SEMI-ANNUAL
GROUNDWATER MONITORING REPORT
(November and December 2014)

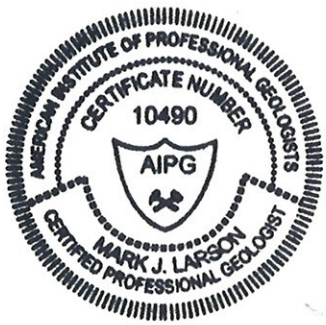
Chamberlain Flow Line Leak and
Historical Contamination
#1RP-1-10-2391

LAI Project No. 12-0126-01

January 28, 2015

Prepared for:
Legacy Reserves, L.P.
30 West Wall Street, Suite 1400
Midland, Texas 79701

Prepared by:
Larson & Associates, Inc.
507 North Marienfeld Street, Suite 205
Midland, Texas 79701



Kimberly Huckaba
Staff Geologist

Mark J. Larson, PG
Certified Professional Geologist No. 10490
President/Geologist

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1.0 EXECUTIVE SUMMARY

This report has been prepared on behalf of Legacy Reserves, L.P. (Legacy) for submittal to the New Mexico Oil Conservation Division (OCD) to present the laboratory analysis of 2014 semi-annual (November and December June) groundwater sample analysis from a monitoring well (MW-1) near the Chamberlain Tank Battery (Site). The Site is located in Unit C (NE 1/4, NW 1/4), Section 14, Township 15 South, Range 37 East, in Lea County, New Mexico. The geodetic position is north 33° 01' 16.7" and west 103° 10' 13.6." The surface owner is Angell Ranch Co., LLC.

The following activities occurred during 2014:

- November 17, 2014 - Third Quarter Gauging and Groundwater Sampling Event
- December 11, 2014 - Fourth Quarter Gauging and Groundwater Sampling Event

The following observations are documented in this report:

- BTEX were below the analytical reporting limit (RL) and New Mexico Water Quality Control Commission (WQCC) human health standards during the November and December 2014 sampling events;
- Nitrate, chloride, sulfate and TDS were below WQCC human health and domestic water quality standards during the November and December 2014 sampling events.

Legacy will continue groundwater monitoring on a quarterly (4 times per year) schedule. Legacy will notify the OCD at least 48 hours prior to the annual monitoring events, and as soon as possible upon any significant change in analyte concentrations.

2.0 INTRODUCTION

Legacy Reserves, L.P. (Legacy) submits this report to the New Mexico Oil Conservation Division (OCD) to present the laboratory results of quarterly (4 times per year) groundwater monitoring for a monitoring well (MW-1) located near the Chamberlain Tank Battery (Site), Lea County, New Mexico. This report is for groundwater monitoring performed during November and December 2014. The Site is located in Unit C (NE 1/4, NW 1/4), Section 14, Township 15 South, and Range 37 East, about 20 miles northeast of Lovington, New Mexico. The surface is owned by Angell Ranch Co., LLC. The geodetic position is north 33° 01' 16.7" and west 103° 10' 13.6". Figure 1 presents a location and topographic map. Figure 2 presents an aerial photograph. Figure 3 presents a Site drawing.

2.1 Background

In 2009, while remediating a non-reportable spill from a flow line south of the Site, a Legacy contractor encountered contamination from a historic release. The contractor excavated about 200 cubic yards of soil from the non-reportable spill to a depth of approximately 5 feet below ground surface (bgs).

In May 2010 Legacy retained Basin Environmental Consulting, LLC (Basin), located in Lovington, New Mexico, to investigate the historic contamination. Among other things Basin collected soil samples from five (5) exploratory trenches (main, east, west, north and south) and six (6) borings (SB-1 through SB-6). The trenches were excavated with a track hoe between approximately 3.5 (north) and 18 (main, west, south and east) feet bgs. On January 7, 2010, Legacy submitted the initial C-141 to the OCD District 1 office located in Hobbs, New Mexico. The OCD assigned remediation project number 1RP-2391 to the historic release.

Between April 2012 and September 2013, Larson & Associates, Inc (LAI) supervised excavation of additional soil, collected soil samples from 9 borings (BH-1 through BH-9) and installed 1 monitoring well (MW-1) about 100 feet southeast (down gradient) of the Site. Groundwater was encountered at approximately 65 feet bgs. Laboratory results from the initial groundwater sample collected on June 11, 2013 reported chloride and total dissolved solids (TDS) at 263 milligrams per liter (mg/L) and 1,180 mg/L, respectively. The OCD requested groundwater monitoring fro 8 quarters (2 years) commencing in December 2013.

LAI supervised closure of the excavation during September 2013 including installing a 20 mil polyethylene (geomembrane) liner in the bottom of the excavation, approximately 38,000 square feet, and filling with approximately 10,308 cubic yards of clean soil. The surface will be seeded when adequate moisture is available, as determined by the landowner. A final report was submitted to the OCD on March 3, 2014 ("Excavation Closure Report, Chamberlain Flow Line and Historic Contamination, 1RP-10-1-2391") that included laboratory results of groundwater samples collected from the monitoring well on June 11, 2013 and December 26, 2013. The excavation closure and laboratory results of groundwater samples was documented in a report titled, *"Excavation Closure Report, Chamberlain Flow Line and Historic Contamination, #1RP1-10-2391, March 3, 2014".*

2.2 Setting

The surface elevation is approximately 3,791 feet above mean sea level (MSL) and slopes gently to the southeast. The soil is designated as "Kimbrough gravelly loam, 0 to 3 percent slopes (Kg)" which occurs on upland areas known locally as "scabland." The soil has a surface layer approximately 6 inches thick of dark grayish brown gravelly loam which is underlain by indurated caliche. The unit is comprised of approximately 85% Kimbrough soil with the remainder being Lea, Sharvana, Stegall and Slaughter soils.

The soil is too shallow for cropland therefore its main use is range and wildlife habitat. A well used for livestock watering is located about 1,600 feet southeast of the Site.

The Site is underlain by a thin layer of silty clay (loam) which is underlain by a resilient layer of caliche or caprock. The caliche is a hard, erosion resistant, pedogenic calcrete that between approximately 25 and 30 feet thick. The caliche grades into the Pliocene to Miocene-age Ogallala formation which is comprised of fluvial sand, silt, clay and localized gravel, with indistinct to massive crossbeds. The Ogallala sand is generally fine- to medium-grained quartz. The Ogallala formation is underlain by shale of the Triassic-age Chile formation of the Dockum Group.

Groundwater occurs in the Ogallala formation at about 63 feet bgs. The Triassic-age Chinle formation is the lower confining unit for the Ogallala formation and occurs at a depth of approximately 120 feet bgs according to records from the New Mexico Office of the State Engineer (OSE). The regional groundwater flow direction is to the southeast.

3.0 GROUNDWATER SAMPLES AND LABORATORY ANALYSIS

On November 17, 2014 and December 11, 2014, groundwater samples were collected from monitoring well MW-1 during the third (3rd) and fourth (4th) quarterly monitoring events. On November 17, 2014, groundwater was gauged in well MW-1 at 65.98 feet below top of casing (TOC) or about 63.20 feet bgs. Groundwater was not gauged in well MW-1, on December 11, 2014. Groundwater samples were collected after removing approximately three (3) well volumes of groundwater or purging dry with dedicated disposable polyethylene bailers or pumping with an electric submersible pump and dedicated disposable tubing. The samples were carefully transferred to laboratory containers that were labeled, sealed with custody labels, packed in an ice filled chest and delivered under chain of custody control to DHL Analytical, Inc. (DHL), a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory, located in Round Rock, Texas. All metals samples were filtered by the laboratory to exclude particles larger than 0.45µ and acidified with nitric acid within 24-hours of collection. DHL analyzed the samples for benzene, toluene, ethylbenzene, xylene (BTEX) by EPA Sw-846 Method 8021B, filtered metals (calcium, magnesium, potassium, sodium) by methods SW-6020, anions, alkalinity, and total dissolved solids (TDS) by methods E-300, M2320B and M2540, respectively. Purge water was contained in a portable tank and discharged to the Facility's process water system for disposal in a permitted Class II injection well. Table 1 presents monitoring well completion and gauging summary. Table 2 presents the laboratory organic analytical data summary. Table 3 presents the laboratory inorganic analytical data summary. Appendix A presents the laboratory reports.

3.1 Organic Analysis

All BTEX values were below the analytical method reporting limits (RL) and New Mexico Water Quality Control Commission (WQCC) human health standards during the third and fourth 2014 quarterly monitoring events. Case narrative was indicated at slightly below control limits for benzene and toluene in the matrix spike duplicate recovery. Also three compounds had RPD slightly above control limits for the matrix spike and matrix spike duplicate. All samples in the case narrative were flagged accordingly in the QC summary report. No further corrective actions were taken by DHL.

3.2 Inorganic Analysis

Chloride decreased from 263 mg/L, on June 11, 2013 to 130 mg/L (November 17, 2014) and 132 mg/L (December 11, 2014). The TDS concentration decreased from 1,180 mg/L, on June 11, 2013 to 762 mg/L (November 17, 2014) and 809 mg/L (December 11, 2014). The chloride and TDS concentrations are below the WQCC domestic water quality standards of 250 mg/L (chloride) and 1,000 mg/L (TDS). Nitrate and sulfate were below the WQCC human health and domestic water quality standards of 10 mg/L and 600 mg/L, respectively. The remaining inorganic constituents were within the range expected for the groundwater.

Case narrative was indicated for three analytes for the matrix spike and matrix spike duplicate was above the method control limits. These were flagged in the QC summary report however, the LCS was within control limits for these analytes and no further corrective actions were taken. Also the metal analysis on sample LCVL was slightly above control limits for sodium. Associated CCV sample was within control limits. All samples in the case narrative were flagged accordingly in the QC summary report. No further corrective actions were taken by DHL.

No data quality exceptions were noted in the DHL case narratives for chloride, sulfate, TDS, and nitrate.

4.0 CONCLUSIONS

The following observations are documented in this report:

- BTEX was not reported above the RL or WQCC human health standards during the November and December 2014 sampling events;
- Chloride, nitrate, sulfate and TDS were below the WQCC human health (nitrate) and domestic water quality (chloride, sulfate and TDS) water quality standards during the November and December 2014 sampling events.

