



August 13, 2018

Service Request No:R1806808

Ms. Alene Onion
New York State DEC
625 Broadway
Albany, NY 12233-3502

Laboratory Results for: LCI 2018

Dear Ms.Onion,

Enclosed are the results of the sample(s) submitted to our laboratory July 19, 2018
For your reference, these analyses have been assigned our service request number **R1806808**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Jason Fagel

ADDRESS

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

PHONE +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.
dba ALS Environmental



Narrative Documents

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com



Client: New York State DEC
Project: LCI 2018
Sample Matrix: Water

Service Request: R1806808
Date Received: 07/19/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV, validation deliverables including all summary forms and associated raw data. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Ten water samples were received for analysis at ALS Environmental on 07/19/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

General Chemistry:

No significant anomalies were noted with this analysis.

A handwritten signature in black ink, appearing to read 'Samanta', is written over a horizontal line.

Approved by _____

Date 08/13/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: 18LHB135	Lab ID: R1806808-001
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Analyte	Results	Flag	MDL	MRL	Units	Method
Alkalinity, Total as CaCO ₃	128		1.0	2.0	mg/L	SM 2320 B-1997 (2011)
Ammonia as Nitrogen, undistilled	0.0539		0.0008	0.0050	mg/L	ASTM D6919-09
Carbon, Total Organic (TOC)	3.7		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Chlorophyll A	1.94			0.073	ug/L	SM20 10200 H
Color, True	60.0			5.0	ColorUnits	SM 2120 B-2001 (2011)
Nitrate+Nitrite as Nitrogen	0.232		0.0007	0.0020	mg/L	353.2
Nitrogen, Total Kjeldahl (TKN)	0.46		0.08	0.10	mg/L	351.2
pH of Color Analysis	8.06				pH Units	SM 2120 B-2001 (2011)
Phosphorus, Total	0.0506		0.0020	0.0050	mg/L	365.1

CLIENT ID: 18LHB135 Diss	Lab ID: R1806808-002
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Analyte	Results	Flag	MDL	MRL	Units	Method
Phosphorus, Dissolved	0.0314		0.0020	0.0050	mg/L	365.1

CLIENT ID: 18LHB136	Lab ID: R1806808-003
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Analyte	Results	Flag	MDL	MRL	Units	Method
Ammonia as Nitrogen, undistilled	0.224		0.0008	0.0050	mg/L	ASTM D6919-09
Carbon, Total Organic (TOC)	4.3		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Color, True	65.0			5.0	ColorUnits	SM 2120 B-2001 (2011)
Nitrate+Nitrite as Nitrogen	0.128		0.0007	0.0020	mg/L	353.2
Nitrogen, Total Kjeldahl (TKN)	0.69		0.08	0.10	mg/L	351.2
pH of Color Analysis	7.75				pH Units	SM 2120 B-2001 (2011)
Phosphorus, Total	0.158		0.010	0.025	mg/L	365.1

CLIENT ID: 18LHB136 Diss	Lab ID: R1806808-004
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Analyte	Results	Flag	MDL	MRL	Units	Method
Phosphorus, Dissolved	0.0609		0.0020	0.0050	mg/L	365.1

CLIENT ID: 18LHB113	Lab ID: R1806808-005
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Analyte	Results	Flag	MDL	MRL	Units	Method
Alkalinity, Total as CaCO ₃	118		1.0	2.0	mg/L	SM 2320 B-1997 (2011)
Ammonia as Nitrogen, undistilled	0.0080		0.0008	0.0050	mg/L	ASTM D6919-09
Carbon, Total Organic (TOC)	6.3		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Chlorophyll A	27.8			1.6	ug/L	SM20 10200 H
Color, True	85.0			5.0	ColorUnits	SM 2120 B-2001 (2011)
Nitrate+Nitrite as Nitrogen	0.0026		0.0007	0.0020	mg/L	353.2
Nitrogen, Total Kjeldahl (TKN)	0.67		0.08	0.10	mg/L	351.2

SAMPLE DETECTION SUMMARY

CLIENT ID: 18LHB113	Lab ID: R1806808-005
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Analyte	Results	Flag	MDL	MRL	Units	Method
pH of Color Analysis	7.95				pH Units	SM 2120 B-2001 (2011)
Phosphorus, Total	0.0833		0.0020	0.0050	mg/L	365.1

