>LIMS ID: 16080401-MB-04</b>
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**Anions - water MB** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Chloride	<0.5 mg/L	0.5		
Sulfate	<0.5 mg/L	0.5		
Dilution Factor	1			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	7/28/2016 8:26			

<b>LCS</b>	<b>LIMS ID: 16080401-LCS-04</b>
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**Anions - water LCS** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Chloride (% Recovery)	101 %		90 - 110	
Sulfate (% Recovery)	99.8 %		90 - 110	
Dilution Factor	1			
Analyzed By	Katy Hattenhauer			
Analysis Date/Time	7/28/2016 8:34			

## Analytical Quality Control Results Report

<b>Batch: 16101901</b>	<b>Total Nitrogen - water</b>
<b>Pond 2</b>	<b>LIMS ID: 2016-2504</b>

**Nitrogen - Total - water DUP** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Nitrogen, Total	623 mg/L	50		
Nitrogen, Total (RPD)	5.4 %			0 - 20
Dilution Factor	1000			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/16 13:00			

<b>MB</b>	<b>LIMS ID: 16101901-MB-01</b>
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**Nitrogen - Total - water MB** **Run: 1**

Parameter	Result	RL	Accuracy Control	Precision Control
Nitrogen, Total	<0.05 mg/L	0.05		
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/16 13:00			

<b>LCS</b>	<b>LIMS ID: 16101901-LCS-01</b>
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**Nitrogen - Total - water LCS** **Run: 1**

Parameter	Result		Accuracy Control	Precision Control
Nitrogen, Total (% Recovery)	107 %		80 - 120	
Dilution Factor	1			
Analyzed By	Chad Carrington			
Analysis Date/Time	7/28/16 13:00			