5.0 RECOMMENDATIONS

Legacy will continue groundwater monitoring on a quarterly (4 times per year) schedule. During each event groundwater samples will be collected as stated earlier and analyzed for BTEX, anions (sodium, magnesium, calcium), anions (sulfate, chloride, alkalinity), nitrate and TDS. The groundwater sample results will be submitted to the OCD in semi-annual (twice yearly) reports. Notice will be provided to the OCD in Hobbs and Santa Fe, New Mexico, at least 48 hours prior to each event.

TABLES

Table 1
Monitoring Well Drilling and Completion Summary
Legacy Reserves, L.P., Chamberlin Site , 1RP-2391
Lea County, New Mexico

Well Information									Groundwater Data	
Well ID	Date Drilled	Drilled Depth (feet bgs)	Well Depth (feet TOC)	Well Diameter (inches)	Surface Elevation	Screen Interval (feet bgs)	Casing Stickup (feet)	TOC Elevation	Date Gauged	Depth to Water (TOC)
MW-1	6/10/2013	75.42	78.40	2	--	54.77 - 74.72	2.78	--	06/10/2013	65.82
									06/11/2013	65.85
									12/26/2013	--
									03/11/2014	66.34
									11/17/2014	65.98
									12/11/2014	--

Notes: Monitoring well drilled using air rotary rig by Scarborough Drilling, Inc., Lamesa, Texas and constructed with 2-inch threaded schedule 40 PVC casing and screen
All values are in feet, unless otherwise noted.
bgs - below ground surface
TOC - top of casing
--: No data available

Table 2
Groundwater Organic Analytical Data Summary
Legacy Reserves, L.P., Chamberlin Site, 1RP-2391
Lea County, New Mexico

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylene
WQCC Limit:		**0.01**	**0.75**	**0.75**	**0.62**
MW-1	11/17/2014	<0.002	<0.006	<0.006	<0.009
	12/11/2014	<0.002	<0.006	<0.006	<0.009
Trip Blank	11/17/2014	<0.002	<0.006	<0.006	<0.009

Notes: Analysis performed by DHL Analytical, Round Rock, Texas, by EPA SW-846 Method 8021B.

All values except pH reported in milligrams per Liter (mg/L) equivelent to parts per million (ppm).

Table 3
Groundwater Inorganic Analytical Data Summary
Legacy Reserves, L.P., Chamberlin Site, 1RP-2391
Lea County, New Mexico

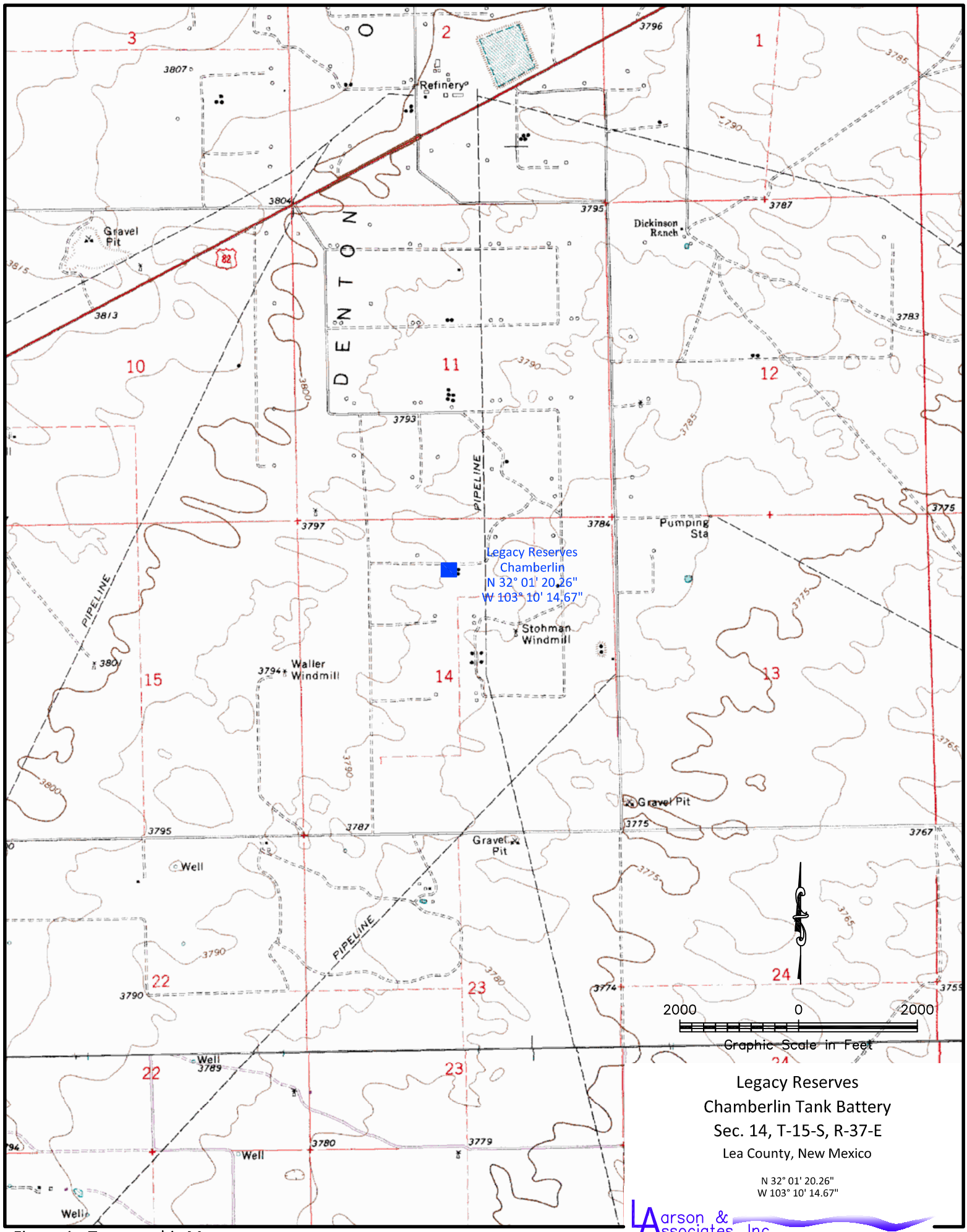
Sample ID	Date	Alkalinity (mg/L)	Chloride (mg/L)	Nitrate - N (mg/L)	TDS (mg/L)	Sulfate (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)
WQCC Limit:			**250**	**10**	**1,000**	**600**				
MW-1	6/11/2013	**272**	**263.0**	**8.53**	**1180.0**	206.0	94.0	230.0	7.2	51.0
	11/17/2014	339	130	1.80	762	84.4	167	12.1	2.76	224
	12/11/2014	443	132	1.82	809	87.0	47.2	10.4	<15.00	206

Notes: Analysis performed by DHL Analytical, Round Rock, Texas, by EPA methods

All values except pH reported in milligrams per Liter (mg/L) equivelent to parts per million (ppm).

<: Denotes concentration less than method reporting limit (RL)

FIGURES



Legacy Reserves
Chamberlin Tank Battery
Sec. 14, T-15-S, R-37-E
Lea County, New Mexico

N 32° 01' 20.26"
W 103° 10' 14.67"