CLIENT ID: 18LHB113 Diss	Lab ID: R1806808-006
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Analyte	Results	Flag	MDL	MRL	Units	Method
Phosphorus, Dissolved	0.0294		0.0020	0.0050	mg/L	365.1

CLIENT ID: 18LHB137	Lab ID: R1806808-007
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Analyte	Results	Flag	MDL	MRL	Units	Method
Alkalinity, Total as CaCO ₃	44.0		1.0	2.0	mg/L	SM 2320 B-1997 (2011)
Ammonia as Nitrogen, undistilled	0.0081		0.0008	0.0050	mg/L	ASTM D6919-09
Carbon, Total Organic (TOC)	3.3		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Chlorophyll A	2.47			0.080	ug/L	SM20 10200 H
Color, True	28.0			1.0	ColorUnits	SM 2120 B-2001 (2011)
Nitrogen, Total Kjeldahl (TKN)	0.39		0.08	0.10	mg/L	351.2
pH of Color Analysis	7.80				pH Units	SM 2120 B-2001 (2011)
Phosphorus, Total	0.0163		0.0020	0.0050	mg/L	365.1

CLIENT ID: 18LHB137 Diss	Lab ID: R1806808-008
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Analyte	Results	Flag	MDL	MRL	Units	Method
Phosphorus, Dissolved	0.0101		0.0020	0.0050	mg/L	365.1

CLIENT ID: 18LHB131	Lab ID: R1806808-009
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Analyte	Results	Flag	MDL	MRL	Units	Method
Alkalinity, Total as CaCO ₃	44.0		1.0	2.0	mg/L	SM 2320 B-1997 (2011)
Ammonia as Nitrogen, undistilled	0.148		0.0008	0.0050	mg/L	ASTM D6919-09
Carbon, Total Organic (TOC)	12.5		0.05	1.0	mg/L	SM 5310 C-2000 (2011)
Chlorophyll A	148			6.4	ug/L	SM20 10200 H
Color, True	210			10	ColorUnits	SM 2120 B-2001 (2011)
Nitrate+Nitrite as Nitrogen	0.0112		0.0007	0.0020	mg/L	353.2
Nitrogen, Total Kjeldahl (TKN)	2.53		0.08	0.10	mg/L	351.2
pH of Color Analysis	7.85				pH Units	SM 2120 B-2001 (2011)
Phosphorus, Total	0.136		0.010	0.025	mg/L	365.1

CLIENT ID: 18LHB131 Diss	Lab ID: R1806808-010
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Analyte	Results	Flag	MDL	MRL	Units	Method
Phosphorus, Dissolved	0.0342		0.0020	0.0050	mg/L	365.1



Sample Receipt Information

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

Client: New York State DEC
Project: LCI 2018/LCI2018

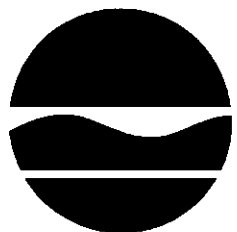
Service Request:R1806808

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
R1806808-001	18LHB135	7/18/2018	0805
R1806808-002	18LHB135 Diss	7/18/2018	0805
R1806808-003	18LHB136	7/18/2018	0810
R1806808-004	18LHB136 Diss	7/18/2018	0810
R1806808-005	18LHB113	7/18/2018	1010
R1806808-006	18LHB113 Diss	7/18/2018	1010
R1806808-007	18LHB137	7/18/2018	1130
R1806808-008	18LHB137 Diss	7/18/2018	1130
R1806808-009	18LHB131	7/18/2018	1315
R1806808-010	18LHB131 Diss	7/18/2018	1315

CHAIN OF CUSTODY

Page 1 of 1



New York State Department of
Environmental Conservation –
Division of Water

Project Name: LCI
Sampler Collector:
Sara Gonzalez
Project Manager: Alene Onion
Address: 625 Broadway, 4th Floor
Albany, NY 12233-3502
Phone: (518) 402-8166
Email: alene.onion@dec.ny.gov

Project Number: LCI2018
Sampler Signature:
Sara M. Gonzalez
X Report to Project Manager
Report to:
Address:
Phone:
Email:

NYSDEC SDG:
Sampler Phone No.:
845-216-9575
☐ **Bill to Project Manager**
Bill to: Jason Fagel
Address: 625 Broadway, 4th Floor
Albany, NY 12233-3502
Phone: 518-402-8156
Email: Jason.fagel@dec.ny.gov

Matrix Codes:

WW = Wastewater
GW = Groundwater
AW = Ambient Water
SE = Sediment
SL = Sludge
T = Tissue
O = Other _____

Analyses Ordered (list)

Preservative Codes:

0 = Cool to < 6°C
1 = HCL
2 = HNO₃
3 = H₂SO₄
4 = NaOH
5 = Zn. Acetate
6 = MeOH
7 = NaHSO₄
8 = Other _____

Matrix Codes:																			
WW = Wastewater																			
GW = Groundwater																			
AW = Ambient Water																			
SE = Sediment																			
SL = Sludge																			
T = Tissue																			
O = Other _____																			
NYSDEC LCI Sample ID	Collection Date	Collection Time	Matrix Code	No. of Containers	3			2			0	3	0			0			
					TP, NH4, NOx, TKN	TP, NH4, NOx, TKN, NO3 ⁻	Dissolved TOP4	Fe, Mn, As,	Ca, Mg, Na, K	Fe, Mn, As, Ca, Mg, Na, K	Color	TOC	DOC	Alkalinity	SO4 & UV-254	SO4, Cl	SO4, Cl, UV-254	Chlorophyll a Vol (ml)	
18LHB135	07/18	8:05	AW	6	X		X				X	X		X				X	500
18LHB136	07/18	8:10	AW	4	X		X				X	X							
18LHB113	07/18	10:10	AW	6	X		X				X	X		X				X	250
18LHB137	07/18	11:30	AW	6	X		X				X	X		X				X	500
18LHB131	07/18	13:15	AW	6	X		X				X	X		X				X	250
	07/18																		

R1806808

New York State DEC
LCI 2018



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Special Analysis Instructions:

Relinquished by Sampler:

Sara Gonzalez

Date:

07/18

Time:

3:10

Received by:

J. Az

Date:

7/18/18

Time:

3:10pm

Laboratory Receipt Notes:

Relinquished by:

Date:

7/18/18

Time:

1600

Received by:

J. Az

Date:

7/19/18

Time:

0905

Sample Temp.: _____ °C

Properly Preserved: Y / N

Samples Intact: Y / N



Cooler Receipt and Preservation Check Form

R1806808

5

New York State DEC
LCI 2018Project/Client LCI Folder Number _____Cooler received on 7/9/18 by: ECOURIER: ALS UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	<u>Y</u> N
2	Custody papers properly completed (ink, signed)?	<u>Y</u> N
3	Did all bottles arrive in good condition (unbroken)?	<u>Y</u> N
4	Circle: <u>Wet Ice</u> Dry Ice Gel packs present?	<u>Y</u> N

5a	Perchlorate samples have required headspace?	Y N <u>NA</u>
5b	Did VOA vials <u>Alk</u> or Sulfide have sig* bubbles?	Y <u>N</u> NA
6	Where did the bottles originate?	<u>ALS/ROC</u> CLIENT
7	Soil VOA received as: Bulk Encore 5035set	<u>NA</u>

8. Temperature Readings Date: 7/9/18 Time: 0915 ID: IR#7 IR#9 From: Temp Blank Sample Bottle

Observed Temp (°C)	<u>2.3</u>						
Correction Factor (°C)	<u>-</u>						
Corrected Temp (°C)	<u>2.3</u>						
Temp from: Type of bottle							
Within 0-6°C?	<u>Y</u> N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule
 & Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: R-002 by E on 7/9/18 at 0920
 5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 7/20/18 Time: 1540 by: DM

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
 10. Did all bottle labels and tags agree with custody papers? YES NO
 11. Were correct containers used for the tests indicated? YES NO
 12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
 13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated N/A

pH	Lot of test paper	Reagent	Preserved?		Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
			Yes	No						
≥12		NaOH								
≤2		HNO ₃								
≤2	<u>204518</u>	H ₂ SO ₄	<u>✓</u>		<u>190642</u>	<u>6/19</u>				
<4		NaHSO ₄								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add Na ₂ S ₂ O ₃ (625, 608, CN), ascorbic (phenol).					
		Na ₂ S ₂ O ₃								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis.
 Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 8-039-001, 180417-ZAAC, 091817-ZAAC

