



The sample was received intact at 12.8°C by ALS.

## 1409259

### **GC/MS Volatiles:**

The samples were analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C. The samples were also analyzed for Gasoline Range Organics (GRO).

All acceptance criteria were met.

### **Dissolved Gasses:**

The sample was prepared and analyzed according to method RSK-175 procedures and the current revision of SOP 449.

All acceptance criteria were met.

### **DRO:**

The sample was analyzed following the current revision of SOP 406 generally based on SW-846 Method 8000C and Method 8015D. The procedures are based on this general method because SW-846 does not have a specific method for total extractable petroleum hydrocarbons (TEPH) or diesel range organics. The only true modification from this method is that TEPH is a multicomponent mixture and is quantitated by summing the entire range, rather than individual peaks.

All acceptance criteria were met.

### **BART:**

The Biological Activity Reaction Test was completed with the Iron-Related Bacteria, Sulfate-Reducing Bacteria, and Slime-Forming Bacteria kit manufactured by Hach Company. The analysis was performed following the manufacturer provided instructions. If the target analyte is not detected (absent), then the sample will be reported with "ND" in the result field. If the target analyte is detected (present), then the sample will be reported with the estimated colony forming units/mL (cfu/mL) as provided by the manufacturer based on the day reaction was observed.

### **Metals:**

The sample was analyzed following Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures. Analysis by ICPMS followed method 200.8 and the current revision of SOP 827.



The sample was to be analyzed for dissolved metals. The sample was filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than 2 prior to analysis.

All acceptance criteria were met with the following exception:

- n Matrix spike recoveries could not be evaluated for the following analyte:

<u>Analyte</u>	<u>Sample ID</u>
Sodium	1409259-1MS/MSD

The concentration of this analyte in the native sample was greater than four times the concentration of matrix spike added during the digestion. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The laboratory control sample indicates that the digestion and analysis were in control.

### **Inorganics:**

The sample was analyzed following MCAWW, EMSL, and Standard Method procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	SM2320B	1106
Bicarbonate	SM2320B	1106
Carbonate	SM2320B	1106
pH	SM4500-H <sup>+</sup> B	1126
Total phosphorus	365.2	1119
Specific conductance	SM2510B	1128
TDS	SM2540C	1101
Bromide	300.0 Revision 2.1	1113
Chloride	300.0 Revision 2.1	1113
Fluoride	300.0 Revision 2.1	1113
Nitrate as N	300.0 Revision 2.1	1113
Nitrite as N	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

All acceptance criteria were met.

# ALS Environmental -- FC

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 1409259

**Client Name:** LT Environmental, Inc.

**Client Project Name:** NGL Baseline

**Client Project Number:** 54814002

**Client PO Number:**

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
NGL-C9	1409259-1		WATER	16-Sep-14	13:15
Trip Blank	1409259-2		WATER	16-Sep-14	



## Chain-of-Custody

Form 202r8

Time Zone (Circle):	EST	CST	MST	PST	Matrix:	$\eta$ = oil	$S$ = soil	$NS$ = non-soil solid	$W$ = water	$l$ = liquid	$E$ = extract	$F$ = filter
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**For metals or anions, please detail analytes below.**

Comments:	QC PACKAGE (check below)	
	LEVEL II (Standard QC)	LEVEL III (Std QC + forms)
Iron, Magnesium, Manganese, Potassium, Sodium, Strontium, Bromide, Chloride, Fluoride, Nitrate as N, Nitrite as N, Sulfate		LEVEL IV (Std QC + forms + raw data)
Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035		



ALS Environmental - Fort Collins  
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: LTE  
Project Manager: ARW

Workorder No: 1409259  
Initials: JR Date: 9-16-14  
9-17-14

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	NO
7. Were airbills / shipping documents present and/or removable?	<input checked="" type="radio"/> DROP OFF	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: <u>X</u> < green pea _____ > green pea	N/A	YES	<input checked="" type="radio"/> NO
15. Do any water samples contain sediment? Amount Amount of sediment: _____ dusting _____ moderate _____ heavy	N/A	YES	<input checked="" type="radio"/> NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4		<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO
Cooler #: <u>1</u>			
Temperature (°C): <u>12.8°</u> <input checked="" type="radio"/>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>NA</u>			
Background µR/hr reading: <u>13</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO <input checked="" type="radio"/> NA (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

\*14 → 1409259-1-1, -1-7, -2-1, -2-2

\* Samples delivered day of collection.