Larson & Associates, Inc.
Environmental Consultants

Figure 1 - Topographic Map

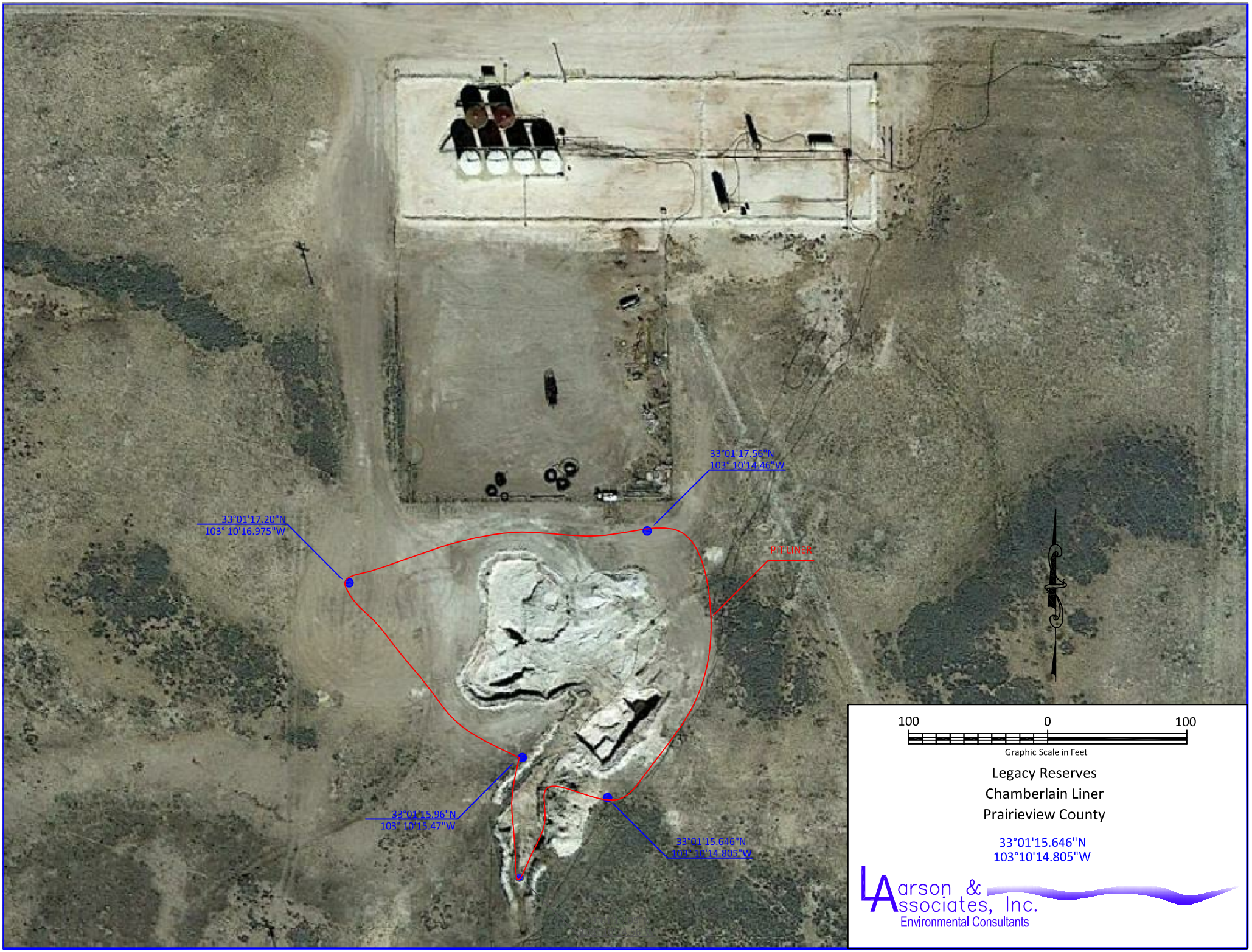


Figure 2- Aerial

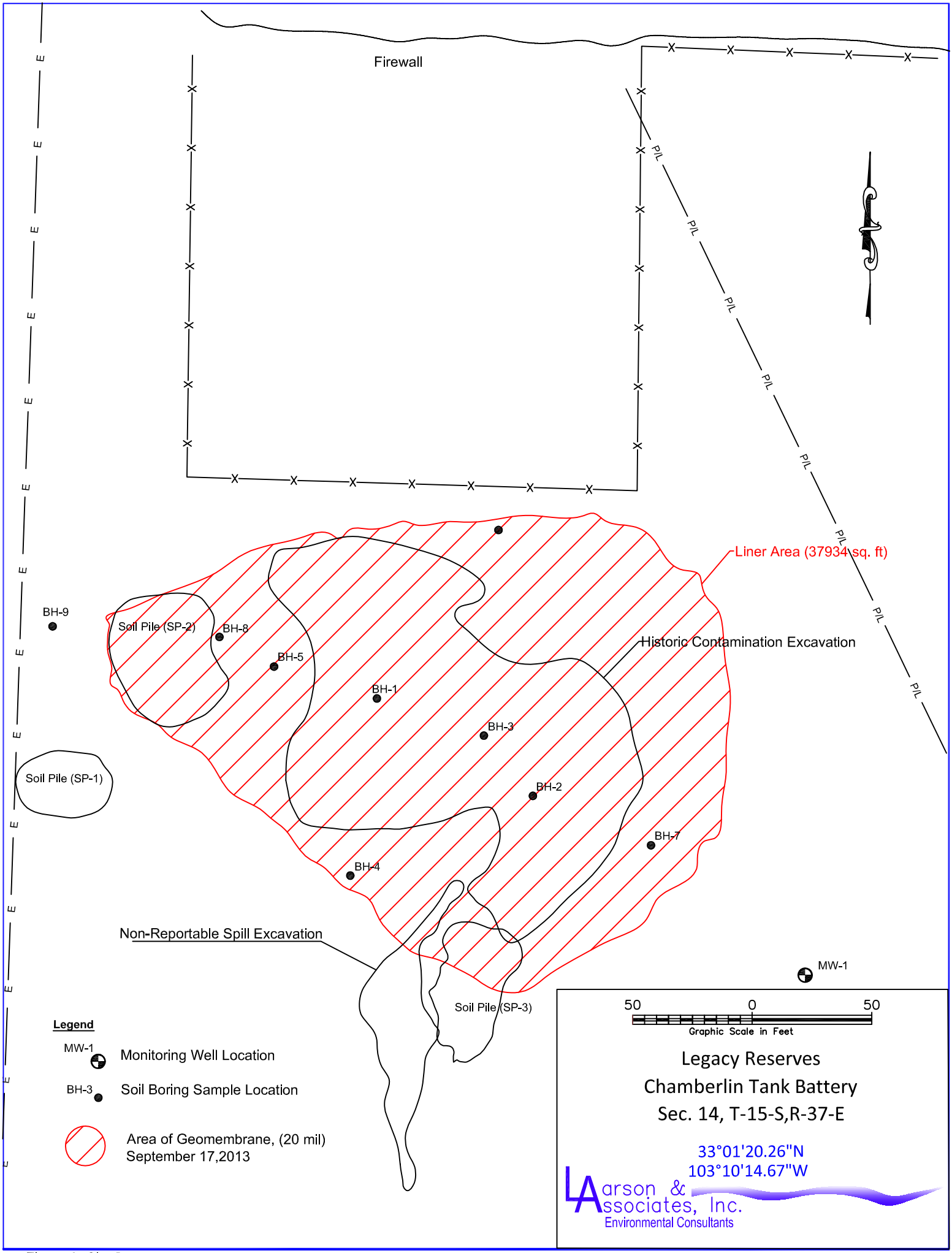


Figure 3- Site Drawing

APPENDIX A

LABORATORY ANALYTICAL REPORTS
AND
CHAIN OF CUSTODY DOCUMENTATION

November 25, 2014

Coty Woolf
Larson & Associates
507 N. Marienfeld #200
Midland, TX 79701
TEL: (432) 687-0901
FAX (432) 687-0456

Order No.: 1411131

RE: Legacy Chamberlain

Dear Coty Woolf:

DHL Analytical, Inc. received 2 sample(s) on 11/18/2014 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-14-13

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CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to:

DATE: 11/17/14 PAGE 1 OF 1
PO #: _____ LAB WORK ORDER #: 1411131
PROJECT LOCATION OR NAME: Legacy Chamberlain
LAI PROJECT #: 12-0126-01 COLLECTOR: CM

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☒ MTBE ☐ | TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐ | GASOLINE MOD 8015 ☐ | DIESEL - MOD 8015 ☐ | VOC 8260 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐ | 8081 PESTICIDES ☐ 8151 HERBICIDES ☐ | 8082 PCBS ☐ | TCLP - METALS (RCRA) ☐ TCLP VOC ☐ | TCLP - PEST ☐ HERB ☐ Semi-VOC ☐ | TOTAL METALS (RCRA) ☐ D.W. 200.8 ☐ OTHER LIST ☐ | LEAD - TOTAL ☐ TOX ☐ FLASHPOINT ☐ TCLP ☐ | RCI ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐ | TDS ☐ pH ☐ HEXAVALENT CHROMIUM ☐ | EXPLOSIVES ☐ PECHLORATE ☐ | CHLORIDE ☒ ANIONS ☐ ALKALINITY ☒ | NO_3, Cl, Na, K, SO_4

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☒	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ D.W. 200.8 ☐ OTHER LIST ☐	LEAD - TOTAL ☐ TOX ☐ FLASHPOINT ☐ TCLP ☐	RCI ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	TDS ☐ pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☒	NO_3, Cl, Na, K, SO_4	FIELD NOTES
MW-1	01	11/17/14	2:30pm	W	3	X			X		X																	
"		"	"	"	2				X														X		X	X		
"		"	"	"	1		X																				X	
Trip Blank	02	11/17/14	2:30pm	W	2	X					X																	

TOTAL

RELINQUISHED BY:(Signature) CM DATE/TIME 11/17/14 6:00pm RECEIVED BY: (Signature) MB LSO

RELINQUISHED BY:(Signature) LSO DATE/TIME 11/18/14 8:30 RECEIVED BY: (Signature) JB

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 1.2 THERM #: 57
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☐ CARRIER BILL # Lonestar
☐ HAND DELIVERED

AB

LSO

WWW.LSO.COM
Questions? Call 800-800-8984

Airbill No. 48947406

48947406

1. To:
Print Name (Person): J Parker
Phone (Important): 714 388 6352
Company Name: DHL
Street Address (No P.O. Box or P.O. Box Zip Code® Deliveries): 2300 ... Double Creek
Suite / Floor:
City: Round Rock State: TX Zip: 78664

2. From:
Print Name (Person): Cureliff
Phone (Important): 432-687-0901
Company Name: LARSON & ASSOCIATES
Street Address: 507 N. MARIENFELD ST.
Suite / Floor: #200
City: MIDLAND State: TX Zip: 79701

3. Service: Visit www.lso.com for availability of services to your destination and enjoy added features by creating your shipping label online.

- [x] LSO Priority Overnight* By 10:30 a.m. to most cities
- [ ] LSO Early Overnight* By 8:30 a.m. select cities
- [ ] LSO Economy Next Day* By 3 p.m. to most cities
- [ ] LSO 2nd Day*
- [ ] LSO Ground
- [ ] LSO Saturday*
- [ ] Other ______

*Check commitment times and availability at www.lso.com

Assumed LSO Priority Overnight service unless otherwise noted.

- [ ] Deliver Without Delivery Signature (See Limits of Liability below)

Release Signature

L______ x W______ x H______

4. Package: Weight: 5 lb

Your Company's Billing Reference Information: 17-0126-01

Ship Date: (mm/dd/yy) 11/17/14

5. Payment:

FOR DRIVER USE ONLY

Driver Number: YH612
- [ ] Check here if LSO Supplies are used with LSO Ground Service.

Pick-up Location: 10010
Date: 11-17-14
Time: 18:38
City Code: AUS

LIMIT OF LIABILITY: We are not responsible for claims in excess of $100 for any reason unless you: 1) declare a greater value (not to exceed $25,000); 2) pay an additional fee; 3) and document your actual loss in a timely manner. We will not pay any claim in excess of the actual loss. We are not liable for any special or consequential damages. Additional limitations of liability are contained in our current Service Guide. If you ask us to deliver a package without obtaining a delivery signature, you release us of all liability for claims resulting from such service. NO DELIVERY SIGNATURE WILL BE OBTAINED FOR LSO EARLY OVERNIGHT SERVICE. PACKAGING PROVIDED BY LSO IS NOT INTENDED FOR USE ON LSO GROUND SERVICE. OVERSIZE RATES MAY APPLY. DELIVERY COMMITMENTS MAY VARY. ADDITIONAL FEES MAY APPLY.

