NELAP CERTIFICATE NUMBER: 01955
DOD ELAP CERTIFICATE NUMBER: L14-243

ANALYTICAL RESULTS

PERFORMED BY

GCAL, LLC
7979 Innovation Park Dr.
Baton Rouge, LA 70820

Report Date 06/26/2017

GCAL Report 217061455

Project LOOP

Deliver To	*Additional Recipients*
David Hawley CK ASSOCIATES 17170 Perkins Rd Baton Rouge, LA 70810 2257551000	NONE

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
DL	Diluted analysis – when appended to Client Sample ID
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
P	RPD between primary and confirmation result is greater than 40

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

Authorized Signature
GCAL Report 217061455

Certifications

Certification	Certification Number
DOD ELAP	L14-243
Alabama	01955
Arkansas	12-060-0
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
USDA Soil Permit	P330-10-00117

Case Narrative

Client: C-K Associates **Report:** 217061455

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

COC ANOMALIES

David Hawley added Chloride analysis to all samples in workorder. (Amanda Cobb 06/15/2017 08:40)

METALS

In the EPA 6020A analysis, a chemical or physical interference necessitated a dilution for all samples. This is reflected in elevated detection limits. Additional dilutions were required to bracket the concentration of target analytes within the calibration range of the instrument.

GENERAL CHEMISTRY

In the EPA 300.0, Rev 2.1 analysis, sample 21706145501 (1706 1304 2.42), 21706145502 (1706 1304 3.22), 21706145503 (1706 1304 4.29), 21706145504 (1706 1304 5.72) and 21706145505 (1706 1304 7.63) had to be diluted in order to bracket the concentration of target analyte(s) within the calibration range of the instrument.

In the EPA 300.0, Rev 2.1 analysis, all samples had to be diluted to eliminate background interference. This is reflected in elevated detection limits. Additional dilutions were required to bracket the concentration of target analytes within the calibration range of the instrument.

In the EPA 300.0, Rev 2.1 analysis for analytical batch 612292, the MS and/or MSD recovery is outside control limits for Fluoride. The LCS recovery is acceptable. This indicates the analysis is in control and the sample is affected by a matrix interference.

Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21706145501	1706 1304 2.42	Water	06/13/2017 12:30	06/14/2017 16:45
21706145502	1706 1304 3.22	Water	06/13/2017 12:30	06/14/2017 16:45
21706145503	1706 1304 4.29	Water	06/13/2017 12:30	06/14/2017 16:45
21706145504	1706 1304 5.72	Water	06/13/2017 12:30	06/14/2017 16:45
21706145505	1706 1304 7.63	Water	06/13/2017 12:30	06/14/2017 16:45

Summary of Compounds Detected

1706 1304 2.42

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145501
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-70-2	Calcium	399000	50000	ug/L
7439-95-4	Magnesium	1190000	500000	ug/L
7440-09-7	Potassium	372000	10000	ug/L
7440-23-5	Sodium	11400000	500000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
24959-67-9	Bromide	78.2	20.0	mg/L
16887-00-6	Chloride	17700	1000	mg/L
16984-48-8	Fluoride	31.0	20.0	mg/L
14808-79-8	Sulfate	3100	1000	mg/L

SM 2320 B-2011

CAS#	Parameter	Result	LOQ	Units
T-005-B	Bicarbonate Alkalinity	146	1.0	mg/L CaCO3

1706 1304 3.22

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145502
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-70-2	Calcium	400000	50000	ug/L
7439-95-4	Magnesium	1210000	500000	ug/L
7440-09-7	Potassium	385000	10000	ug/L
7440-23-5	Sodium	11300000	500000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
24959-67-9	Bromide	75.6	20.0	mg/L
16887-00-6	Chloride	22500	1000	mg/L

Summary of Compounds Detected

1706 1304 3.22	**Collect Date**	06/13/2017 12:30	**GCAL ID**	21706145502
	Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 300.0, Rev 2.1 (Continued)

CAS#	Parameter	Result	LOQ	Units
14808-79-8	Sulfate	3430	1000	mg/L

SM 2320 B-2011

CAS#	Parameter	Result	LOQ	Units
T-005-B	Bicarbonate Alkalinity	138	1.0	mg/L CaCO3

1706 1304 4.29	**Collect Date**	06/13/2017 12:30	**GCAL ID**	21706145503
	Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-70-2	Calcium	409000	50000	ug/L
7439-95-4	Magnesium	1180000	500000	ug/L
7440-09-7	Potassium	374000	10000	ug/L
7440-23-5	Sodium	10800000	500000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
24959-67-9	Bromide	70.0	20.0	mg/L
16887-00-6	Chloride	17500	1000	mg/L
14808-79-8	Sulfate	2760	1000	mg/L