Explain all Discrepancies/ Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

Labels secondary reviewed by: DM
 PC Secondary Review: DM 8/2/18

*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter



Miscellaneous Forms

ALS Environmental—Rochester Laboratory

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.	+	Correlation coefficient for MSA is <0.995.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors).	N	Inorganics- Matrix spike recovery was outside laboratory limits.
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.	N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.	S	Concentration has been determined using Method of Standard Additions (MSA).
E	Organics- Concentration has exceeded the calibration range for that specific analysis.	W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.	P	Concentration >40% difference between the two GC columns.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the öNotesö column of the Form I, this qualifier denotes analysis was performed out of Holding Time.	C	Confirmed by GC/MS
H	Analysis was performed out of hold time for tests that have an öimmediateö hold time criteria.	Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (×100% Difference between two GC columns).
#	Spike was diluted out.	X	See Case Narrative for discussion.
		MRL	Method Reporting Limit. Also known as:
		LOQ	Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
		MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
		LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
		ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.



Rochester Lab ID # for State Certifications¹

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID #
Delaware Approved	New Jersey ID # NY004	294100 A/B
DoD ELAP #65817	New York ID # 10145	Pennsylvania ID# 68-786
Florida ID # E87674	North Carolina #676	Rhode Island ID # 158
		Virginia #460167

¹ Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: New York State DEC
Project: LCI 2018/LCI2018

Service Request: R1806808

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
SM20 10200 H	Water	Chlorophyll A

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: New York State DEC
Project: LCI 2018/LCI2018

Service Request: R1806808

Sample Name: 18LHB135
Lab Code: R1806808-001
Sample Matrix: Water

Date Collected: 07/18/18
Date Received: 07/19/18

Analysis Method	Extracted/Digested By	Analyzed By
351.2	NSMITH	CWOODS
353.2		GNITAJOUPPI
365.1	AFELSER	MROGERSON
ASTM D6919-09		AMOSSES
SM 2120 B-2001(2011)		SCYMBAL
SM 2320 B-1997(2011)		CWOODS
SM 5310 C-2000(2011)		CWOODS
SM20 10200 H		NSMITH

Sample Name: 18LHB135 Diss
Lab Code: R1806808-002
Sample Matrix: Water

Date Collected: 07/18/18
Date Received: 07/19/18

Analysis Method	Extracted/Digested By	Analyzed By
365.1	AFELSER	MROGERSON

Sample Name: 18LHB136
Lab Code: R1806808-003
Sample Matrix: Water

Date Collected: 07/18/18
Date Received: 07/19/18

Analysis Method	Extracted/Digested By	Analyzed By
351.2	NSMITH	CWOODS
353.2		GNITAJOUPPI
365.1	AFELSER	MROGERSON
ASTM D6919-09		CWOODS
SM 2120 B-2001(2011)		SCYMBAL
SM 5310 C-2000(2011)		CWOODS

ALS Group USA, Corp.

dba ALS Environmental

Analyst Summary report

Client: New York State DEC
Project: LCI 2018/LCI2018

Service Request: R1806808

Sample Name: 18LHB136 Diss
Lab Code: R1806808-004
Sample Matrix: Water

Date Collected: 07/18/18**Date Received:** 07/19/18**Analysis Method**

365.1

Extracted/Digested By

AFELSER

Analyzed By

MROGERSON

Sample Name: 18LHB113
Lab Code: R1806808-005
Sample Matrix: Water

Date Collected: 07/18/18**Date Received:** 07/19/18**Analysis Method**

351.2

353.2

365.1

ASTM D6919-09

SM 2120 B-2001(2011)

SM 2320 B-1997(2011)

SM 5310 C-2000(2011)