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Larson & Associates | Date Received: 11/18/2014

Work Order Number 1411131 | Received by MB

Checklist completed by: _____ 11/18/2014 (Signature / Date) | Reviewed by _____ 11/18/2014 (Initials / Date)

Carrier name LoneStar

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	1.2 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 8086
	Adjusted? NO		Checked by G
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

DHL Analytical, Inc. **Date:** *25-Nov-14*

CLIENT: Larson & Associates
Project: Legacy Chamberlain
Lab Order: 1411131

CASE NARRATIVE

Sample was analyzed using the methods outlined in the following references:

Method E300 - Anions Analysis
Method SW6020A - Metals Analysis
Method SW8021B - Volatile Organics by GC Analysis
Method M2540C - Total Dissolved Solids Analysis
Method M2320 B - Alkalinity Analysis

LOG IN

The samples were received and log-in performed on 10/18/2014. A total of 2 samples were received and analyzed. The samples arrived in good condition and were properly packaged. The samples were collected in Mountain Standard Time.

METALS ANALYSIS

For Metals Analysis, the recovery of Sodium for the Low Level Calibration Verification (LCVL2,3,4-141124) was above the method control limits. These are flagged accordingly in the QC Summary Report. This analyte was within method control limits in the associated bracketing QC. No further corrective action was taken.

For Metals Analysis, the recoveries of two analytes for the Matrix Spike and Matrix Spike Duplicate (1411134-08 MS/MSD) were outside of the method control limits. These are flagged accordingly in the QC Summary Report. These analytes were within method control limits in the associated LCS. No further corrective action was taken.

DHL Analytical, Inc.

Date: *25-Nov-14*

CLIENT: Larson & Associates
Project: Legacy Chamberlain
Lab Order: 1411131

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1411131-01	WS-1		11/17/14 02:30 PM	11/18/2014
1411131-02	Trip Blank		11/17/14 02:30 PM	11/18/2014

Lab Order: 1411131
Client: Larson & Associates
Project: Legacy Chamberlain

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1411131-01A	WS-1	11/17/14 02:30 PM	Aqueous	SW5030C	Purge and Trap Water GC	11/24/14 08:25 AM	66691
1411131-01B	WS-1	11/17/14 02:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/19/14 08:30 AM	66598
	WS-1	11/17/14 02:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/19/14 08:30 AM	66598
1411131-01C	WS-1	11/17/14 02:30 PM	Aqueous	M2320 B	Alkalinity Preparation	11/20/14 11:38 AM	66612
	WS-1	11/17/14 02:30 PM	Aqueous	E300	Anion Preparation	11/18/14 09:41 AM	66588
	WS-1	11/17/14 02:30 PM	Aqueous	E300	Anion Preparation	11/18/14 09:41 AM	66588
	WS-1	11/17/14 02:30 PM	Aqueous	M2540C	TDS Preparation	11/19/14 01:37 PM	66618
1411131-02A	Trip Blank	11/17/14 02:30 PM	Trip Blank	SW5030C	Purge and Trap Water GC	11/24/14 08:25 AM	66691

Lab Order: 1411131
Client: Larson & Associates
Project: Legacy Chamberlain

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1411131-01A	WS-1	Aqueous	SW8021B	Volatile Organics by GC	66691	1	11/24/14 12:28 PM	GC8_141124B
1411131-01B	WS-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	66598	1	11/24/14 12:50 PM	ICP-MS4_141124C
	WS-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	66598	50	11/24/14 11:50 AM	ICP-MS4_141124C
1411131-01C	WS-1	Aqueous	M2320 B	Alkalinity	66612	1	11/20/14 01:52 PM	TITRATOR_141120A
	WS-1	Aqueous	E300	Anions by IC method - Water	66588	10	11/18/14 11:26 AM	IC_141118A
	WS-1	Aqueous	E300	Anions by IC method - Water	66588	1	11/18/14 11:09 AM	IC_141118A
	WS-1	Aqueous	M2540C	Total Dissolved Solids	66618	1	11/20/14 09:00 AM	WC_141119B
1411131-02A	Trip Blank	Trip Blank	SW8021B	Volatile Organics by GC	66691	1	11/24/14 12:07 PM	GC8_141124B

DHL Analytical, Inc.

Date: *25-Nov-14*

CLIENT:	Larson & Associates	**Client Sample ID:**	WS-1
Project:	Legacy Chamberlain	**Lab ID:**	1411131-01
Project No:	12-0126-01	**Collection Date:**	11/17/14 02:30 PM
Lab Order:	1411131	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS BY GC		**SW8021B**					Analyst: **LM**
Benzene	ND	0.000800	0.00200		mg/L	1	11/24/14 12:28 PM
Ethylbenzene	ND	0.00200	0.00600		mg/L	1	11/24/14 12:28 PM
Toluene	ND	0.00200	0.00600		mg/L	1	11/24/14 12:28 PM
Xylenes, Total	ND	0.00300	0.00900		mg/L	1	11/24/14 12:28 PM
Surr: a,a,a-Trifluorotoluene	93.4	0	87-113		%REC	1	11/24/14 12:28 PM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **RO**
Calcium	167	5.00	15.0		mg/L	50	11/24/14 11:50 AM
Magnesium	12.1	0.100	0.300		mg/L	1	11/24/14 12:50 PM
Potassium	2.76	0.100	0.300		mg/L	1	11/24/14 12:50 PM
Sodium	224	5.00	15.0		mg/L	50	11/24/14 11:50 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **AV**
Chloride	130	3.00	10.0		mg/L	10	11/18/14 11:26 AM
Nitrate-N	1.80	0.100	0.500		mg/L	1	11/18/14 11:09 AM
Sulfate	84.4	1.00	3.00		mg/L	1	11/18/14 11:09 AM
ALKALINITY		**M2320 B**					Analyst: **LM**
Alkalinity, Bicarbonate (As CaCO3)	339	10.0	20.0		mg/L @ pH 4.54	1	11/20/14 01:52 PM
Alkalinity, Carbonate (As CaCO3)	ND	10.0	20.0		mg/L @ pH 4.54	1	11/20/14 01:52 PM
Alkalinity, Hydroxide (As CaCO3)	ND	10.0	20.0		mg/L @ pH 4.54	1	11/20/14 01:52 PM
Alkalinity, Total (As CaCO3)	339	20.0	20.0		mg/L @ pH 4.54	1	11/20/14 01:52 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **PT**
Total Dissolved Solids (Residue, Filterable)	762	10.0	10.0		mg/L	1	11/20/14 09:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *25-Nov-14*

CLIENT:	Larson & Associates	**Client Sample ID:**	Trip Blank
Project:	Legacy Chamberlain	**Lab ID:**	1411131-02
Project No:	12-0126-01	**Collection Date:**	11/17/14 02:30 PM
Lab Order:	1411131	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS BY GC		**SW8021B**					Analyst: **LM**
Benzene	ND	0.000800	0.00200		mg/L	1	11/24/14 12:07 PM
Ethylbenzene	ND	0.00200	0.00600		mg/L	1	11/24/14 12:07 PM
Toluene	ND	0.00200	0.00600		mg/L	1	11/24/14 12:07 PM
Xylenes, Total	ND	0.00300	0.00900		mg/L	1	11/24/14 12:07 PM
Surr: a,a,a-Trifluorotoluene	94.6	0	87-113		%REC	1	11/24/14 12:07 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: GC8_141124B

The QC data in batch 66691 applies to the following samples: 1411131-01A, 1411131-02A

Sample ID **LCS-66691** Batch ID: **66691** TestNo: **SW8021B** Units: **mg/L**
SampType: **LCS** Run ID: **GC8_141124B** Analysis Date: **11/24/2014 11:25:06 A** Prep Date: **11/24/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0481	0.00200	0.0464	0	104	81	125			
Toluene	0.0483	0.00600	0.0464	0	104	84	123			
Ethylbenzene	0.0485	0.00600	0.0464	0	105	83	119			
Xylenes, Total	0.146	0.00900	0.139	0	105	81	117			
Surr: a,a,a-Trifluorotoluene	189		200.0		94.7	87	113			

Sample ID **MB-66691** Batch ID: **66691** TestNo: **SW8021B** Units: **mg/L**
SampType: **MBLK** Run ID: **GC8_141124B** Analysis Date: **11/24/2014 11:46:13 A** Prep Date: **11/24/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00600								
Ethylbenzene	ND	0.00600								
Xylenes, Total	ND	0.00900								
Surr: a,a,a-Trifluorotoluene	189		200.0		94.5	87	113			

Sample ID **1411136-01AMS** Batch ID: **66691** TestNo: **SW8021B** Units: **mg/L**
SampType: **MS** Run ID: **GC8_141124B** Analysis Date: **11/24/2014 1:11:41 PM** Prep Date: **11/24/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0478	0.00200	0.0464	0	103	81	125			
Toluene	0.0480	0.00600	0.0464	0	103	84	123			
Ethylbenzene	0.0479	0.00600	0.0464	0	103	83	119			
Xylenes, Total	0.144	0.00900	0.139	0	103	81	117			
Surr: a,a,a-Trifluorotoluene	190		200.0		94.9	87	113			

Sample ID **1411136-01AMSD** Batch ID: **66691** TestNo: **SW8021B** Units: **mg/L**
SampType: **MSD** Run ID: **GC8_141124B** Analysis Date: **11/24/2014 1:32:13 PM** Prep Date: **11/24/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0472	0.00200	0.0464	0	102	81	125	1.08	20	
Toluene	0.0476	0.00600	0.0464	0	103	84	123	0.739	20	
Ethylbenzene	0.0478	0.00600	0.0464	0	103	83	119	0.159	20	
Xylenes, Total	0.143	0.00900	0.139	0	103	81	117	0.621	20	
Surr: a,a,a-Trifluorotoluene	190		200.0		95.0	87	113	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: GC8_141124B

Sample ID **ICV-141124**	Batch ID: **R76528**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **ICV**	Run ID: **GC8_141124B**	Analysis Date: **11/24/2014 9:16:36 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0926	0.00200	0.0928	0	99.8	80	120			
Toluene	0.0940	0.00600	0.0928	0	101	80	120			
Ethylbenzene	0.0941	0.00600	0.0928	0	101	80	120			
Xylenes, Total	0.280	0.00900	0.278	0	101	80	120			
Surr: a,a,a-Trifluorotoluene	191		200.0		95.7	87	113			