SM 2320 B-2011

CAS#	Parameter	Result	LOQ	Units
T-005-B	Bicarbonate Alkalinity	136	1.0	mg/L CaCO3

Summary of Compounds Detected

1706 1304 5.72

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145504
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-70-2	Calcium	397000	50000	ug/L
7439-95-4	Magnesium	1220000	500000	ug/L
7440-09-7	Potassium	384000	10000	ug/L
7440-23-5	Sodium	10700000	500000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
24959-67-9	Bromide	67.0	20.0	mg/L
16887-00-6	Chloride	17100	1000	mg/L
14808-79-8	Sulfate	2670	1000	mg/L

SM 2320 B-2011

CAS#	Parameter	Result	LOQ	Units
T-005-B	Bicarbonate Alkalinity	120	1.0	mg/L CaCO3

1706 1304 7.63

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145505
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

CAS#	Parameter	Result	LOQ	Units
7440-70-2	Calcium	426000	50000	ug/L
7439-95-4	Magnesium	1340000	500000	ug/L
7440-09-7	Potassium	401000	10000	ug/L
7440-23-5	Sodium	11100000	500000	ug/L

EPA 300.0, Rev 2.1

CAS#	Parameter	Result	LOQ	Units
24959-67-9	Bromide	58.9	20.0	mg/L
16887-00-6	Chloride	17000	1000	mg/L
14808-79-8	Sulfate	2600	1000	mg/L

Summary of Compounds Detected

1706 1304 7.63	**Collect Date**	06/13/2017 12:30	**GCAL ID**	21706145505
	Receive Date	06/14/2017 16:45	**Matrix**	Water

SM 2320 B-2011

CAS#	Parameter	Result	LOQ	Units
T-005-B	Bicarbonate Alkalinity	109	1.0	mg/L CaCO3

Sample Results

1706 1304 2.42	**Collect Date**	06/13/2017 12:30	**GCAL ID**	21706145501
	Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	100	06/22/2017 20:40	JLN	612724

CAS#	Parameter	Result	LOQ	Units
7440-70-2	Calcium	399000	50000	ug/L
7440-09-7	Potassium	372000	10000	ug/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	5000	06/23/2017 14:57	AWG	612797

CAS#	Parameter	Result	LOQ	Units
7439-95-4	Magnesium	1190000	500000	ug/L
7440-23-5	Sodium	11400000	500000	ug/L

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	06/15/2017 17:47	BSV	612292

CAS#	Parameter	Result	LOQ	Units
24959-67-9	Bromide	78.2	20.0	mg/L
16984-48-8	Fluoride	31.0	20.0	mg/L

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5000	06/15/2017 18:39	BSV	612292

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	17700	1000	mg/L
14808-79-8	Sulfate	3100	1000	mg/L

Sample Results

1706 1304 2.42

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145501
Receive Date	06/14/2017 16:45	**Matrix**	Water

SM 2320 B-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	06/16/2017 11:14	RYC	612402

CAS#	Parameter	Result	LOQ	Units
T-005-B	**Bicarbonate Alkalinity**	**146**	**1.0**	**mg/L CaCO3**

1706 1304 3.22

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145502
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	100	06/22/2017 20:45	JLN	612724

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**400000**	**50000**	**ug/L**
7440-09-7	**Potassium**	**385000**	**10000**	**ug/L**

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	5000	06/23/2017 15:00	AWG	612797

CAS#	Parameter	Result	LOQ	Units
7439-95-4	**Magnesium**	**1210000**	**500000**	**ug/L**
7440-23-5	**Sodium**	**11300000**	**500000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	06/15/2017 19:31	BSV	612292

CAS#	Parameter	Result	LOQ	Units
24959-67-9	**Bromide**	**75.6**	**20.0**	**mg/L**
16984-48-8	Fluoride	ND	20.0	mg/L

Sample Results

1706 1304 3.22

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145502
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5000	06/15/2017 19:49	BSV	612292

CAS#	Parameter	Result	LOQ	Units
16887-00-6	Chloride	22500	1000	mg/L
14808-79-8	Sulfate	3430	1000	mg/L

SM 2320 B-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	06/16/2017 11:14	RYC	612402

CAS#	Parameter	Result	LOQ	Units
T-005-B	Bicarbonate Alkalinity	138	1.0	mg/L CaCO3

1706 1304 4.29

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145503
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	100	06/22/2017 20:50	JLN	612724

CAS#	Parameter	Result	LOQ	Units
7440-70-2	Calcium	409000	50000	ug/L
7440-09-7	Potassium	374000	10000	ug/L

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	5000	06/23/2017 15:03	AWG	612797

CAS#	Parameter	Result	LOQ	Units
7439-95-4	Magnesium	1180000	500000	ug/L
7440-23-5	Sodium	10800000	500000	ug/L