SM20 10200 H

Extracted/Digested By

NSMITH

AFELSER

Analyzed By

CWOODS

GNITAJOUPPI

MROGERSON

AMOSSES

SCYMBAL

CWOODS

CWOODS

NSMITH

Sample Name: 18LHB113 Diss
Lab Code: R1806808-006
Sample Matrix: Water

Date Collected: 07/18/18**Date Received:** 07/19/18**Analysis Method**

365.1

Extracted/Digested By

AFELSER

Analyzed By

MROGERSON

Sample Name: 18LHB137
Lab Code: R1806808-007
Sample Matrix: Water

Date Collected: 07/18/18**Date Received:** 07/19/18**Analysis Method**

351.2

353.2

365.1

Extracted/Digested By

NSMITH

AFELSER

Analyzed By

CWOODS

GNITAJOUPPI

MROGERSON

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: New York State DEC
Project: LCI 2018/LCI2018

Service Request: R1806808

Sample Name: 18LHB137
Lab Code: R1806808-007
Sample Matrix: Water

Date Collected: 07/18/18
Date Received: 07/19/18

Analysis Method

Extracted/Digested By

Analyzed By

ASTM D6919-09

AMOSEs

SM 2120 B-2001(2011)

SCYMBAL

SM 2320 B-1997(2011)

CWOODS

SM 5310 C-2000(2011)

CWOODS

SM20 10200 H

NSMITH

Sample Name: 18LHB137 Diss
Lab Code: R1806808-008
Sample Matrix: Water

Date Collected: 07/18/18
Date Received: 07/19/18

Analysis Method

Extracted/Digested By

Analyzed By

365.1

AFELSER

MROGERSON

Sample Name: 18LHB131
Lab Code: R1806808-009
Sample Matrix: Water

Date Collected: 07/18/18
Date Received: 07/19/18

Analysis Method

Extracted/Digested By

Analyzed By

351.2

NSMITH

CWOODS

353.2

GNITAJOUPPI

365.1

AFELSER

MROGERSON

ASTM D6919-09

AMOSEs

SM 2120 B-2001(2011)

SCYMBAL

SM 2320 B-1997(2011)

CWOODS

SM 5310 C-2000(2011)

CWOODS

SM20 10200 H

NSMITH

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: New York State DEC
Project: LCI 2018/LCI2018

Service Request: R1806808

Sample Name: 18LHB131 Diss
Lab Code: R1806808-010
Sample Matrix: Water

Date Collected: 07/18/18
Date Received: 07/19/18

Analysis Method
365.1

Extracted/Digested By
AFELSER

Analyzed By
MROGERSON



INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.



Sample Results

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB135
Lab Code: R1806808-001

Service Request: R1806808
Date Collected: 07/18/18 08:05
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	128	mg/L	2.0	1	07/27/18 17:11	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.0539	mg/L	0.0050	1	07/26/18 10:38	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	3.7	mg/L	1.0	1	07/27/18 12:42	NA	
Chlorophyll A	SM20 10200 H	1.94	ug/L	0.073	1	07/26/18 12:00	NA	
Color, True	SM 2120 B-2001(2011)	60.0	ColorUnits	5.0	5	07/19/18 10:30	NA	
Nitrate+Nitrite as Nitrogen	353.2	0.232	mg/L	0.0020	1	07/31/18 14:01	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	0.46	mg/L	0.10	1	08/03/18 13:36	07/31/18	
pH of Color Analysis	SM 2120 B-2001(2011)	8.06	pH Units	-	5	07/21/18 13:20	NA	*
Phosphorus, Total	365.1	0.0506	mg/L	0.0050	1	08/06/18 17:33	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB135 Diss
Lab Code: R1806808-002

Service Request: R1806808
Date Collected: 07/18/18 08:05
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Phosphorus, Dissolved	365.1	0.0314	mg/L	0.0050	1	08/06/18 16:40	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB136
Lab Code: R1806808-003

Service Request: R1806808
Date Collected: 07/18/18 08:10
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.224	mg/L	0.0050	1	07/25/18 18:24	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	4.3	mg/L	1.0	1	07/27/18 13:03	NA	
Color, True	SM 2120 B-2001(2011)	65.0	ColorUnits	5.0	5	07/19/18 10:30	NA	
Nitrate+Nitrite as Nitrogen	353.2	0.128	mg/L	0.0020	1	07/31/18 14:03	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	0.69	mg/L	0.10	1	08/03/18 13:36	07/31/18	
pH of Color Analysis	SM 2120 B-2001(2011)	7.75	pH Units	-	5	07/21/18 13:20	NA	*
Phosphorus, Total	365.1	0.158	mg/L	0.025	5	08/06/18 18:59	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB136 Diss
Lab Code: R1806808-004