If applicable, was the client contacted? YES / NO / NA Contact: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager Signature / Date: [Signature] 9/17/14

## ALS Environmental -- FC

## SAMPLE SUMMARY REPORT

Client: LT Environmental, Inc.  
 Project: 54814002 NGL Baseline  
 Sample ID: NGL-C9  
 Legal Location:  
 Collection Date: 9/16/2014 13:15

Date: 29-Sep-14  
 Work Order: 1409259  
 Lab ID: 1409259-1  
 Matrix: WATER  
 Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Alkalinity as Calcium Carbonate</b>						
			<b>SM2320B</b>		Prep Date: 9/19/2014	PrepBy: AJD
TOTAL ALKALINITY AS CaCO3	190		20	MG/L	1	9/19/2014
BICARBONATE AS CaCO3	190		20	MG/L	1	9/19/2014
CARBONATE AS CaCO3	ND		20	MG/L	1	9/19/2014
<b>Biological Activity Reaction Test</b>						
			<b>BART</b>		Prep Date: 9/17/2014	PrepBy: NAQ
IRON RELATED BACTERIA	500		1	cfu/ml	1	9/25/2014
SLIME FORMING BACTERIA	66500		1	cfu/ml	1	9/25/2014
SULFATE REDUCING BACTERIA	200		1	cfu/ml	1	9/25/2014
<b>Diesel Range Organics</b>						
			<b>SW8015M</b>		Prep Date: 9/17/2014	PrepBy: JAC
Diesel Range Organics	ND		0.49	MG/L	1	9/19/2014 14:27
Surr: O-TERPHENYL	111		54-123	%REC	1	9/19/2014 14:27
<b>Dissolved Gasses</b>						
			<b>RSK175</b>		Prep Date: 9/22/2014	PrepBy: JFN
METHANE	4		1	UG/L	1	9/22/2014 15:30
ETHANE	ND		2	UG/L	1	9/22/2014 15:30
PROPANE	ND		1	UG/L	1	9/22/2014 15:30
<b>GC/MS Volatiles</b>						
			<b>SW8260_25</b>		Prep Date: 9/18/2014	PrepBy: SDW
BENZENE	ND		1	UG/L	1	9/18/2014 14:42
TOLUENE	ND		1	UG/L	1	9/18/2014 14:42
ETHYLBENZENE	ND		1	UG/L	1	9/18/2014 14:42
M+P-XYLENE	ND		1	UG/L	1	9/18/2014 14:42
O-XYLENE	ND		1	UG/L	1	9/18/2014 14:42
TOTAL XYLENES	ND		1	UG/L	1	9/18/2014 14:42
Surr: 4-BROMOFLUOROBENZENE	103		85-115	%REC	1	9/18/2014 14:42
Surr: DIBROMOFLUOROMETHANE	102		84-118	%REC	1	9/18/2014 14:42
Surr: TOLUENE-D8	100		85-115	%REC	1	9/18/2014 14:42
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	9/18/2014 14:42
<b>Ion Chromatography</b>						
			<b>EPA300.0</b>		Prep Date: 9/17/2014	PrepBy: AJD
BROMIDE	ND		0.2	MG/L	1	9/17/2014 13:34
CHLORIDE	12		0.2	MG/L	1	9/17/2014 13:34
FLUORIDE	0.59		0.1	MG/L	1	9/17/2014 13:34
NITRATE AS N	ND		0.2	MG/L	1	9/17/2014 13:34
NITRITE AS N	ND		0.1	MG/L	1	9/17/2014 13:34
SULFATE	45		1	MG/L	1	9/17/2014 13:34
<b>Dissolved Metals by 200.8</b>						
			<b>EPA200.8</b>		Prep Date: 9/24/2014	PrepBy: NAQ
BARIUM	0.033		0.001	MG/L	10	9/25/2014 13:27
BORON	0.14		0.05	MG/L	10	9/25/2014 13:27
CALCIUM	8.4		1	MG/L	10	9/25/2014 13:27
IRON	ND		0.1	MG/L	10	9/25/2014 13:27
MAGNESIUM	1.9		0.1	MG/L	10	9/25/2014 13:27
MANGANESE	0.011		0.002	MG/L	10	9/25/2014 13:27
POTASSIUM	3.1		1	MG/L	10	9/25/2014 13:27