Sample Results

1706 1304 4.29

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145503
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	06/15/2017 20:06	BSV	612292

CAS#	Parameter	Result	LOQ	Units
24959-67-9	**Bromide**	**70.0**	**20.0**	**mg/L**
16984-48-8	Fluoride	ND	20.0	mg/L

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5000	06/15/2017 20:23	BSV	612292

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**17500**	**1000**	**mg/L**
14808-79-8	**Sulfate**	**2760**	**1000**	**mg/L**

SM 2320 B-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	06/16/2017 11:14	RYC	612402

CAS#	Parameter	Result	LOQ	Units
T-005-B	**Bicarbonate Alkalinity**	**136**	**1.0**	**mg/L CaCO3**

1706 1304 5.72

Collect Date	06/13/2017 12:30	**GCAL ID**	21706145504
Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	100	06/22/2017 20:54	JLN	612724

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**397000**	**50000**	**ug/L**
7440-09-7	**Potassium**	**384000**	**10000**	**ug/L**

Sample Results

1706 1304 5.72	**Collect Date**	06/13/2017 12:30	**GCAL ID**	21706145504
	Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	5000	06/23/2017 15:07	AWG	612797

CAS#	Parameter	Result	LOQ	Units
7439-95-4	**Magnesium**	**1220000**	**500000**	**ug/L**
7440-23-5	**Sodium**	**10700000**	**500000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	06/15/2017 21:16	BSV	612292

CAS#	Parameter	Result	LOQ	Units
24959-67-9	**Bromide**	**67.0**	**20.0**	**mg/L**
16984-48-8	Fluoride	ND	20.0	mg/L

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5000	06/15/2017 21:33	BSV	612292

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**17100**	**1000**	**mg/L**
14808-79-8	**Sulfate**	**2670**	**1000**	**mg/L**

SM 2320 B-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	06/16/2017 11:14	RYC	612402

CAS#	Parameter	Result	LOQ	Units
T-005-B	**Bicarbonate Alkalinity**	**120**	**1.0**	**mg/L CaCO3**

Sample Results

1706 1304 7.63	**Collect Date**	06/13/2017 12:30	**GCAL ID**	21706145505
	Receive Date	06/14/2017 16:45	**Matrix**	Water

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	100	06/22/2017 20:59	JLN	612724

CAS#	Parameter	Result	LOQ	Units
7440-70-2	**Calcium**	**426000**	**50000**	**ug/L**
7440-09-7	**Potassium**	**401000**	**10000**	**ug/L**

EPA 6020A

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
06/15/2017 13:30	612297	EPA 3010A	5000	06/23/2017 15:10	AWG	612797

CAS#	Parameter	Result	LOQ	Units
7439-95-4	**Magnesium**	**1340000**	**500000**	**ug/L**
7440-23-5	**Sodium**	**11100000**	**500000**	**ug/L**

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	100	06/15/2017 21:51	BSV	612292

CAS#	Parameter	Result	LOQ	Units
24959-67-9	**Bromide**	**58.9**	**20.0**	**mg/L**
16984-48-8	Fluoride	ND	20.0	mg/L

EPA 300.0, Rev 2.1

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	5000	06/15/2017 22:08	BSV	612292

CAS#	Parameter	Result	LOQ	Units
16887-00-6	**Chloride**	**17000**	**1000**	**mg/L**
14808-79-8	**Sulfate**	**2600**	**1000**	**mg/L**

Sample Results

1706 1304 7.63	**Collect Date**	06/13/2017 12:30	**GCAL ID**	21706145505
	Receive Date	06/14/2017 16:45	**Matrix**	Water

SM 2320 B-2011

Prep Date	Prep Batch	Prep Method	Dilution	Analysis Date	By	Analytical Batch
NA	NA	NA	1	06/16/2017 11:14	RYC	612402

CAS#	Parameter	Result	LOQ	Units
T-005-B	**Bicarbonate Alkalinity**	**109**	**1.0**	**mg/L CaCO3**

Inorganics QC Summary

Analytical Batch	Client ID	MB612297		LCS612297				LCSD612297				
612724	GCAL ID	1693477		1693478				1693552				
Prep Batch	Sample Type	MB		LCS				LCSD				
612297	Prep Date	06/15/2017 13:30		06/15/2017 13:30				06/15/2017 13:30				
Prep Method	Analysis Date	06/22/2017 20:26		06/22/2017 20:36				06/22/2017 20:31				
EPA 3010A	Matrix	Water		Water				Water				
EPA 6020A		Units Result	ug/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Calcium	7440-70-2	ND	500	25000	26700	107	80 - 120	25000	27100	108	1	20
Magnesium	7439-95-4	ND	100	5000	5170	103	80 - 120	5000	5350	107	4	20
Potassium	7440-09-7	ND	100	5000	5260	105	80 - 120	5000	5350	107	2	20
Sodium	7440-23-5	ND	100	5000	5250	105	80 - 120	5000	5540	111	5	20