Service Request: R1806808
Date Collected: 07/18/18 08:10
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Phosphorus, Dissolved	365.1	0.0609	mg/L	0.0050	1	08/06/18 16:41	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Collected: 07/18/18 10:10
Date Received: 07/19/18 09:05

Sample Name: 18LHB113
Lab Code: R1806808-005

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	118	mg/L	2.0	1	07/27/18 17:17	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.0080	mg/L	0.0050	1	07/26/18 10:54	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	6.3	mg/L	1.0	1	07/27/18 14:06	NA	
Chlorophyll A	SM20 10200 H	27.8	ug/L	1.6	10	07/26/18 12:00	NA	
Color, True	SM 2120 B-2001(2011)	85.0	ColorUnits	5.0	5	07/19/18 10:30	NA	
Nitrate+Nitrite as Nitrogen	353.2	0.0026	mg/L	0.0020	1	07/31/18 14:04	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	0.67	mg/L	0.10	1	08/03/18 13:37	07/31/18	
pH of Color Analysis	SM 2120 B-2001(2011)	7.95	pH Units	-	5	07/21/18 13:20	NA	*
Phosphorus, Total	365.1	0.0833	mg/L	0.0050	1	08/06/18 17:35	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB113 Diss
Lab Code: R1806808-006

Service Request: R1806808
Date Collected: 07/18/18 10:10
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Phosphorus, Dissolved	365.1	0.0294	mg/L	0.0050	1	08/06/18 16:42	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Collected: 07/18/18 11:30
Date Received: 07/19/18 09:05

Sample Name: 18LHB137
Lab Code: R1806808-007

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	44.0	mg/L	2.0	1	07/27/18 17:22	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.0081	mg/L	0.0050	1	07/26/18 11:10	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	3.3	mg/L	1.0	1	07/27/18 14:27	NA	
Chlorophyll A	SM20 10200 H	2.47	ug/L	0.080	1	07/26/18 12:00	NA	
Color, True	SM 2120 B-2001(2011)	28.0	ColorUnits	1.0	1	07/19/18 10:30	NA	
Nitrate+Nitrite as Nitrogen	353.2	0.0020 U	mg/L	0.0020	1	07/31/18 14:05	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	0.39	mg/L	0.10	1	08/03/18 13:38	07/31/18	
pH of Color Analysis	SM 2120 B-2001(2011)	7.80	pH Units	-	1	07/21/18 13:20	NA	*
Phosphorus, Total	365.1	0.0163	mg/L	0.0050	1	08/06/18 17:36	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB137 Diss
Lab Code: R1806808-008

Service Request: R1806808
Date Collected: 07/18/18 11:30
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Phosphorus, Dissolved	365.1	0.0101	mg/L	0.0050	1	08/06/18 16:44	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB131
Lab Code: R1806808-009

Service Request: R1806808
Date Collected: 07/18/18 13:15
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	44.0	mg/L	2.0	1	07/27/18 17:27	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.148	mg/L	0.0050	1	07/26/18 11:26	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	12.5	mg/L	1.0	1	07/27/18 14:48	NA	
Chlorophyll A	SM20 10200 H	148	ug/L	6.4	40	07/26/18 12:00	NA	
Color, True	SM 2120 B-2001(2011)	210	ColorUnits	10	10	07/19/18 10:30	NA	
Nitrate+Nitrite as Nitrogen	353.2	0.0112	mg/L	0.0020	1	07/31/18 14:07	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	2.53	mg/L	0.10	1	08/03/18 13:39	07/31/18	
pH of Color Analysis	SM 2120 B-2001(2011)	7.85	pH Units	-	10	07/21/18 13:20	NA	*
Phosphorus, Total	365.1	0.136	mg/L	0.025	5	08/06/18 19:00	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Sample Name: 18LHB131 Diss
Lab Code: R1806808-010

Service Request: R1806808
Date Collected: 07/18/18 13:15
Date Received: 07/19/18 09:05

Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Phosphorus, Dissolved	365.1	0.0342	mg/L	0.0050	1	08/06/18 16:50	08/01/18	