## ALS Environmental -- FC

## SAMPLE SUMMARY REPORT

**Client:** LT Environmental, Inc.  
**Project:** 54814002 NGL Baseline  
**Sample ID:** NGL-C9  
**Legal Location:**  
**Collection Date:** 9/16/2014 13:15

**Date:** 29-Sep-14  
**Work Order:** 1409259  
**Lab ID:** 1409259-1  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SELENIUM	0.0013		0.001	MG/L	10	9/25/2014 13:27
SODIUM	110		1	MG/L	10	9/25/2014 13:27
STRONTIUM	0.16		0.001	MG/L	10	9/25/2014 13:27
pH			SM4500-H		Prep Date: 9/19/2014	PrepBy: AJD
PH	8.44		0.1	pH	1	9/19/2014
Specific Conductance in Water			SM2510B		Prep Date: 9/19/2014	PrepBy: AJD
SPECIFIC CONDUCTIVITY	489		1	umhos/cm	1	9/19/2014
Total Dissolved Solids			SM2540C		Prep Date: 9/22/2014	PrepBy: KMP
TOTAL DISSOLVED SOLIDS	280		20	MG/L	1	9/23/2014
Total Phosphorus as P			EPA365.2		Prep Date: 9/29/2014	PrepBy: AJD
TOTAL PHOSPHORUS	ND		0.05	MG/L	1	9/29/2014

## ALS Environmental -- FC

## SAMPLE SUMMARY REPORT

**Client:** LT Environmental, Inc.  
**Project:** 54814002 NGL Baseline  
**Sample ID:** Trip Blank  
**Legal Location:**  
**Collection Date:** 9/16/2014

**Date:** 29-Sep-14  
**Work Order:** 1409259  
**Lab ID:** 1409259-2  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
<b>GC/MS Volatiles</b>			<b>SW8260_25</b>		Prep Date: 9/18/2014	PrepBy: SDW
BENZENE	ND		1	UG/L	1	9/18/2014 15:04
TOLUENE	ND		1	UG/L	1	9/18/2014 15:04
ETHYLBENZENE	ND		1	UG/L	1	9/18/2014 15:04
M+P-XYLENE	ND		1	UG/L	1	9/18/2014 15:04
O-XYLENE	ND		1	UG/L	1	9/18/2014 15:04
TOTAL XYLENES	ND		1	UG/L	1	9/18/2014 15:04
Surr: 4-BROMOFLUOROBENZENE	104		85-115	%REC	1	9/18/2014 15:04
Surr: DIBROMOFLUOROMETHANE	101		84-118	%REC	1	9/18/2014 15:04
Surr: TOLUENE-D8	98		85-115	%REC	1	9/18/2014 15:04
GASOLINE RANGE ORGANICS	ND		100	UG/L	1	9/18/2014 15:04



# ALS Environmental -- FC

# SAMPLE SUMMARY REPORT

**Client:** LT Environmental, Inc.  
**Project:** 54814002 NGL Baseline  
**Sample ID:** Trip Blank  
**Legal Location:**  
**Collection Date:** 9/16/2014

**Date:** 29-Sep-14  
**Work Order:** 1409259  
**Lab ID:** 1409259-2  
**Matrix:** WATER  
**Percent Moisture:**

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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## Explanation of Qualifiers

### Radiochemistry:

U or ND - Result is less than the sample specific MDC.	M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.	L - LCS Recovery below lower control limit.
Y2 - Chemical Yield outside default limits.	H - LCS Recovery above upper control limit.
W - DER is greater than Warning Limit of 1.42	P - LCS, Matrix Spike Recovery within control limits.
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.	N - Matrix Spike Recovery outside control limits
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.	NC - Not Calculated for duplicate results less than 5 times MDC
G - Sample density differs by more than 15% of LCS density.	B - Analyte concentration greater than MDC.
D - DER is greater than Control Limit	B3 - Analyte concentration greater than MDC but less than Requested MDC.
M - Requested MDC not met.	
LT - Result is less than requested MDC but greater than achieved MDC.	

### Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).  
 U or ND - Indicates that the compound was analyzed for but not detected.  
 E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.  
 M - Duplicate injection precision was not met.  
 N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.  
 Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.  
 \* - Duplicate analysis (relative percent difference) not within control limits.  
 S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

### Organics:

U or ND - Indicates that the compound was analyzed for but not detected.  
 B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.  
 E - Analyte concentration exceeds the upper level of the calibration range.  
 J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).  
 A - A tentatively identified compound is a suspected aldol-condensation product.  
 X - The analyte was diluted below an accurate quantitation level.  
 \* - The spike recovery is equal to or outside the control criteria used.  
 + - The relative percent difference (RPD) equals or exceeds the control criteria.  
 G - A pattern resembling gasoline was detected in this sample.  
 D - A pattern resembling diesel was detected in this sample.  
 M - A pattern resembling motor oil was detected in this sample.  
 C - A pattern resembling crude oil was detected in this sample.  
 4 - A pattern resembling JP-4 was detected in this sample.  
 5 - A pattern resembling JP-5 was detected in this sample.  
 H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.  
 L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.  
 Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:  
 - gasoline  
 - JP-8  
 - diesel  
 - mineral spirits  
 - motor oil  
 - Stoddard solvent  
 - bunker C

## ALS Environmental -- FC

Date: 9/29/2014 4:11:

Client: LT Environmental, Inc.  
Work Order: 1409259  
Project: 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: EX140917-3-1 Instrument ID: FUELS-1 Method: SW8015M

<b>DUP</b>	Sample ID: 1409259-1		Units: MG/L				Analysis Date: 9/19/2014 14:57			
Client ID: NGL-C9	Run ID: HC140919-7A		Prep Date: 9/17/2014				DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.493					0.49			
Surr: O-TERPHENYL	1.49		1.37		109	54-123				

<b>LCS</b>	Sample ID: EX140917-3		Units: MG/L				Analysis Date: 9/19/2014 13:57			
Client ID:	Run ID: HC140919-7A		Prep Date: 9/17/2014				DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	14.4	0.497	13.8		104	36-150			20	
Surr: O-TERPHENYL	1.34		1.38		97	54-123				

<b>MB</b>	Sample ID: EX140917-3		Units: MG/L				Analysis Date: 9/19/2014 12:57			
Client ID:	Run ID: HC140919-7A		Prep Date: 9/17/2014				DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	0.5								
Surr: O-TERPHENYL	1.38		1.39		100	54-123				

The following samples were analyzed in this batch:

1409259-1

**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **HC140922-9-2** Instrument ID: **MEE-1** Method: **RSK175**

<b>LCS</b>		Sample ID: <b>HC140922-9</b>			Units: <b>UG/L</b>			Analysis Date: <b>9/22/2014 13:20</b>		
Client ID:		Run ID: <b>HC140922-9A</b>			Prep Date: <b>9/22/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	122	1	142		86	80-120			25	
ETHANE	239	2	267		90	80-120			25	
PROPANE	340	1	391		87	80-120			25	

<b>LCSD</b>		Sample ID: <b>HC140922-9</b>			Units: <b>UG/L</b>			Analysis Date: <b>9/22/2014 14:02</b>		
Client ID:		Run ID: <b>HC140922-9A</b>			Prep Date: <b>9/22/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	126	1	142		88	80-120	122	3	25	
ETHANE	245	2	267		92	80-120	239	2	25	
PROPANE	349	1	391		89	80-120	340	3	25	

<b>MB</b>		Sample ID: <b>HC140922-9</b>			Units: <b>UG/L</b>			Analysis Date: <b>9/22/2014 13:23</b>		
Client ID:		Run ID: <b>HC140922-9A</b>			Prep Date: <b>9/22/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
METHANE	ND	1								
ETHANE	ND	2								
PROPANE	ND	1								

The following samples were analyzed in this batch:

1409259-1

Client: LT Environmental, Inc.  
 Work Order: 1409259  
 Project: 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **IP140924-3-1** Instrument ID: **ICPMS2** Method: **EPA200.8**