General Chemistry QC Summary

Analytical Batch 612292	Client ID	MB612292		LCS612292				LCSD612292				
	GCAL ID	1693464		1693465				1693703				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	06/15/2017 10:34		06/15/2017 10:17				06/15/2017 14:35				
	Matrix	Water		Water				Water				
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Bromide	24959-67-9	ND	0.200	2.50	2.20	88	80 - 120	2.50	2.25	90	2	15
Chloride	16887-00-6	ND	0.200	2.50	2.28	91	80 - 120	2.50	2.25	90	2	15
Fluoride	16984-48-8	ND	0.200	2.50	2.29	92	80 - 120	2.50	2.35	94	3	15
Sulfate	14808-79-8	ND	0.200	2.50	2.36	94	80 - 120	2.50	2.35	94	0	15

Analytical Batch 612292	Client ID	1706 1304 2.42		1693422MS				1693422MSD				
	GCAL ID	21706145501		1693701				1693702				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	06/15/2017 17:47		06/15/2017 18:04				06/15/2017 18:22				
	Matrix	Water		Water				Water				
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Bromide	24959-67-9	78.2	20.0	250	318	96	80 - 120	250	318	96	0	15
Fluoride	16984-48-8	31.0	20.0	250	216	**74***	80 - 120	250	217	**74***	1	15

Analytical Batch 612292	Client ID	1706 1304 2.42		1693422MS				1693422MSD				
	GCAL ID	21706145501		1693701				1693702				
	Sample Type	SAMPLE		MS				MSD				
	Prep Date	NA		NA				NA				
	Analysis Date	06/15/2017 18:39		06/15/2017 18:56				06/15/2017 19:14				
	Matrix	Water		Water				Water				
EPA 300.0, Rev 2.1		Units Result	mg/L LOQ	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Chloride	16887-00-6	17700	1000	12500	30400	102	80 - 120	12500	30500	103	0	15
Sulfate	14808-79-8	3100	1000	12500	14600	92	80 - 120	12500	14700	93	1	15

GCAL ANALYTICAL LABORATORIES, LLC

7979 Innovation Park Dr., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

CHAIN OF CUSTODY RECORD

Client ID: 0060 - C-K Associates
SDG: 217061455
PM: AEC

Report to:
Client: CK Assoc.
Address: 17170 Perkins Rd
Baton Rouge, LA 70816
Contact: David Hawley
Phone: 225-755-1000
E-mail: David.Hawley@c-ka.com

Bill to:
Client: SAME
Address:
Contact:
Phone:
E-mail:

P.O. Number
Project Name/Number
Sampled By:

Analytical Requests & Method

GCAL use only:
Custody Seal
used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 4.0 E29
38 CPM
☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	EPA 6020A Ca, Mg, Na, K	EPA 300.0 Bromide, Fluoride, Sulfate	SM 2320 B-2011 - Bicarbonate Alk.	Preservative
W	6/13/17	1230		X	17061306 3.27 2.42	2	✓	✓	✓	1
↓	↓	↓		↓	17061304 4.29 3.22	2	↓	↓	↓	2
					17061304 5.72 4.29	2				3
					17061304 7.63 5.72	2				4
↓	↓	↓		↓	17061304 10.17 7.63	2	↓	↓	↓	5
					CJT 6/14/17					

Air Bill No:

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☒ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Courtney Delbert	6/14/17	1615	Jules Hebert	6-14-17	1615
Jules Hebert	6-14-17	1645	Tony Savage	6-14-17	1645
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

217061455

SAMPLE DELIVERY GROUP 217061455	
Client PM AEC 0060 - C-K Associates	**Transport Method** COURIER
Profile Number 273621	**Received By** Reese, Sean M.
Line Item(s) 1 - Water	**Receive Date(s)** 06/14/17

CHECKLIST	YES	NO	NA
Samples received with proper thermal and chemical preservation?	✓		
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	✓		
When used, were custody seals intact?	✓		
COC relinquished and complete (including sample IDs, collect dates/times, and sampler name)?	✓		
Short holds or RUSH samples received?		✓	
All containers received in good condition and within hold time?	✓		
All sample labels and containers received match the chain of custody?	✓		
Preservation checked at receipt? Exceptions: VOC, Coliform, TOC, Oil and Grease, DOC	✓		
Preservative added to any containers?		✓	
VOC water containers received with headspace < 6mm?			✓
Received filtered sample volume for dissolved analysis?			✓
Trip blank present in all coolers containing VOC waters?			✓
Samples collected in containers provided by GCAL?	✓		

COOLERS	
AirbIll **Thermometer ID:** E29	**Temp(°C)**
	4.0

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

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