Sample ID **CCV1-141124**	Batch ID: **R76528**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **CCV**	Run ID: **GC8_141124B**	Analysis Date: **11/24/2014 11:03:33 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0474	0.00200	0.0464	0	102	80	120			
Toluene	0.0478	0.00600	0.0464	0	103	80	120			
Ethylbenzene	0.0478	0.00600	0.0464	0	103	80	120			
Xylenes, Total	0.144	0.00900	0.139	0	103	80	120			
Surr: a,a,a-Trifluorotoluene	190		200.0		95.1	87	113			

Sample ID **CCV2-141124**	Batch ID: **R76528**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **CCV**	Run ID: **GC8_141124B**	Analysis Date: **11/24/2014 2:14:32 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0481	0.00200	0.0464	0	104	80	120			
Toluene	0.0483	0.00600	0.0464	0	104	80	120			
Ethylbenzene	0.0481	0.00600	0.0464	0	104	80	120			
Xylenes, Total	0.144	0.00900	0.139	0	104	80	120			
Surr: a,a,a-Trifluorotoluene	191		200.0		95.4	87	113			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_141124C

The QC data in batch 66598 applies to the following samples: 1411131-01B

Sample ID	MB-66598	Batch ID:	66598	TestNo:	SW6020A	Units:	mg/L
SampType:	MBLK	Run ID:	ICP-MS4_141124C	Analysis Date:	11/24/2014 11:32:00 A	Prep Date:	11/19/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	0.300								
Magnesium	ND	0.300								
Potassium	ND	0.300								
Sodium	ND	0.300								

Sample ID	LCS-66598	Batch ID:	66598	TestNo:	SW6020A	Units:	mg/L
SampType:	LCS	Run ID:	ICP-MS4_141124C	Analysis Date:	11/24/2014 11:34:00 A	Prep Date:	11/19/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.78	0.300	5.00	0	95.7	80	120			
Magnesium	5.17	0.300	5.00	0	103	80	120			
Potassium	5.02	0.300	5.00	0	100	80	120			
Sodium	5.27	0.300	5.00	0	105	80	120			

Sample ID	LCSD-66598	Batch ID:	66598	TestNo:	SW6020A	Units:	mg/L
SampType:	LCSD	Run ID:	ICP-MS4_141124C	Analysis Date:	11/24/2014 11:36:00 A	Prep Date:	11/19/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.70	0.300	5.00	0	93.9	80	120	1.85	15	
Magnesium	5.14	0.300	5.00	0	103	80	120	0.520	15	
Potassium	4.95	0.300	5.00	0	99.1	80	120	1.27	15	
Sodium	5.24	0.300	5.00	0	105	80	120	0.588	15	

Sample ID	1411134-08A SD	Batch ID:	66598	TestNo:	SW6020A	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS4_141124C	Analysis Date:	11/24/2014 11:48:00 A	Prep Date:	11/19/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	7.77	1.50	0	7.74				0.363	10	

Sample ID	1411134-08A PDS	Batch ID:	66598	TestNo:	SW6020A	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS4_141124C	Analysis Date:	11/24/2014 12:08:00 P	Prep Date:	11/19/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	12.6	0.300	5.00	7.74	98.0	80	120			

Sample ID	1411134-08A MS	Batch ID:	66598	TestNo:	SW6020A	Units:	mg/L
SampType:	MS	Run ID:	ICP-MS4_141124C	Analysis Date:	11/24/2014 12:10:00 P	Prep Date:	11/19/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	220	0.300	5.00	219	28.7	80	120			S

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_141124C

Sample ID **1411134-08A MS**	Batch ID: **66598**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 12:10:00 P**	Prep Date: **11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	77.8	0.300	5.00	72.0	116	80	120			
Potassium	12.4	0.300	5.00	7.74	93.8	80	120			
Sodium	358	0.300	5.00	351	146	80	120			S

Sample ID **1411134-08A MSD**	Batch ID: **66598**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 12:12:00 P**	Prep Date: **11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	223	0.300	5.00	219	85.2	80	120	1.27	15	
Magnesium	78.2	0.300	5.00	72.0	125	80	120	0.554	15	S
Potassium	12.6	0.300	5.00	7.74	96.2	80	120	0.946	15	
Sodium	361	0.300	5.00	351	213	80	120	0.930	15	S

Sample ID **1411134-08A SD**	Batch ID: **66598**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **SD**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 12:46:00 P**	Prep Date: **11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	219	150	0	221				0.958	10	
Magnesium	79.6	150	0	78.6				1.36	10	
Sodium	419	150	0	389				7.44	10	

Sample ID **1411134-08A PDS**	Batch ID: **66598**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 12:48:00 P**	Prep Date: **11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	758	30.0	500	221	108	80	120			
Magnesium	651	30.0	500	78.6	114	80	120			
Sodium	968	30.0	500	389	116	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_141124C

Sample ID **ICV-141124**	Batch ID: **R76511**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 10:02:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2.38	0.300	2.50	0	95.2	90	110			
Magnesium	2.55	0.300	2.50	0	102	90	110			
Potassium	2.44	0.300	2.50	0	97.8	90	110			
Sodium	2.54	0.300	2.50	0	102	90	110			

Sample ID **LCVL-141124**	Batch ID: **R76511**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 10:07:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0943	0.300	0.100	0	94.3	70	130			
Magnesium	0.102	0.300	0.100	0	102	70	130			
Potassium	0.0945	0.300	0.100	0	94.5	70	130			
Sodium	0.110	0.300	0.100	0	110	70	130			

Sample ID **CCV2-141124**	Batch ID: **R76511**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 11:18:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.70	0.300	5.00	0	94.0	90	110			
Magnesium	5.02	0.300	5.00	0	100	90	110			
Potassium	4.91	0.300	5.00	0	98.3	90	110			
Sodium	5.17	0.300	5.00	0	103	90	110			

Sample ID **LCVL2-141124**	Batch ID: **R76511**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 11:23:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0923	0.300	0.100	0	92.3	70	130			
Magnesium	0.102	0.300	0.100	0	102	70	130			
Potassium	0.0995	0.300	0.100	0	99.5	70	130			
Sodium	0.206	0.300	0.100	0	206	70	130			S

Sample ID **CCV3-141124**	Batch ID: **R76511**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_141124C**	Analysis Date: **11/24/2014 12:14:00 P**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.77	0.300	5.00	0	95.5	90	110			
Magnesium	5.05	0.300	5.00	0	101	90	110			
Potassium	4.96	0.300	5.00	0	99.2	90	110			
Sodium	5.24	0.300	5.00	0	105	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_141124C

Sample ID	**LCVL3-141124**	Batch ID:	**R76511**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_141124C**	Analysis Date:	**11/24/2014 12:32:00 P**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0950	0.300	0.100	0	95.0	70	130			
Magnesium	0.103	0.300	0.100	0	103	70	130			
Potassium	0.104	0.300	0.100	0	104	70	130			
Sodium	0.203	0.300	0.100	0	203	70	130			S

Sample ID	**CCV4-141124**	Batch ID:	**R76511**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_141124C**	Analysis Date:	**11/24/2014 1:10:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	5.05	0.300	5.00	0	101	90	110			
Potassium	4.95	0.300	5.00	0	98.9	90	110			
Sodium	5.10	0.300	5.00	0	102	90	110			

Sample ID	**LCVL4-141124**	Batch ID:	**R76511**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_141124C**	Analysis Date:	**11/24/2014 1:28:00 PM**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	0.101	0.300	0.100	0	101	70	130			
Potassium	0.0969	0.300	0.100	0	96.9	70	130			
Sodium	0.154	0.300	0.100	0	154	70	130			S

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: IC_141118A

The QC data in batch 66588 applies to the following samples: 1411131-01C

Sample ID	**MB-66588**	Batch ID:	**66588**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**MBLK**	Run ID:	**IC_141118A**	Analysis Date:	**11/18/2014 10:07:02 A**	Prep Date:	**11/18/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.00								
Nitrate-N	ND	0.500								
Sulfate	ND	3.00								

Sample ID	**LCS-66588**	Batch ID:	**66588**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**LCS**	Run ID:	**IC_141118A**	Analysis Date:	**11/18/2014 10:21:39 A**	Prep Date:	**11/18/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110			
Nitrate-N	5.01	0.500	5.000	0	100	90	110			
Sulfate	30.3	3.00	30.00	0	101	90	110			

Sample ID	**LCSD-66588**	Batch ID:	**66588**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**LCSD**	Run ID:	**IC_141118A**	Analysis Date:	**11/18/2014 10:36:15 A**	Prep Date:	**11/18/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110	0.602	20	
Nitrate-N	4.99	0.500	5.000	0	99.8	90	110	0.382	20	
Sulfate	30.2	3.00	30.00	0	101	90	110	0.343	20	

Sample ID	**1411133-02AMS**	Batch ID:	**66588**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**MS**	Run ID:	**IC_141118A**	Analysis Date:	**11/18/2014 12:06:54 P**	Prep Date:	**11/18/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2260	100	2000	228.1	102	90	110			
Nitrate-N	443	50.0	451.6	0	98.2	90	110			
Sulfate	4210	300	2000	2108	105	90	110			

Sample ID	**1411133-02AMSD**	Batch ID:	**66588**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**MSD**	Run ID:	**IC_141118A**	Analysis Date:	**11/18/2014 12:21:30 P**	Prep Date:	**11/18/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2260	100	2000	228.1	102	90	110	0.002	20	
Nitrate-N	445	50.0	451.6	0	98.5	90	110	0.355	20	
Sulfate	4220	300	2000	2108	105	90	110	0.210	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: IC_141118A

Sample ID **ICV-141118**	Batch ID: **R76411**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC_141118A**	Analysis Date: **11/18/2014 9:48:20 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.6	1.00	25.00	0	102	90	110			
Nitrate-N	12.8	0.500	12.50	0	103	90	110			
Sulfate	76.5	3.00	75.00	0	102	90	110			