QC Summary Forms

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1806808-MB1

Service Request: R1806808
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Alkalinity, Total as CaCO3	SM 2320 B-1997(2011)	2.0 U	mg/L	2.0	1	07/27/18 15:45	NA	
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.0050 U	mg/L	0.0050	1	07/25/18 17:04	NA	
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	1.0 U	mg/L	1.0	1	07/27/18 09:03	NA	
Chlorophyll A	SM20 10200 H	0.40 U	ug/L	0.40	1	07/26/18 12:00	NA	
Color, True	SM 2120 B-2001(2011)	1.0	ColorUnits	1.0	1	07/19/18 10:30	NA	
Nitrate+Nitrite as Nitrogen	353.2	0.0020 U	mg/L	0.0020	1	07/31/18 13:41	NA	
Nitrogen, Total Kjeldahl (TKN)	351.2	0.10 U	mg/L	0.10	1	08/03/18 13:26	07/31/18	
Phosphorus, Dissolved	365.1	0.0050 U	mg/L	0.0050	1	08/06/18 16:10	08/01/18	
Phosphorus, Total	365.1	0.0050 U	mg/L	0.0050	1	08/06/18 17:22	08/01/18	

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Analytical Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: R1806808-MB2

Service Request: R1806808
Date Collected: NA
Date Received: NA
Basis: NA

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.0050 U	mg/L	0.0050	1	07/26/18 05:54	NA	
Phosphorus, Dissolved	365.1	0.0050 U	mg/L	0.0050	1	08/06/18 16:45	08/01/18	

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QA/QC Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Collected: 07/18/18
Date Received: 07/19/18
Date Analyzed: 07/25/18

Duplicate Matrix Spike Summary
Ammonia as Nitrogen, undistilled

Sample Name: 18LHB136
Lab Code: R1806808-003
Analysis Method: ASTM D6919-09

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike R1806808-003MS			Duplicate Matrix Spike R1806808-003DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Ammonia as Nitrogen, undistilled	0.224	0.708	0.500	97	0.712	0.500	97	75-125	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Collected: 07/18/18
Date Received: 07/19/18
Date Analyzed: 07/31/18

Duplicate Matrix Spike Summary
Nitrate+Nitrite as Nitrogen

Sample Name: 18LHB131
Lab Code: R1806808-009
Analysis Method: 353.2

Units: mg/L
Basis: NA

Analyte Name	Matrix Spike R1806808-009MS				Duplicate Matrix Spike R1806808-009DMS					
	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Nitrate+Nitrite as Nitrogen	0.0112	0.456	0.500	89	0.457	0.500	89	75-125	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: New York State DEC
Project LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Collected: 07/18/18
Date Received: 07/19/18
Date Analyzed: 07/19/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: 18LHB113
Lab Code: R1806808-005

Units: ColorUnits
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample R1806808-005DUP Result	Average	RPD	RPD Limit
Color, True	SM 2120 B-2001(2011)	5.0	85.0	85.0	85.0	<1	5

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: New York State DEC
Project LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Collected: 07/18/18
Date Received: 07/19/18
Date Analyzed: 07/21/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: 18LHB113
Lab Code: R1806808-005

Units: pH Units
Basis: NA

				Duplicate Sample R1806808- 005DUP			
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
pH of Color Analysis	SM 2120 B-2001(2011)	-	7.95	7.95	7.95	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Analyzed: 07/25/18 - 08/06/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1806808-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Alkalinity, Total as CaCO ₃	SM 2320 B-1997(2011)	18.0	20.0	90	70-130
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.481	0.500	96	70-130
Carbon, Total Organic (TOC)	SM 5310 C-2000(2011)	10.1	10.0	101	70-130
Nitrate+Nitrite as Nitrogen	353.2	0.481	0.500	96	70-130
Nitrogen, Total Kjeldahl (TKN)	351.2	2.45	2.50	98	70-130
Phosphorus, Dissolved	365.1	0.0241	0.0250	96	70-130
Phosphorus, Total	365.1	0.0244	0.0250	98	70-130

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QA/QC Report

Client: New York State DEC
Project: LCI 2018/LCI2018
Sample Matrix: Water

Service Request: R1806808
Date Analyzed: 07/26/18 - 08/06/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1806808-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Ammonia as Nitrogen, undistilled	ASTM D6919-09	0.485	0.500	97	70-130
Phosphorus, Dissolved	365.1	0.0249	0.0250	99	70-130