<b>LCS</b>	Sample ID: <b>FP140924-3</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/25/2014 13:23</b>			
Client ID:	Run ID: <b>IM140925-10A3</b>			Prep Date: <b>9/24/2014</b>			DF: <b>10</b>			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	0.104	0.001	0.1		104	85-115			20	
BORON	0.913	0.05	1		91	85-115			20	
CALCIUM	9.02	1	10		90	85-115			20	
IRON	5.05	0.1	5		101	85-115			20	
MAGNESIUM	9.51	0.1	10		95	85-115			20	
MANGANESE	0.106	0.002	0.1		106	85-115			20	
POTASSIUM	4.9	1	5		98	85-115			20	
SELENIUM	0.104	0.001	0.1		104	85-115			20	
SODIUM	9.5	1	10		95	85-115			20	
STRONTIUM	0.105	0.001	0.1		105	85-115			20	

<b>MB</b>	Sample ID: <b>FP140924-3</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/25/2014 13:20</b>			
Client ID:	Run ID: <b>IM140925-10A3</b>			Prep Date: <b>9/24/2014</b>			DF: <b>10</b>			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	ND	0.001								
BORON	ND	0.05								
CALCIUM	ND	1								
IRON	ND	0.1								
MAGNESIUM	ND	0.1								
MANGANESE	ND	0.002								
POTASSIUM	ND	1								
SELENIUM	ND	0.001								
SODIUM	ND	1								
STRONTIUM	ND	0.001								

<b>MS</b>	Sample ID: <b>1409259-1</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/25/2014 13:36</b>			
Client ID: <b>NGL-C9</b>	Run ID: <b>IM140925-10A3</b>			Prep Date: <b>9/24/2014</b>			DF: <b>10</b>			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	0.137	0.001	0.1	0.033	104	70-130			20	
BORON	1.01	0.05	1	0.14	87	70-130			20	
CALCIUM	17.3	1	10	8.4	89	70-130			20	
IRON	5.17	0.1	5	0.1	103	70-130			20	
MAGNESIUM	12.1	0.1	10	1.9	102	70-130			20	
MANGANESE	0.112	0.002	0.1	0.011	101	70-130			20	
POTASSIUM	8.1	1	5	3.1	100	70-130			20	
SELENIUM	0.105	0.001	0.1	0.0013	104	70-130			20	
SODIUM	113	1	10	110	53	70-130			20	
STRONTIUM	0.27	0.001	0.1	0.16	106	70-130			20	

**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **IP140924-3-1** Instrument ID: **ICPMS2** Method: **EPA200.8**

**MSD** Sample ID: **1409259-1** Units: **MG/L** Analysis Date: **9/25/2014 13:40**

Client ID: **NGL-C9** Run ID: **IM140925-10A3** Prep Date: **9/24/2014** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BARIUM	0.137	0.001	0.1	0.033	104.2	70-130	0.137	0	20	
BORON	1.02	0.05	1	0.14	88	70-130	1.01	1	20	
CALCIUM	16.3	1	10	8.4	78.9	70-130	17.3	6	20	
IRON	5.24	0.1	5	0.1	105	70-130	5.17	1	20	
MAGNESIUM	12	0.1	10	1.9	100.4	70-130	12.1	1	20	
MANGANESE	0.115	0.002	0.1	0.011	104.4	70-130	0.112	3	20	
POTASSIUM	8.06	1	5	3.1	98.9	70-130	8.1	0	20	
SELENIUM	0.107	0.001	0.1	0.0013	105.3	70-130	0.105	2	20	
SODIUM	116	1	10	110	78.6	70-130	113	2	20	
STRONTIUM	0.272	0.001	0.1	0.16	108.1	70-130	0.27	1	20	

The following samples were analyzed in this batch:

1409259-1

Client: LT Environmental, Inc.  
 Work Order: 1409259  
 Project: 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **VL140918-3-1** Instrument ID: **HPV1** Method: **SW8260\_25**