Sample ID **CCV1-141118**	Batch ID: **R76411**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC_141118A**	Analysis Date: **11/18/2014 1:42:56 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.96	1.00	10.00	0	99.6	90	110			
Nitrate-N	4.96	0.500	5.000	0	99.3	90	110			
Sulfate	29.9	3.00	30.00	0	99.6	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_141120A

The QC data in batch 66612 applies to the following samples: 1411131-01C

Sample ID **MB-66612**	Batch ID: **66612**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.5**
SampType: **MBLK**	Run ID: **TITRATOR_141120A**	Analysis Date: **11/20/2014 12:28:00 P**	Prep Date: **11/20/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	20.0								
Alkalinity, Carbonate (As CaCO3)	ND	20.0								
Alkalinity, Hydroxide (As CaCO3)	ND	20.0								
Alkalinity, Total (As CaCO3)	ND	20.0								

Sample ID **LCS-66612**	Batch ID: **66612**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.52**
SampType: **LCS**	Run ID: **TITRATOR_141120A**	Analysis Date: **11/20/2014 12:33:00 P**	Prep Date: **11/20/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	53.0	20.0	50.00	0	106	74	129			

Sample ID **1411117-01D DUP**	Batch ID: **66612**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.52**
SampType: **DUP**	Run ID: **TITRATOR_141120A**	Analysis Date: **11/20/2014 1:05:00 PM**	Prep Date: **11/20/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	289	20.0	0	283.9				1.92	20	
Alkalinity, Carbonate (As CaCO3)	0	20.0	0	0				0	20	
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0	0				0	20	
Alkalinity, Total (As CaCO3)	289	20.0	0	283.9				1.92	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_141120A

Sample ID **ICV-141120**	Batch ID: **R76450**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.52**
SampType: **ICV**	Run ID: **TITRATOR_141120A**	Analysis Date: **11/20/2014 12:23:00 P**	Prep Date: **11/20/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	4.48	20.0	0							
Alkalinity, Carbonate (As CaCO3)	96.3	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0							
Alkalinity, Total (As CaCO3)	101	20.0	100.0	0	101	98	102			

Sample ID **CCV1-141120**	Batch ID: **R76450**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.5**
SampType: **CCV**	Run ID: **TITRATOR_141120A**	Analysis Date: **11/20/2014 2:12:00 PM**	Prep Date: **11/20/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	5.28	20.0	0							
Alkalinity, Carbonate (As CaCO3)	96.5	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0							
Alkalinity, Total (As CaCO3)	102	20.0	100.0	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1411131
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: WC_141119B

The QC data in batch 66618 applies to the following samples: 1411131-01C

Sample ID	**MB-66618**	Batch ID:	**66618**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**MBLK**	Run ID:	**WC_141119B**	Analysis Date:	**11/20/2014 9:00:00 AM**	Prep Date:	**11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10.0								

Sample ID	**LCS-66618**	Batch ID:	**66618**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**LCS**	Run ID:	**WC_141119B**	Analysis Date:	**11/20/2014 9:00:00 AM**	Prep Date:	**11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	742	10.0	745.6	0	99.5	90	113			

Sample ID	**1411117-01D-DUP**	Batch ID:	**66618**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**DUP**	Run ID:	**WC_141119B**	Analysis Date:	**11/20/2014 9:00:00 AM**	Prep Date:	**11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3090	50.0	0	3120				1.13	5	

Sample ID	**1411138-01D-DUP**	Batch ID:	**66618**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**DUP**	Run ID:	**WC_141119B**	Analysis Date:	**11/20/2014 9:00:00 AM**	Prep Date:	**11/19/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4500	50.0	0	4625				2.74	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

December 29, 2014

Coty Woolf
Larson & Associates
507 N. Marienfeld #200
Midland, TX 79701
TEL: (432) 687-0901
FAX (432) 687-0456

Order No.: 1412164

RE: Legacy Chamberlain

Dear Coty Woolf:

DHL Analytical, Inc. received 1 sample(s) on 12/12/2014 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-14-13

Table of Contents

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

507 N. Marienfeld, Ste. 200
Midland, TX 79701
432-687-0901

Data Reported to: Coty

DATE: 12/11/14 PAGE 1 OF 1
PO #: LAB WORK ORDER #: 1412164
PROJECT LOCATION OR NAME: Legacy Compressor
LAI PROJECT #: 12-0126-01 COLLECTOR: [signature]

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: NM

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR OT=OTHER

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	BTEX ☒ MTBE ☐	TRPH 418.1 ☐ TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☐	DIESEL - MOD 8015 ☐	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TCLP - METALS (RCRA) ☐ TCLP VOC ☐	TCLP - PEST ☐ HERB ☐ Semi-VOC ☐	TOTAL METALS (RCRA) ☐ OTHER LIST ☐	LEAD - TOTAL ☐ D.W. 200.8 ☐ TCLP ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☒ TSS ☐ % MOISTURE ☐ CYANIDE ☐	pH ☐ HEXAVALENT CHROMIUM ☐	EXPLOSIVES ☐ PECHLORATE ☐	CHLORIDE ☒ ANIONS ☐ ALKALINITY ☒	NO_3^-, SO_4 -	Ca, Na, K, Mg		FIELD NOTES
MW-1	01	12/11/14	100 pm	W	1				X															X			X	X			
"		12/11/14	100 pm	W	1		X																						X		
"		12/11/14	100 pm	W	3	X					X																				
TOTAL																															

RELINQUISHED BY:(Signature) [signature] DATE/TIME 12/11/14 630 pm RECEIVED BY: (Signature) Lonestar

RELINQUISHED BY:(Signature) Lonestar DATE/TIME 12/12/14 830 RECEIVED BY: (Signature) [signature]

RELINQUISHED BY:(Signature) DATE/TIME RECEIVED BY: (Signature)

TURN AROUND TIME
NORMAL ☒
1 DAY ☐
2 DAY ☐
OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 2.7 THERM #: 57
CUSTODY SEALS - ☐ BROKEN ☐ INTACT ☒ NOT USED
☒ CARRIER BILL # Lonestar
☐ HAND DELIVERED

LSO

WWW.LSO.COM
Questions? Call 800-800-8984

Airbill No. 48947429

48947429

1. To: Print Name (Person): J. Backer Phone (Important): 512 388 22

Company Name: DHL

Street Address (No P.O. Box or P.O. Box Zip Code Deliveries): 2300 Double Creek

Suite / Floor:

City: Round Rock State: TX Zip: 78664

2. From: Print Name (Person): Chad F Phone (Important): 432-687-0901

Company Name: LARSON & ASSOCIATES

Street Address: 507 W. MARIENFELD ST.

Suite / Floor: #200

City: MIDLAND State: TX Zip: 79701

3. Service: Visit www.lso.com for availability of services to your destination and enjoy added features by creating your shipping label online.

- [X] **LSO Priority Overnight*** By 10:30 a.m. to most cities
- [ ] **LSO Early Overnight*** By 8:30 a.m. select cities
- [ ] **LSO Economy Next Day*** By 3 p.m. to most cities
- [ ] **LSO 2nd Day***
- [ ] **LSO Ground**
- [ ] **LSO Saturday***
- [ ] Other_____

*Check commitment times and availability at www.lso.com

Assumed LSO Priority Overnight service unless otherwise noted.

- [ ] Deliver Without Delivery Signature (See Limits of Liability below)

Release Signature

L_____ x W_____ x H_____

4. Package: Weight: 50

Your Company's Billing Reference Information: 12-0126-01

Ship Date: (mm/dd/yy) 12/11/14

5. Payment:

FOR DRIVER USE ONLY

Driver Number: 10057

- [ ] Check here if LSO Supplies are used with LSO Ground Service.

Pick-up Location:

Date: 12/11/14

Time: 1830

City Code: MDS

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Larson & Associates | Date Received: 12/12/2014

Work Order Number 1412164 | Received by JB

Checklist completed by [signature] Signature 12/12/2014 Date | Reviewed by JD Initials 12/12/2014 Date

Carrier name LoneStar

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	2.7 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☑	NA ☐ LOT # 8086
	Adjusted? Yes		Checked by [signature]
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: Acidified sample in login with KNO3 (Lot 8739)

Corrective Action _____

DHL Analytical, Inc. **Date:** *29-Dec-14*

CLIENT: Larson & Associates
Project: Legacy Chamberlain
Lab Order: 1412164

CASE NARRATIVE

Sample was analyzed using the methods outlined in the following references:

Method SW8021B - Volatile Organics by GC Analysis
Method SW6020A - Metals Analysis
Method E300 - Anions Analysis
Method M2320 B - Alkalinity Analysis
Method M2540C - TDS Analysis

LOG IN

The sample was received and log-in performed on 12/12/14. A total of 1 sample was received. Nitric acid was added to the Metals fraction upon arrival at DHL Analytical. The Time of Collection was Mountain Standard Time. The sample arrived in good condition and was properly packaged.

METALS ANALYSIS

For Metals analysis the sample was diluted prior to analysis due to the nature of the sample (concentration of target compounds).

For Metals analysis performed on 12/19/14 the matrix spike and matrix spike duplicate recoveries were above control limits for three analytes. These are flagged accordingly in the QC summary report. The reference sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 12/19/14 LCVL-141219 was slightly above control limits for Sodium. This is flagged accordingly. The associated CCV-141219 was within control limits for this analyte. No further corrective actions were taken.

VOLATILE ORGANICS BY GC ANALYSIS

For Volatile Organics by GC analysis performed on 12/16/14 the matrix spike duplicate recovery was slightly below control limits for Benzene and Toluene. In addition, the matrix spike and matrix spike duplicate had the RPD slightly above control limits for three compounds. These are flagged accordingly in the QC summary report. The reference sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for these compounds. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *29-Dec-14*

CLIENT: Larson & Associates
Project: Legacy Chamberlain
Lab Order: 1412164

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1412164-01	MW-1		12/11/14 01:00 PM	12/12/2014

Lab Order: 1412164
Client: Larson & Associates
Project: Legacy Chamberlain

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1412164-01A	MW-1	12/11/14 01:00 PM	Aqueous	SW5030C	Purge and Trap Water GC	12/16/14 11:16 AM	67183
1412164-01B	MW-1	12/11/14 01:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/16/14 05:23 PM	67199
1412164-01C	MW-1	12/11/14 01:00 PM	Aqueous	M2320 B	Alkalinity Preparation	12/16/14 08:02 AM	67149
	MW-1	12/11/14 01:00 PM	Aqueous	E300	Anion Preparation	12/12/14 09:25 AM	67097
	MW-1	12/11/14 01:00 PM	Aqueous	E300	Anion Preparation	12/12/14 09:25 AM	67097
	MW-1	12/11/14 01:00 PM	Aqueous	M2540C	TDS Preparation	12/16/14 01:30 PM	67191

Lab Order: 1412164
Client: Larson & Associates
Project: Legacy Chamberlain

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1412164-01A	MW-1	Aqueous	SW8021B	Volatile Organics by GC	67183	1	12/16/14 11:59 AM	GC8_141216A
1412164-01B	MW-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	67199	50	12/19/14 12:08 PM	ICP-MS4_141219A
1412164-01C	MW-1	Aqueous	M2320 B	Alkalinity	67149	1	12/16/14 10:27 AM	TITRATOR_141216A
	MW-1	Aqueous	E300	Anions by IC method - Water	67097	10	12/12/14 02:51 PM	IC_141212A
	MW-1	Aqueous	E300	Anions by IC method - Water	67097	1	12/12/14 01:07 PM	IC_141212A
	MW-1	Aqueous	M2540C	Total Dissolved Solids	67191	1	12/17/14 08:45 AM	WC_141216B

DHL Analytical, Inc.

Date: *29-Dec-14*

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-1
Project:	Legacy Chamberlain	**Lab ID:**	1412164-01
Project No:	12-0126-01	**Collection Date:**	12/11/14 01:00 PM
Lab Order:	1412164	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANICS BY GC		**SW8021B**					Analyst: **LM**
Benzene	ND	0.000800	0.00200		mg/L	1	12/16/14 11:59 AM
Ethylbenzene	ND	0.00200	0.00600		mg/L	1	12/16/14 11:59 AM
Toluene	ND	0.00200	0.00600		mg/L	1	12/16/14 11:59 AM
Xylenes, Total	ND	0.00300	0.00900		mg/L	1	12/16/14 11:59 AM
Surr: a,a,a-Trifluorotoluene	92.9	0	87-113		%REC	1	12/16/14 11:59 AM
TRACE METALS: ICP-MS - WATER		**SW6020A**					Analyst: **RO**
Calcium	47.2	5.00	15.0		mg/L	50	12/19/14 12:08 PM
Magnesium	10.4	5.00	15.0	J	mg/L	50	12/19/14 12:08 PM
Potassium	ND	5.00	15.0		mg/L	50	12/19/14 12:08 PM
Sodium	206	5.00	15.0		mg/L	50	12/19/14 12:08 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **AV**
Chloride	132	3.00	10.0		mg/L	10	12/12/14 02:51 PM
Nitrate-N	1.82	0.100	0.500		mg/L	1	12/12/14 01:07 PM
Sulfate	87.0	1.00	3.00		mg/L	1	12/12/14 01:07 PM
ALKALINITY		**M2320 B**					Analyst: **LM**
Alkalinity, Bicarbonate (As CaCO3)	443	13.3	26.7		mg/L @ pH 4.53	1	12/16/14 10:27 AM
Alkalinity, Carbonate (As CaCO3)	ND	13.3	26.7		mg/L @ pH 4.53	1	12/16/14 10:27 AM
Alkalinity, Hydroxide (As CaCO3)	ND	13.3	26.7		mg/L @ pH 4.53	1	12/16/14 10:27 AM
Alkalinity, Total (As CaCO3)	443	26.7	26.7		mg/L @ pH 4.53	1	12/16/14 10:27 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **PT**
Total Dissolved Solids (Residue, Filterable)	809	10.0	10.0		mg/L	1	12/17/14 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: GC8_141216A

The QC data in batch 67183 applies to the following samples: 1412164-01A

Sample ID **LCS-67183**	Batch ID: **67183**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **LCS**	Run ID: **GC8_141216A**	Analysis Date: **12/16/2014 11:16:20 A**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0460	0.00200	0.0464	0	99.2	81	125			
Toluene	0.0468	0.00600	0.0464	0	101	84	123			
Ethylbenzene	0.0472	0.00600	0.0464	0	102	83	119			
Xylenes, Total	0.141	0.00900	0.139	0	101	81	117			
Surr: a,a,a-Trifluorotoluene	187		200.0		93.6	87	113			

Sample ID **MB-67183**	Batch ID: **67183**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GC8_141216A**	Analysis Date: **12/16/2014 11:37:47 A**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00200								
Toluene	ND	0.00600								
Ethylbenzene	ND	0.00600								
Xylenes, Total	ND	0.00900								
Surr: a,a,a-Trifluorotoluene	188		200.0		94.0	87	113			

Sample ID **1412165-12AMS**	Batch ID: **67183**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **MS**	Run ID: **GC8_141216A**	Analysis Date: **12/16/2014 7:28:30 PM**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0470	0.00200	0.0464	0	101	81	125			
Toluene	0.0470	0.00600	0.0464	0	101	84	123			
Ethylbenzene	0.0472	0.00600	0.0464	0	102	83	119			
Xylenes, Total	0.142	0.00900	0.139	0	102	81	117			
Surr: a,a,a-Trifluorotoluene	187		200.0		93.7	87	113			

Sample ID **1412165-12AMSD**	Batch ID: **67183**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **MSD**	Run ID: **GC8_141216A**	Analysis Date: **12/17/2014 8:44:09 AM**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0371	0.00200	0.0464	0	80.0	81	125	23.6	20	SR
Toluene	0.0381	0.00600	0.0464	0	82.2	84	123	20.9	20	SR
Ethylbenzene	0.0401	0.00600	0.0464	0	86.4	83	119	16.2	20	
Xylenes, Total	0.113	0.00900	0.139	0	81.0	81	117	22.9	20	R
Surr: a,a,a-Trifluorotoluene	184		200.0		91.8	87	113	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: GC8_141216A

Sample ID **ICV-141216**	Batch ID: **R77006**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **ICV**	Run ID: **GC8_141216A**	Analysis Date: **12/16/2014 10:54:46 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0884	0.00200	0.0928	0	95.2	80	120			
Toluene	0.0896	0.00600	0.0928	0	96.6	80	120			
Ethylbenzene	0.0900	0.00600	0.0928	0	97.0	80	120			
Xylenes, Total	0.268	0.00900	0.278	0	96.5	80	120			
Surr: a,a,a-Trifluorotoluene	188		200.0		94.1	87	113			

Sample ID **CCV1-141216**	Batch ID: **R77006**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **CCV**	Run ID: **GC8_141216A**	Analysis Date: **12/16/2014 6:03:09 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0455	0.00200	0.0464	0	98.0	80	120			
Toluene	0.0453	0.00600	0.0464	0	97.7	80	120			
Ethylbenzene	0.0456	0.00600	0.0464	0	98.3	80	120			
Xylenes, Total	0.136	0.00900	0.139	0	98.0	80	120			
Surr: a,a,a-Trifluorotoluene	186		200.0		92.8	87	113			

Sample ID **CCV2-141216**	Batch ID: **R77006**	TestNo: **SW8021B**	Units: **mg/L**
SampType: **CCV**	Run ID: **GC8_141216A**	Analysis Date: **12/17/2014 9:26:16 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0454	0.00200	0.0464	0	97.9	80	120			
Toluene	0.0457	0.00600	0.0464	0	98.4	80	120			
Ethylbenzene	0.0461	0.00600	0.0464	0	99.3	80	120			
Xylenes, Total	0.137	0.00900	0.139	0	98.5	80	120			
Surr: a,a,a-Trifluorotoluene	184		200.0		92.2	87	113			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_141219A

The QC data in batch 67199 applies to the following samples: 1412164-01B

Sample ID	MB-67199	Batch ID:	67199	TestNo:	SW6020A	Units:	mg/L
SampType:	MBLK	Run ID:	ICP-MS4_141219A	Analysis Date:	12/19/2014 12:00:00 P	Prep Date:	12/16/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	0.300								
Magnesium	ND	0.300								
Potassium	ND	0.300								
Sodium	ND	0.300								

Sample ID	LCS-67199	Batch ID:	67199	TestNo:	SW6020A	Units:	mg/L
SampType:	LCS	Run ID:	ICP-MS4_141219A	Analysis Date:	12/19/2014 12:02:00 P	Prep Date:	12/16/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.93	0.300	5.00	0	98.6	80	120			
Magnesium	5.09	0.300	5.00	0	102	80	120			
Potassium	5.00	0.300	5.00	0	99.9	80	120			
Sodium	5.11	0.300	5.00	0	102	80	120			

Sample ID	LCSD-67199	Batch ID:	67199	TestNo:	SW6020A	Units:	mg/L
SampType:	LCSD	Run ID:	ICP-MS4_141219A	Analysis Date:	12/19/2014 12:04:00 P	Prep Date:	12/16/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.92	0.300	5.00	0	98.3	80	120	0.282	15	
Magnesium	5.07	0.300	5.00	0	101	80	120	0.328	15	
Potassium	5.02	0.300	5.00	0	100	80	120	0.548	15	
Sodium	5.07	0.300	5.00	0	101	80	120	0.768	15	

Sample ID	1412164-01B SD	Batch ID:	67199	TestNo:	SW6020A	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS4_141219A	Analysis Date:	12/19/2014 12:10:00 P	Prep Date:	12/16/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49.0	75.0	0	47.2				3.56	10	
Magnesium	0	75.0	0	10.4				0	10	
Potassium	0	75.0	0	0				0	10	
Sodium	215	75.0	0	206				4.30	10	

Sample ID	1412164-01B PDS	Batch ID:	67199	TestNo:	SW6020A	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS4_141219A	Analysis Date:	12/19/2014 12:30:00 P	Prep Date:	12/16/2014

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	323	15.0	250	47.2	110	80	120			
Magnesium	301	15.0	250	10.4	116	80	120			
Potassium	282	15.0	250	0	113	80	120			
Sodium	503	15.0	250	206	119	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_141219A