<b>LCS</b>		Sample ID: <b>VL140918-3</b>			Units: <b>%REC</b>			Analysis Date: <b>9/18/2014 13:14</b>		
Client ID:		Run ID: <b>VL140918-3A</b>			Prep Date: <b>9/18/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUORO	25.4		25		102	85-115				
Surr: DIBROMOFLUORO	25.8		25		103	84-118				
Surr: TOLUENE-D8	24.3		25		97	85-115				
BENZENE	9.6	1	10		96	83-117			20	
TOLUENE	9.1	1	10		91	82-113			20	
ETHYLBENZENE	9.56	1	10		96	81-113			20	
M+P-XYLENE	19	1	20		95	82-115			20	
O-XYLENE	9.46	1	10		95	81-115			20	

<b>LCSD</b>		Sample ID: <b>VL140918-3</b>			Units: <b>%REC</b>			Analysis Date: <b>9/18/2014 13:36</b>		
Client ID:		Run ID: <b>VL140918-3A</b>			Prep Date: <b>9/18/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUORO	25		25		100	85-115		2		
Surr: DIBROMOFLUORO	25.8		25		103	84-118		0		
Surr: TOLUENE-D8	24.7		25		99	85-115		1		
BENZENE	9.83	1	10		98	83-117	9.6	2	20	
TOLUENE	9.76	1	10		98	82-113	9.1	7	20	
ETHYLBENZENE	9.84	1	10		98	81-113	9.56	3	20	
M+P-XYLENE	19.6	1	20		98	82-115	19	3	20	
O-XYLENE	10.1	1	10		101	81-115	9.46	6	20	

<b>MB</b>		Sample ID: <b>VL140918-3</b>			Units: <b>%REC</b>			Analysis Date: <b>9/18/2014 14:20</b>		
Client ID:		Run ID: <b>VL140918-3A</b>			Prep Date: <b>9/18/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Surr: 4-BROMOFLUORO	26.3		25		105	85-115				
Surr: DIBROMOFLUORO	25		25		100	84-118				
Surr: TOLUENE-D8	24.7		25		99	85-115				
BENZENE	ND	1								
TOLUENE	ND	1								
ETHYLBENZENE	ND	1								
M+P-XYLENE	ND	1								
O-XYLENE	ND	1								
TOTAL XYLENES	ND	1								

**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **VL140918-3-4** Instrument ID: **HPV1** Method: **SW8260\_25**

<b>LCS</b>		Sample ID: <b>VL140918-9</b>			Units: <b>UG/L</b>			Analysis Date: <b>9/18/2014 11:44</b>		
Client ID:		Run ID: <b>VL140918-3A</b>			Prep Date: <b>9/18/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGA	428	100	500		86	80-120			20	

<b>LCSD</b>		Sample ID: <b>VL140918-9</b>			Units: <b>UG/L</b>			Analysis Date: <b>9/18/2014 12:06</b>		
Client ID:		Run ID: <b>VL140918-3A</b>			Prep Date: <b>9/18/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGA	412	100	500		82	80-120	428	4	20	

<b>MB</b>		Sample ID: <b>VL140918-3</b>			Units: <b>UG/L</b>			Analysis Date: <b>9/18/2014 14:20</b>		
Client ID:		Run ID: <b>VL140918-3A</b>			Prep Date: <b>9/18/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGA	ND	100								

The following samples were analyzed in this batch:

1409259-1	1409259-2
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**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **AK140919-1-2** Instrument ID: **Balance** Method: **SM2320B**

<b>LCS</b>		Sample ID: <b>AK140919-1</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/19/2014</b>		
Client ID:		Run ID: <b>AK140919-1A1</b>			Prep Date: <b>9/19/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS Ca	100	5	100		100	85-115			15	

<b>MB</b>		Sample ID: <b>AK140919-1</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/19/2014</b>		
Client ID:		Run ID: <b>AK140919-1A1</b>			Prep Date: <b>9/19/2014</b>			DF: <b>1</b>		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL ALKALINITY AS Ca	ND	5								
BICARBONATE AS CaCO	ND	5								
CARBONATE AS CaCO3	ND	5								

The following samples were analyzed in this batch:

1409259-1



**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **IC140917-2-2** Instrument ID: **IC** Method: **EPA300.0**

**LCS** Sample ID: **IC140917-2** Units: **MG/L** Analysis Date: **9/17/2014 12:51**

Client ID: Run ID: **IC140917-1A3** Prep Date: **9/17/2014** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BROMIDE	5.04	0.2	5		101	90-110			15	
CHLORIDE	4.98	0.2	5		100	90-110			15	
FLUORIDE	1.97	0.1	2		99	90-110			15	
NITRATE AS N	4.91	0.2	5		98	90-110			15	
NITRITE AS N	1.87	0.1	2		94	90-110			15	
SULFATE	19.3	1	20		96	90-110			15	

**MB** Sample ID: **IC140917-2** Units: **MG/L** Analysis Date: **9/17/2014 13:05**

Client ID: Run ID: **IC140917-1A3** Prep Date: **9/17/2014** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BROMIDE	ND	0.2								
CHLORIDE	ND	0.2								
FLUORIDE	ND	0.1								
NITRATE AS N	ND	0.2								
NITRITE AS N	ND	0.1								
SULFATE	ND	1								

The following samples were analyzed in this batch:

1409259-1

**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **PH140919-1-1** Instrument ID: **pH-1** Method: **SM4500-H**

**DUP** Sample ID: **1409259-1** Units: **pH** Analysis Date: **9/19/2014**  
Client ID: **NGL-C9** Run ID: **PH140919-1A1** Prep Date: **9/19/2014** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
PH	8.43	0.1					8.44		0.2	

The following samples were analyzed in this batch:

1409259-1

**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **SC140919-1-1** Instrument ID: **pH-2** Method: **SM2510B**

**DUP** Sample ID: **1409259-1** Units: **umhos/cm** Analysis Date: **9/19/2014**  
Client ID: **NGL-C9** Run ID: **SC140919-1A1** Prep Date: **9/19/2014** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
SPECIFIC CONDUCTIVITY	490	1					489	0	10	

The following samples were analyzed in this batch:

1409259-1

**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **TD140922-1-2** Instrument ID: **Balance** Method: **SM2540C**

<b>DUP</b>	Sample ID: <b>1409259-1</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/23/2014</b>			
Client ID: <b>NGL-C9</b>			Run ID: <b>TD140923-1A1</b>			Prep Date: <b>9/22/2014</b>			DF: <b>1</b>	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLI	277	20					280	2	5	

<b>LCS</b>	Sample ID: <b>TD140922-1</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/23/2014</b>			
Client ID:			Run ID: <b>TD140923-1A1</b>			Prep Date: <b>9/22/2014</b>			DF: <b>1</b>	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLI	392	20	400		98	85-115			5	

<b>MB</b>	Sample ID: <b>TD140922-1</b>			Units: <b>MG/L</b>			Analysis Date: <b>9/23/2014</b>			
Client ID:			Run ID: <b>TD140923-1A1</b>			Prep Date: <b>9/22/2014</b>			DF: <b>1</b>	
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLI	ND	20								

The following samples were analyzed in this batch:

1409259-1

**Client:** LT Environmental, Inc.  
**Work Order:** 1409259  
**Project:** 54814002 NGL Baseline

## QC BATCH REPORT

Batch ID: **TP140929-1-2** Instrument ID: **Spec** Method: **EPA365.2**

LCS		Sample ID: TP140929-1				Units: MG/L		Analysis Date: 9/29/2014		
Client ID:		Run ID: TP140929-1A1				Prep Date: 9/29/2014		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.514	0.05	0.5		103	80-120			20	

MB		Sample ID: TP140929-1				Units: MG/L		Analysis Date: 9/29/2014		
Client ID:		Run ID: TP140929-1A1				Prep Date: 9/29/2014		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	ND	0.05								

MS		Sample ID: 1409259-1				Units: MG/L		Analysis Date: 9/29/2014		
Client ID: NGL-C9		Run ID: TP140929-1A1				Prep Date: 9/29/2014		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.276	0.05	0.25	0.05	110	80-120			20	

MSD		Sample ID: 1409259-1				Units: MG/L		Analysis Date: 9/29/2014		
Client ID: NGL-C9		Run ID: TP140929-1A1				Prep Date: 9/29/2014		DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
TOTAL PHOSPHORUS	0.276	0.05	0.25	0.05	110	80-120	0.276	0	20	

The following samples were analyzed in this batch:

1409259-1