Sample ID **1412164-01B MS**	Batch ID: **67199**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS4_141219A**	Analysis Date: **12/19/2014 12:39:00 P**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	53.7	15.0	5.00	47.2	130	80	120			S
Magnesium	16.4	15.0	5.00	10.4	120	80	120			
Potassium	7.47	15.0	5.00	0	149	80	120			S
Sodium	224	15.0	5.00	206	360	80	120			S

Sample ID **1412164-01B MSD**	Batch ID: **67199**	TestNo: **SW6020A**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS4_141219A**	Analysis Date: **12/19/2014 12:41:00 P**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	54.3	15.0	5.00	47.2	141	80	120	1.05	15	S
Magnesium	16.3	15.0	5.00	10.4	119	80	120	0.367	15	
Potassium	7.62	15.0	5.00	0	152	80	120	2.03	15	S
Sodium	223	15.0	5.00	206	337	80	120	0.511	15	S

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_141219A

Sample ID	**ICV-141219**	Batch ID:	**R77080**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**ICV**	Run ID:	**ICP-MS4_141219A**	Analysis Date:	**12/19/2014 11:50:00 A**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2.47	0.300	2.50	0	98.9	90	110			
Magnesium	2.49	0.300	2.50	0	99.6	90	110			
Potassium	2.43	0.300	2.50	0	97.1	90	110			
Sodium	2.48	0.300	2.50	0	99.2	90	110			

Sample ID	**LCVL-141219**	Batch ID:	**R77080**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_141219A**	Analysis Date:	**12/19/2014 11:54:00 A**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0951	0.300	0.100	0	95.1	70	130			
Magnesium	0.102	0.300	0.100	0	102	70	130			
Potassium	0.113	0.300	0.100	0	113	70	130			
Sodium	0.132	0.300	0.100	0	132	70	130			S

Sample ID	**CCV1-141219**	Batch ID:	**R77080**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**CCV**	Run ID:	**ICP-MS4_141219A**	Analysis Date:	**12/19/2014 12:43:00 P**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.80	0.300	5.00	0	96.0	90	110			
Magnesium	5.13	0.300	5.00	0	103	90	110			
Potassium	4.95	0.300	5.00	0	99.0	90	110			
Sodium	5.09	0.300	5.00	0	102	90	110			

Sample ID	**LCVL1-141219**	Batch ID:	**R77080**	TestNo:	**SW6020A**	Units:	**mg/L**
SampType:	**LCVL**	Run ID:	**ICP-MS4_141219A**	Analysis Date:	**12/19/2014 12:47:00 P**	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0998	0.300	0.100	0	99.8	70	130			
Magnesium	0.103	0.300	0.100	0	103	70	130			
Potassium	0.100	0.300	0.100	0	100	70	130			
Sodium	0.0984	0.300	0.100	0	98.4	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: IC_141212A

The QC data in batch 67097 applies to the following samples: 1412164-01C

Sample ID	**MB-67097**	Batch ID:	**67097**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**MBLK**	Run ID:	**IC_141212A**	Analysis Date:	**12/12/2014 9:52:15 AM**	Prep Date:	**12/12/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.00								
Nitrate-N	ND	0.500								
Sulfate	ND	3.00								

Sample ID	**LCS-67097**	Batch ID:	**67097**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**LCS**	Run ID:	**IC_141212A**	Analysis Date:	**12/12/2014 10:20:36 A**	Prep Date:	**12/12/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.4	1.00	10.00	0	104	90	110			
Nitrate-N	5.08	0.500	5.000	0	102	90	110			
Sulfate	30.8	3.00	30.00	0	103	90	110			

Sample ID	**LCSD-67097**	Batch ID:	**67097**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**LCSD**	Run ID:	**IC_141212A**	Analysis Date:	**12/12/2014 10:35:12 A**	Prep Date:	**12/12/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.5	1.00	10.00	0	105	90	110	0.144	20	
Nitrate-N	5.08	0.500	5.000	0	102	90	110	0.065	20	
Sulfate	30.7	3.00	30.00	0	102	90	110	0.392	20	

Sample ID	**1412147-03BMS**	Batch ID:	**67097**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**MS**	Run ID:	**IC_141212A**	Analysis Date:	**12/12/2014 3:11:25 PM**	Prep Date:	**12/12/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	228	10.0	200.0	13.77	107	90	110			
Nitrate-N	45.0	5.00	45.16	0	99.7	90	110			
Sulfate	266	30.0	200.0	55.12	105	90	110			

Sample ID	**1412147-03BMSD**	Batch ID:	**67097**	TestNo:	**E300**	Units:	**mg/L**
SampType:	**MSD**	Run ID:	**IC_141212A**	Analysis Date:	**12/12/2014 3:29:47 PM**	Prep Date:	**12/12/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	228	10.0	200.0	13.77	107	90	110	0.353	20	
Nitrate-N	45.5	5.00	45.16	0	101	90	110	1.08	20	
Sulfate	268	30.0	200.0	55.12	106	90	110	0.881	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: IC_141212A

Sample ID **ICV-141212**	Batch ID: **R76935**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC_141212A**	Analysis Date: **12/12/2014 9:25:29 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	26.6	1.00	25.00	0	106	90	110			
Nitrate-N	13.5	0.500	12.50	0	108	90	110			
Sulfate	78.3	3.00	75.00	0	104	90	110			

Sample ID **CCV1-141212**	Batch ID: **R76935**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC_141212A**	Analysis Date: **12/12/2014 1:48:12 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.5	1.00	10.00	0	105	90	110			
Nitrate-N	5.03	0.500	5.000	0	101	90	110			
Sulfate	30.8	3.00	30.00	0	103	90	110			

Sample ID **CCV2-141212**	Batch ID: **R76935**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC_141212A**	Analysis Date: **12/12/2014 4:37:19 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.3	1.00	10.00	0	103	90	110			
Nitrate-N	5.06	0.500	5.000	0	101	90	110			
Sulfate	30.7	3.00	30.00	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_141216A

The QC data in batch 67149 applies to the following samples: 1412164-01C

Sample ID **MB-67149**	Batch ID: **67149**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.5**
SampType: **MBLK**	Run ID: **TITRATOR_141216A**	Analysis Date: **12/16/2014 8:50:00 AM**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	20.0								
Alkalinity, Carbonate (As CaCO3)	ND	20.0								
Alkalinity, Hydroxide (As CaCO3)	ND	20.0								
Alkalinity, Total (As CaCO3)	ND	20.0								

Sample ID **LCS-67149**	Batch ID: **67149**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.51**
SampType: **LCS**	Run ID: **TITRATOR_141216A**	Analysis Date: **12/16/2014 8:56:00 AM**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	52.9	20.0	50.00	0	106	74	129			

Sample ID **1412165-23D DUP**	Batch ID: **67149**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.51**
SampType: **DUP**	Run ID: **TITRATOR_141216A**	Analysis Date: **12/16/2014 10:52:00 A**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	0	20.0	0	0				0	20	
Alkalinity, Carbonate (As CaCO3)	0	20.0	0	0				0	20	
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0	0				0	20	
Alkalinity, Total (As CaCO3)	0	20.0	0	0				0	20	

Sample ID **1412181-01B DUP**	Batch ID: **67149**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.53**
SampType: **DUP**	Run ID: **TITRATOR_141216A**	Analysis Date: **12/16/2014 11:20:00 A**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	321	20.0	0	325.7				1.55	20	
Alkalinity, Carbonate (As CaCO3)	0	20.0	0	0				0	20	
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0	0				0	20	
Alkalinity, Total (As CaCO3)	321	20.0	0	325.7				1.55	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_141216A

Sample ID **ICV-141216**	Batch ID: **R76979**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.51**
SampType: **ICV**	Run ID: **TITRATOR_141216A**	Analysis Date: **12/16/2014 8:48:00 AM**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	4.32	20.0	0							
Alkalinity, Carbonate (As CaCO3)	96.0	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0							
Alkalinity, Total (As CaCO3)	100	20.0	100.0	0	100	98	102			

Sample ID **CCV1-141216**	Batch ID: **R76979**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.53**
SampType: **CCV**	Run ID: **TITRATOR_141216A**	Analysis Date: **12/16/2014 10:50:00 A**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	21.5	20.0	0							
Alkalinity, Carbonate (As CaCO3)	79.4	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0							
Alkalinity, Total (As CaCO3)	101	20.0	100.0	0	101	90	110			

Sample ID **CCV2-141216**	Batch ID: **R76979**	TestNo: **M2320 B**	Units: **mg/L @ pH 4.51**
SampType: **CCV**	Run ID: **TITRATOR_141216A**	Analysis Date: **12/16/2014 11:37:00 A**	Prep Date: **12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	5.20	20.0	0							
Alkalinity, Carbonate (As CaCO3)	95.2	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	0	20.0	0							
Alkalinity, Total (As CaCO3)	100	20.0	100.0	0	100	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Larson & Associates
Work Order: 1412164
Project: Legacy Chamberlain

ANALYTICAL QC SUMMARY REPORT

RunID: WC_141216B

The QC data in batch 67191 applies to the following samples: 1412164-01C

Sample ID	**MB-67191**	Batch ID:	**67191**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**MBLK**	Run ID:	**WC_141216B**	Analysis Date:	**12/17/2014 8:45:00 AM**	Prep Date:	**12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10.0								

Sample ID	**LCS-67191**	Batch ID:	**67191**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**LCS**	Run ID:	**WC_141216B**	Analysis Date:	**12/17/2014 8:45:00 AM**	Prep Date:	**12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	743	10.0	745.6	0	99.7	90	113			

Sample ID	**1412176-01C-DUP**	Batch ID:	**67191**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**DUP**	Run ID:	**WC_141216B**	Analysis Date:	**12/17/2014 8:45:00 AM**	Prep Date:	**12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1850	50.0	0	1855				0	5	

Sample ID	**1412176-02C-DUP**	Batch ID:	**67191**	TestNo:	**M2540C**	Units:	**mg/L**
SampType:	**DUP**	Run ID:	**WC_141216B**	Analysis Date:	**12/17/2014 8:45:00 AM**	Prep Date:	**12/16/2014**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1010	50.0	0	1015				0.494	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified