

October 29,
2019

**Quarterly (3rd) Groundwater Monitoring Report
(July – September 2019)
3 Bear Energy Services, LLC, Cottonwood Facility (2RF-128)
Eddy County, New Mexico**

Prepared for:


**415 W. Wall St., Suite 1212
Midland, TX 79701**

Prepared by:


Environmental Consultants

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Certified Professional Geologist #10490



LAI Project No: 18-0167-01

Table of Contents

1.0 EXECUTIVE SUMMARY 2
2.0 INTRODUCTION..... 3
2.0 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION..... 3
3.0 GROUNDWATER SAMPLES AND ANALYSIS 3
 3.1 Organic Analysis..... 3
 3.2 Inorganic Analysis..... 3
4.0 CONCLUSIONS 4
5.0 RECOMMENDATIONS 4

List of Tables

Table 1	Monitor Well Completion and Gauging Summary
Table 2	Groundwater Organic and Inorganic Analytical Data Summary

List of Figures

Figure 1	Topographic Map
Figure 2	Aerial Map
Figure 3	Groundwater Potentiometric Map

List of Appendices

Appendix A	Laboratory Analytical Reports and Chain of Custody Documentation
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1.0 EXECUTIVE SUMMARY

Larson & Associates, Inc. (LAI) submits this report to the New Mexico Oil Conservation Division (OCD) on behalf of 3 Bear Energy Services, LLC (3 Bear) to report the results of 2019 third quarter (July – September) groundwater monitoring at the Cottonwood Facility (Site). The Site is located in Unit N (SE/4, SW/4), Section 20, Township 20 South, and Range 26 East in Eddy County, New Mexico. The geodetic position is North 32.0210483° and West -104.31879°. The surface and mineral owner is the U.S. Government administered by the Bureau of Land Management (BLM). Figure 1 presents a topographic map.

The following activities occurred on September 12 and 20, 2019:

- Gauge four (4) monitoring wells for presence of light non-aqueous phase liquid (LNAPL) and depth to groundwater;
- Purge and sample groundwater from four (4) wells (MW-1 through MW-4); and
- Analyze samples for benzene, toluene, ethylbenzene, xylenes (BTEX), total petroleum hydrocarbons (TPH) and chloride.

The following observations are documented in this report:

- Depth to groundwater ranged from 29.64 feet below ground surface (bgs) at MW-1 to 67.38 and 68.43 feet bgs at MW-4, on September 20, 2019;
- The groundwater potentiometric surface elevation ranged from 3,430.65 feet above mean sea level (MSL) at MW-1 to 3,387.63 feet above MSL at MW-4;
- An apparent hydrologic divide near well MW-1 causes groundwater to flow northwest, northeast towards MW-2 and MW-3 and south and southeast towards MW-4;
- Benzene, toluene, ethylbenzene, xylenes (BTEX) and total petroleum hydrocarbons (TPH) were below the analytical method reporting limits (RL) in samples from monitoring wells MW-1, MW-2, MW-3 and MW-4;
- Chloride exceeded the WQCC domestic water quality standard (250 mg/L) in the sample from MW-4 (26,000 mg/L);
- The source for the chloride in well MW-4 is from naturally occurring conditions or unrelated to 3 Bear operations;
- No data quality issues were identified by the laboratory and no significant changes in chloride concentrations were noted during the groundwater monitoring event.

3 Bear does not have production and has found no leakage from the pit from daily leak detection system inspections. 3 Bear will continue monitoring groundwater on a quarterly (4 times per year) schedule. Notification will be provided to the OCD at least 7 working days prior to each monitoring event, and as soon as possible upon any significant change in analyte concentrations.

2.0 INTRODUCTION

Larson & Associates, Inc. (LAI) submits this report to the New Mexico Oil Conservation Division (OCD) on behalf of 3 Bear Energy Services LLC (3 Bear) to present the quarterly (4 times per year) groundwater monitoring results from four (4) monitoring wells (MW-1, MW-2, MW-3 and MW-4) located at the Cottonwood Facility (Site) in Eddy County, New Mexico. This report is for groundwater samples collected on September 12 and 20, 2019. The Site is located in Unit N (SE 1/4, SW 1/4), Section 20, Township 26 South, and Range 26 East, in Eddy County, New Mexico. The surface and mineral owner is the U.S. Government administered by the Bureau of Land Management (BLM). The geodetic position is North 32.02104833° and West -104.318793°. Figure 1 presents a location and topographic map. Figure 2 presents an aerial map.

2.0 GROUNDWATER POTENTIOMETRIC SURFACE ELEVATION

On September 12 and 20, 2019, monitoring wells MW-1 through MW-4 were gauged for light non-aqueous phase liquid (LNAPL) and depth to groundwater. LNAPL was not present in the monitoring wells on September 12 and 20, 2019. On September 20, 2019, groundwater was gauged in MW-1 at 32.40 feet below top of casing (TOC), MW-2 at 44.78 feet TOC, MW-3 at 44.10 feet TOC and MW-4 at 71.41 feet TOC. The groundwater potentiometric surface elevation ranged from 3,430.65 feet above mean sea level (MSL) at MW-1 to 3,387.63 feet above MSL at MW-4. Due to an apparent hydrologic divide near well MW-1 groundwater flow was to the northwest, northeast towards MW-2 and MW-3 and south and southeast towards MW-4. Table 1 presents the monitoring well gauging summary. Figure 3 presents the groundwater potentiometric map for September 20, 2019.

3.0 GROUNDWATER SAMPLES AND ANALYSIS

On September 12 and 20, 2019, groundwater samples were collected from all wells (MW-1, MW-, MW-3 and MW-4) after removing approximately three (3) well volumes of groundwater by pumping with an electric stainless steel environmental pump and disposable polyethylene tubing. The tubing was discarded after each use and the pump was thoroughly cleaned with a solution potable water and laboratory grade detergent (Alconox[®]) and rinsed with distilled water. The samples were collected with dedicated disposable polyethylene bailers and 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. DHL analyzed the samples for benzene, toluene, ethylbenzene, xylene (BTEX) according to EPA SW-846 Method SW-8021B and total petroleum hydrocarbons (TPH) according to EPA SW-846 Method 8015M including gasoline range organics (C6 to C12), diesel range organics (>C12 to C28) and oil range organics (>C28 to C35) and chloride by EPA Method 300. Table 2 presents the laboratory analytical data summary. Appendix A presents the laboratory report.

3.1 Organic Analysis

BTEX and TPH were not reported above the analytical method reporting limits (RL) in MW-1, MW-2, MW-3, and MW-4. No data quality exceptions were noted in the DHL case narratives.

3.2 Inorganic Analysis

Chloride ranged from 117 mg/L in MW-2 to 26,000 mg/L in MW-4. The chloride concentrations in MW-4 (26,000 mg/L) exceed the NMWQCC domestic water quality standard (250 mg/L). No significant

changes in chloride concentrations were reported in the groundwater samples on September 12 and 20, 2019. Naturally occurring salts reported in a precipitate sample from MW-4 may contribute to the elevated chloride (26,000 mg/L) in the well. No data quality exceptions were noted in the DHL case narratives for chloride.

4.0 CONCLUSIONS

The following observations are documented in this report:

- The apparent groundwater flow direction is from south to north at a gradient of about 0.12 ft/ft;
- BTEX and TPH was not reported above the RL in all samples;
- Chloride exceeded the WQCC domestic water quality standard (250 mg/L) in the sample from well MW-4 (26,000 mg/L) and appears to be naturally occurring or unrelated to 3 Bear operations.

5.0 RECOMMENDATIONS

3 Bear does not have production and has found no leakage from the pit from daily leak detection system inspections concluding the chloride in wells MW-1 and MW-4 is naturally occurring or unrelated to 3 Bear operations. 3 Bear will continue monitoring groundwater on a quarterly (4 times per year) schedule. Notification will be provided to the OCD at least 7 working days prior to each monitoring event, and as soon as possible upon any significant change in analyte concentrations.

Tables

Table 1
Monitoring Well Completion and Gauging Summary
3 Bear Energy, LLC, Eddy County, New Mexico

Well Information									Groundwater Data								
Well No.	Date Drilled	Well Depth (Feet TOC)	Drilled Depth (Feet BGS)	Well Diameter (inches)	Surface Elevation (Feet AMSL)	Screen Interval (Feet BGS)	Casing Stickup (Feet)	TOC Elevation (Feet AMSL)	Date Gauged	Depth to Water (feet TOC)	Depth to Water (feet BGS)	Water Column Height (feet)	Groundwater Elevation (feet AMSL)				
MW-1	8/15/2018	92.40	89.40	2	3,460.29	74.40 - 89.40	2.76	3,463.05	9/25/2018	31.85	29.09	60.55	3,431.20				
									11/13/2018	31.81	29.05	60.59	3,431.24				
									12/12/2018	31.69	28.93	60.71	3,431.36				
									01/29/2019	32.62	29.86	59.78	3,430.43				
									5/15/2019	32.50	29.74	59.90	3,430.55				
									9/12/2019	31.51	28.75	60.89	3,431.54				
									9/20/2019	32.40	29.64	60.00	3,430.65				
MW-2	08/16/2018	58.70	61.70	2	3,455.22	40.70 - 55.70	3.04	3,458.26	09/25/2018	42.52	39.48	16.18	3,415.74				
									11/13/2018					Dry			
									12/12/2018					Dry			
									01/29/2019					42.07	39.03	16.63	3,416.19
									5/15/2019					42.70	39.66	16.00	3,415.56
									9/12/2019					43.98	40.94	14.72	3,414.28
									9/20/2019					44.78	41.74	13.92	3,413.48
MW-3	08/16/2018	52.90	49.90	2	3,455.52	34.90 - 49.90	3.00	3,458.33	09/25/2018	43.55	40.55	9.35	3,414.78				
									11/13/2018	42.65	39.65	10.25	3,415.68				
									12/12/2018	42.16	39.16	10.74	3,416.17				
									01/29/2019	41.85	38.85	11.05	3,416.48				
									5/15/2019	42.61	39.61	10.29	3,415.72				
									9/12/2019	44.30	41.30	8.60	3,414.03				
									9/20/2019	44.10	41.10	8.80	3,412.23				
MW-4	08/14/2018	78.10	75.10	2	3,456.06	60.10 - 75.00	2.98	3,459.04	09/25/2018	74.36	71.38	3.74	3,384.68				
									11/13/2018					Dry			
									12/12/2018					Dry			
									01/29/2019					71.34	68.36	6.76	3,387.70
									5/15/2019					71.50	68.52	6.60	3,387.54
									9/12/2019					67.38	64.40	10.72	3,391.66
									9/20/2019					71.41	68.43	6.69	3,387.63

Notes: monitoring wells installed by Environ-Drill, Albuquerque, New Mexico with 2 inch schedule 40 PVC casing and screen

bgs - below ground surface

TOC - top of casing

AMSL: denotes elevation in feet above mean sea level

Table 2
Groundwater Organic and Inorganic Analytical Data Summary
3Bears Cottonwood Facility
Eddy County, New Mexico

Well No.	Collection Date	Benzene (mg/L)	Ethylbenzene (mg/L)	Toluene (mg/L)	Xylenex (mg/L)	C6 -C12 (mg/L)	>C12-C28 (mg/L)	>C28-C35 (mg/L)	C6-C35 (mg/L)	Chloride (mg/L)
WQCC Standard:		*0.01	*0.75	*0.75	*0.62	--	--	--	--	**250
MW-1	9/25/2018	<0.000800	<0.00200	<0.00200	<0.00200	<0.556	<0.556	<0.556	<0.556	210
	11/13/2018	0.00124	<0.00200	<0.00200	<0.00200	<0.527	<0.527	<0.527	<0.527	1,220
	12/12/2018	0.00130	<0.00200	<0.00200	<0.00200	<0.537	<0.537	<0.537	<0.537	677
	1/29/2019	0.00489	<0.00400	<0.00400	<0.00400	<0.0600	<0.0789	<0.0789	<0.2178	1,750
	5/15/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.600	<0.0749	<0.0749	<0.7498	214
	9/20/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0730	<0.0730	<0.206	248
MW-2	9/25/2018	Dry								
	11/13/2018									
	1/29/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0767	<0.0767	<0.0767	136
	5/15/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0744	<0.0744	<0.2088	106
9/20/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0748	<0.0748	<0.2096	117	
MW-3	9/25/2018	<0.000800	<0.00200	<0.00200	<0.00200	<0.554	<0.554	<0.554	<0.554	101
	11/13/2018	<0.000800	<0.00200	<0.00200	<0.00200	<0.574	<0.574	<0.574	<0.574	103
	1/29/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0780	<0.0780	<0.0780	140
	5/15/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0758	<0.0758	<0.2116	121
	9/20/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0737	<0.0737	<0.2074	130
MW-4	9/25/2018	Dry								
	11/13/2018									
	1/29/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	0.216	<0.110	0.216	22,300
	5/15/2019	<0.000800	<0.0200	<0.0200	<0.0200	<0.0600	<0.762	<0.762	<0.2124	22,900
9/20/2019	<0.000800	<0.0200	<0.0200	<0.0200	<0.600	<0.741	<0.741	<0.082	26,000	
						QA/QC				
Duplicate (MW-1)	1/29/2019	0.00437	<0.00200	0.00234	<0.00200	<0.0600	<0.0743	<0.0743	<0.0743	2,340
	Trip Blank	<0.000800	<0.00200	<0.00200	<0.00200	--	--	--	--	--

Notes: Analysis performed by DHL Analytical, Round Rock, Texas, by EPA SW-846 Method 8021B (BTEX), Method 8015M (TPH) and Method 300 (chloride)
All values reported in milligrams per liter (mg/L) equivalent to parts per million (ppm)

Table 2
Groundwater Organic and Inorganic Analytical Data Summary
3Bears Cottonwood Facility
Eddy County, New Mexico

Well No.	Collection Date	Benzene (mg/L)	Ethylbenzene (mg/L)	Toluene (mg/L)	Xylenex (mg/L)	C6 -C12 (mg/L)	>C12-C28 (mg/L)	>C28-C35 (mg/L)	C6-C35 (mg/L)	Chloride (mg/L)
WQCC Standard:		*0.01	*0.75	*0.75	*0.62	--	--	--	--	**250

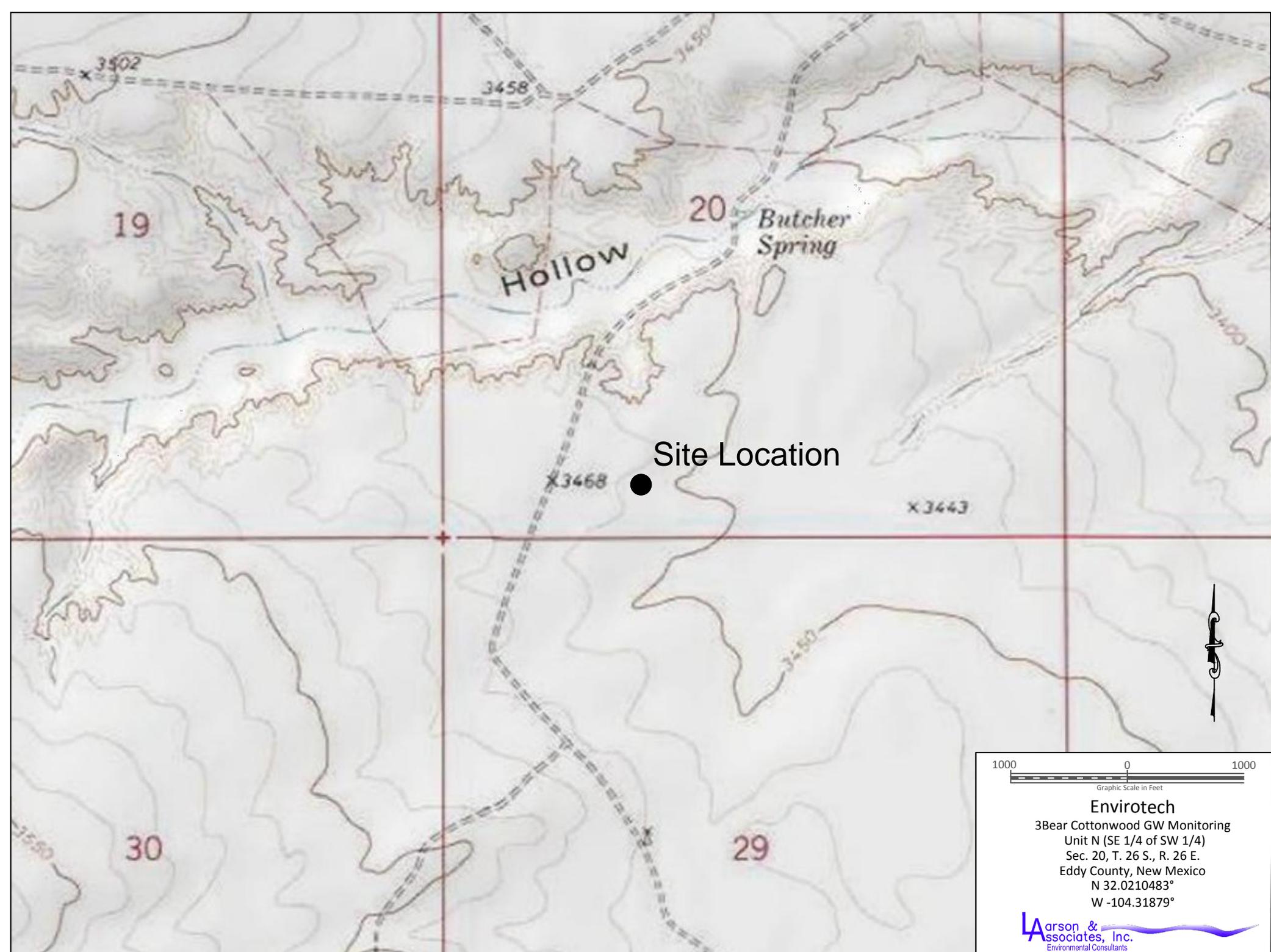
-- No data available

< values - denotes concentration is less than method reporting limit (RL).

* - Human health standard

** - Domestic water quality standard

Figures



1000 0 1000
Graphic Scale in Feet

Envirotech
3Bear Cottonwood GW Monitoring
Unit N (SE 1/4 of SW 1/4)
Sec. 20, T. 26 S., R. 26 E.
Eddy County, New Mexico
N 32.0210483°
W -104.31879°

Larson &
Associates, Inc.
Environmental Consultants

Figure 1 - Topographic Map

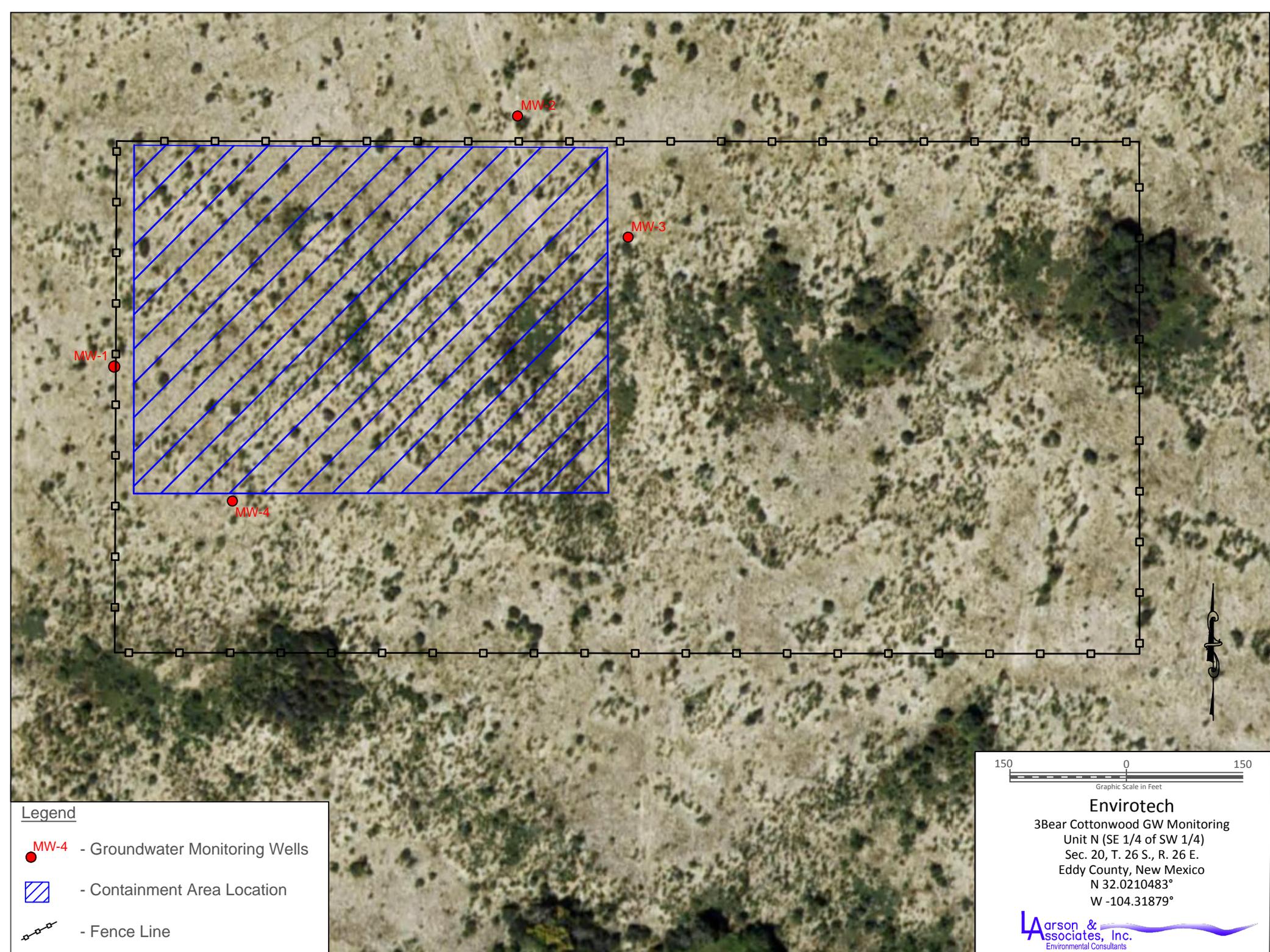
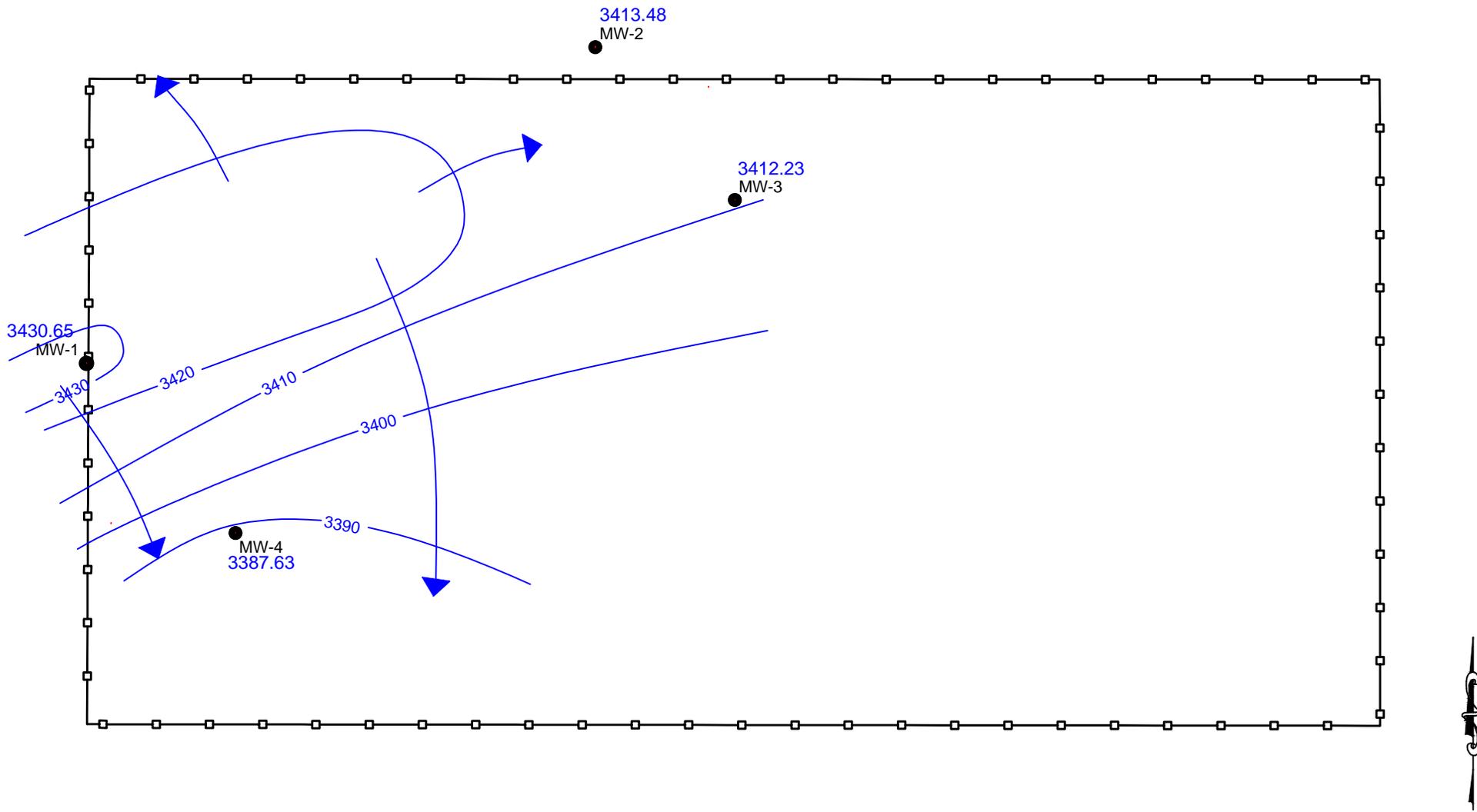


Figure 2 - Aerial Map



Legend

- MW-4 - Monitoring Well Location and Groundwater Potentiometric Surface Elevation, Feet AMSL, September 20, 2019
- 3420- - Contour of Groundwater Potentiometric Surface Elevation, Feet AMSL, September 20, 2019
- Groundwater Flow Direction
- Fence

150 0 150
Graphic Scale in Feet

3 Bear Energy LLC.,
 Cottonwood Facility
 Unit N (SE 1/4 of SW 1/4)
 Sec. 20, T. 26 S., R. 26 E.
 Eddy County, New Mexico
 N 32.0210483°
 W -104.31879°

Larson & Associates, Inc.
 Environmental Consultants

Figure 3b - Groundwater Potentiometric Map, September 20, 2019

Appendix A
Laboratory Report



September 24, 2019

Mark Larson
Larson & Associates
507 N. Marienfeld #205
Midland, TX 79701

TEL: (432) 687-0901

FAX (432) 687-0456

RE: 3 Bear, Cottonwood Facility

Order No.: 1909128

Dear Mark Larson:

DHL Analytical, Inc. received 4 sample(s) on 9/17/2019 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAP except where noted in the Case Narrative. All non-NELAP 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,

A handwritten signature in red ink, appearing to read 'John DuPont'.

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-19-24



Table of Contents

Miscellaneous Documents	3
CaseNarrative 1909128	6
WorkOrderSampleSummary 1909128	7
PrepDatesReport 1909128	8
AnalyticalDatesReport 1909128	9
Analytical Report 1909128	10
AnalyticalQCSummaryReport 1909128	14

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1. To: Print Name (Person) Phone (Important)		2. From: Print Name (Person) Phone (Important)	
Company Name		Company Name LARSON & ASSOCIATES	
Street Address (No P.O., Box or P.O. Box Zip Code Deliveries)		Street Address 507 NORTH MARLENFELD	
Suite / Floor		Suite / Floor 205	
City	State	City	State
Midland TX		MIDLAND TX	
3. Service: Visit www.lso.com for availability of services to your destination and enjoy added features by creating your shipping label online.		4. Package: Weight: 2.1 lb	
<input checked="" type="checkbox"/> LSO Priority Overnight* By 10:30 a.m. to most cities <input type="checkbox"/> LSO Early Overnight* By 8:30 a.m. select cities <input type="checkbox"/> LSO Economy Next Day* By 3 p.m. to most cities <input type="checkbox"/> LSO 2nd Day* <input type="checkbox"/> Deliver Without Delivery Signature (See Limits of Liability below)		Your Company's Billing Reference Information Ship Date: (mm/dd/yy) 9/16/19	
<input type="checkbox"/> LSO Ground <input type="checkbox"/> LSO Saturday* <input type="checkbox"/> Other _____ *Check commitment times and availability at www.lso.com Assumed LSO Priority Overnight service unless otherwise noted.		FOR DRIVER USE ONLY Driver Number _____ <input type="checkbox"/> Check here if LSO Supplies are used with LSO Ground Service. Pick-up Location _____ Date: _____ Time: _____ City Code: _____	
Release Signature _____ L x W x H			

ILLEGIBLE HANDWRITING ON AIRBILL MAY DELAY TRANSIT TIMES OR RESULT IN NON-DELIVERY. 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. 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. "Signature Required" service is only available when printing a label online at LSO.com. NO DELIVERY SIGNATURE WILL BE OBTAINED FOR LSO EARLY OVERNIGHT SERVICE. Packaging provided by LSO is for EXPRESS USE ONLY - NEVER TO BE USED FOR LSO GROUND SERVICE. OVSZISE RATES MAY APPLY. DELIVERY COMMITMENTS MAY VARY. ADDITIONAL FEES MAY APPLY. See LSO Service Guide for further details.

CUSTODY SEAL

DATE: 9/16/2019

SIGNATURE: Rachel Owen

QEC

Quality Environmental Containers
800-255-3950 • www.qecusa.com

Sample Receipt Checklist

Client Name Larson & Associates

Date Received: 9/17/2019

Work Order Number 1909128

Received by EL

Checklist completed by: [Signature] 9/17/2019
Signature Date

Reviewed by: [Initials] 9/17/2019
Initials Date

Carrier name LoneStar

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping 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 4.5 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____
- Water - pH>9 (S) or pH>10 (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 _____

CLIENT: Larson & Associates
Project: 3 Bear, Cottonwood Facility
Lab Order: 1909128

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW8260C - Volatile Organics Analysis
- Method E300 - Anions Analysis

LOG IN

The samples were received and log-in performed on 9/17/19. A total of 4 samples were received. For further login notes please refer the the Chain-of-Custody. The samples arrived in good condition and was properly packaged. All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

VOLATILE ORGANICS ANALYSIS

For Volatiles analysis sample MW-4 was diluted prior to analysis due to the nature of the sample (matrix).

CLIENT: Larson & Associates
Project: 3 Bear, Cottonwood Facility
Lab Order: 1909128

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1909128-01	MW-1		09/12/19 02:49 PM	9/17/2019
1909128-02	MW-2		09/12/19 02:38 PM	9/17/2019
1909128-03	MW-3		09/12/19 02:25 PM	9/17/2019
1909128-04	MW-4		09/12/19 02:11 PM	9/17/2019

Lab Order: 1909128
Client: Larson & Associates
Project: 3 Bear, Cottonwood Facility

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1909128-01A	MW-1	09/12/19 02:49 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/18/19 09:09 AM	92814
1909128-01B	MW-1	09/12/19 02:49 PM	Aqueous	E300	Anion Preparation	09/18/19 10:22 AM	92819
1909128-02A	MW-2	09/12/19 02:38 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/18/19 09:09 AM	92814
1909128-02B	MW-2	09/12/19 02:38 PM	Aqueous	E300	Anion Preparation	09/18/19 10:22 AM	92819
1909128-03A	MW-3	09/12/19 02:25 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/18/19 09:09 AM	92814
1909128-03B	MW-3	09/12/19 02:25 PM	Aqueous	E300	Anion Preparation	09/18/19 10:22 AM	92819
1909128-04A	MW-4	09/12/19 02:11 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/18/19 09:09 AM	92814
1909128-04B	MW-4	09/12/19 02:11 PM	Aqueous	E300	Anion Preparation	09/18/19 10:22 AM	92819

Lab Order: 1909128
Client: Larson & Associates
Project: 3 Bear, Cottonwood Facility

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1909128-01A	MW-1	Aqueous	SW8260C	Volatile Aromatics by GC/MS	92814	1	09/18/19 11:05 AM	GCMS3_190918A
1909128-01B	MW-1	Aqueous	E300	Anions by IC method - Water	92819	100	09/18/19 07:24 PM	IC2_190918A
1909128-02A	MW-2	Aqueous	SW8260C	Volatile Aromatics by GC/MS	92814	1	09/18/19 11:31 AM	GCMS3_190918A
1909128-02B	MW-2	Aqueous	E300	Anions by IC method - Water	92819	10	09/18/19 08:12 PM	IC2_190918A
1909128-03A	MW-3	Aqueous	SW8260C	Volatile Aromatics by GC/MS	92814	1	09/18/19 11:57 AM	GCMS3_190918A
1909128-03B	MW-3	Aqueous	E300	Anions by IC method - Water	92819	10	09/18/19 10:52 PM	IC2_190918A
1909128-04A	MW-4	Aqueous	SW8260C	Volatile Aromatics by GC/MS	92814	10	09/18/19 12:22 PM	GCMS3_190918A
1909128-04B	MW-4	Aqueous	E300	Anions by IC method - Water	92819	1000	09/18/19 09:00 PM	IC2_190918A

DHL Analytical, Inc.

Date: 24-Sep-19

CLIENT: Larson & Associates
Project: 3 Bear, Cottonwood Facility
Project No: 18-0176-01
Lab Order: 1909128

Client Sample ID: MW-1
Lab ID: 1909128-01
Collection Date: 09/12/19 02:49 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILE AROMATICS BY GC/MS		SW8260C			Analyst: BTJ		
Benzene	<0.000800	0.000800	0.00200		mg/L	1	09/18/19 11:05 AM
Ethylbenzene	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:05 AM
Toluene	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:05 AM
Total Xylenes	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:05 AM
Surr: 1,2-Dichloroethane-d4	106	0	72-119		%REC	1	09/18/19 11:05 AM
Surr: 4-Bromofluorobenzene	109	0	76-119		%REC	1	09/18/19 11:05 AM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	09/18/19 11:05 AM
Surr: Toluene-d8	102	0	81-120		%REC	1	09/18/19 11:05 AM
ANIONS BY IC METHOD - WATER		E300			Analyst: SNM		
Chloride	248	30.0	100		mg/L	100	09/18/19 07:24 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

DHL Analytical, Inc.

Date: 24-Sep-19

CLIENT: Larson & Associates
Project: 3 Bear, Cottonwood Facility
Project No: 18-0176-01
Lab Order: 1909128

Client Sample ID: MW-2
Lab ID: 1909128-02
Collection Date: 09/12/19 02:38 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILE AROMATICS BY GC/MS		SW8260C			Analyst: BTJ		
Benzene	<0.000800	0.000800	0.00200		mg/L	1	09/18/19 11:31 AM
Ethylbenzene	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:31 AM
Toluene	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:31 AM
Total Xylenes	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:31 AM
Surr: 1,2-Dichloroethane-d4	101	0	72-119		%REC	1	09/18/19 11:31 AM
Surr: 4-Bromofluorobenzene	107	0	76-119		%REC	1	09/18/19 11:31 AM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	09/18/19 11:31 AM
Surr: Toluene-d8	102	0	81-120		%REC	1	09/18/19 11:31 AM
ANIONS BY IC METHOD - WATER		E300			Analyst: SNM		
Chloride	117	3.00	10.0		mg/L	10	09/18/19 08:12 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

DHL Analytical, Inc.

Date: 24-Sep-19

CLIENT: Larson & Associates
Project: 3 Bear, Cottonwood Facility
Project No: 18-0176-01
Lab Order: 1909128

Client Sample ID: MW-3
Lab ID: 1909128-03
Collection Date: 09/12/19 02:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILE AROMATICS BY GC/MS		SW8260C			Analyst: BTJ		
Benzene	<0.000800	0.000800	0.00200		mg/L	1	09/18/19 11:57 AM
Ethylbenzene	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:57 AM
Toluene	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:57 AM
Total Xylenes	<0.00200	0.00200	0.00600		mg/L	1	09/18/19 11:57 AM
Surr: 1,2-Dichloroethane-d4	105	0	72-119		%REC	1	09/18/19 11:57 AM
Surr: 4-Bromofluorobenzene	109	0	76-119		%REC	1	09/18/19 11:57 AM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	09/18/19 11:57 AM
Surr: Toluene-d8	103	0	81-120		%REC	1	09/18/19 11:57 AM
ANIONS BY IC METHOD - WATER		E300			Analyst: SNM		
Chloride	130	3.00	10.0		mg/L	10	09/18/19 10:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

DHL Analytical, Inc.

Date: 24-Sep-19

CLIENT: Larson & Associates
Project: 3 Bear, Cottonwood Facility
Project No: 18-0176-01
Lab Order: 1909128

Client Sample ID: MW-4
Lab ID: 1909128-04
Collection Date: 09/12/19 02:11 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
VOLATILE AROMATICS BY GC/MS		SW8260C			Analyst: BTJ		
Benzene	<0.00800	0.00800	0.0200		mg/L	10	09/18/19 12:22 PM
Ethylbenzene	<0.0200	0.0200	0.0600		mg/L	10	09/18/19 12:22 PM
Toluene	<0.0200	0.0200	0.0600		mg/L	10	09/18/19 12:22 PM
Total Xylenes	<0.0200	0.0200	0.0600		mg/L	10	09/18/19 12:22 PM
Surr: 1,2-Dichloroethane-d4	105	0	72-119		%REC	10	09/18/19 12:22 PM
Surr: 4-Bromofluorobenzene	109	0	76-119		%REC	10	09/18/19 12:22 PM
Surr: Dibromofluoromethane	105	0	85-115		%REC	10	09/18/19 12:22 PM
Surr: Toluene-d8	103	0	81-120		%REC	10	09/18/19 12:22 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: SNM		
Chloride	26000	300	1000		mg/L	1000	09/18/19 09:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

CLIENT: Larson & Associates

ANALYTICAL QC SUMMARY REPORT

Work Order: 1909128

Project: 3 Bear, Cottonwood Facility

RunID: GCMS3_190918A

The QC data in batch 92814 applies to the following samples: 1909128-01A, 1909128-02A, 1909128-03A, 1909128-04A

Sample ID	LCS-92814	Batch ID:	92814	TestNo:	SW8260C	Units:	mg/L
SampType:	LCS	Run ID:	GCMS3_190918A	Analysis Date:	9/18/2019 10:12:00 AM	Prep Date:	9/18/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0485	0.00200	0.0464	0	105	81	122			
Ethylbenzene	0.0512	0.00600	0.0464	0	110	73	127			
Toluene	0.0502	0.00600	0.0464	0	108	77	122			
Total Xylenes	0.161	0.00600	0.139	0	116	80	121			
Surr: 1,2-Dichloroethane-d4	53.4		50.00		107	72	119			
Surr: 4-Bromofluorobenzene	55.0		50.00		110	76	119			
Surr: Dibromofluoromethane	53.5		50.00		107	85	115			
Surr: Toluene-d8	50.1		50.00		100	81	120			

Sample ID	MB-92814	Batch ID:	92814	TestNo:	SW8260C	Units:	mg/L
SampType:	MBLK	Run ID:	GCMS3_190918A	Analysis Date:	9/18/2019 10:39:00 AM	Prep Date:	9/18/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	<0.000800	0.00200								
Ethylbenzene	<0.00200	0.00600								
Toluene	<0.00200	0.00600								
Total Xylenes	<0.00200	0.00600								
Surr: 1,2-Dichloroethane-d4	52.5		50.00		105	72	119			
Surr: 4-Bromofluorobenzene	55.1		50.00		110	76	119			
Surr: Dibromofluoromethane	53.0		50.00		106	85	115			
Surr: Toluene-d8	50.8		50.00		102	81	120			

Sample ID	1909128-04AMS	Batch ID:	92814	TestNo:	SW8260C	Units:	mg/L
SampType:	MS	Run ID:	GCMS3_190918A	Analysis Date:	9/18/2019 12:57:00 PM	Prep Date:	9/18/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.445	0.0200	0.464	0	95.8	81	122			
Ethylbenzene	0.466	0.0600	0.464	0	100	73	127			
Toluene	0.467	0.0600	0.464	0	101	77	122			
Total Xylenes	1.47	0.0600	1.39	0	105	80	121			
Surr: 1,2-Dichloroethane-d4	534		500.0		107	72	119			
Surr: 4-Bromofluorobenzene	535		500.0		107	76	119			
Surr: Dibromofluoromethane	536		500.0		107	85	115			
Surr: Toluene-d8	510		500.0		102	81	120			

Sample ID	1909128-04AMSD	Batch ID:	92814	TestNo:	SW8260C	Units:	mg/L
SampType:	MSD	Run ID:	GCMS3_190918A	Analysis Date:	9/18/2019 1:23:00 PM	Prep Date:	9/18/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAP certified

CLIENT: Larson & Associates
Work Order: 1909128
Project: 3 Bear, Cottonwood Facility

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_190918A

Sample ID: 1909128-04AMSD	Batch ID: 92814	TestNo: SW8260C	Units: mg/L
SampType: MSD	Run ID: GCMS3_190918A	Analysis Date: 9/18/2019 1:23:00 PM	Prep Date: 9/18/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.386	0.0200	0.464	0	83.3	81	122	14.0	20	
Ethylbenzene	0.414	0.0600	0.464	0	89.2	73	127	12.0	20	
Toluene	0.410	0.0600	0.464	0	88.3	77	122	13.2	20	
Total Xylenes	1.29	0.0600	1.39	0	93.0	80	121	12.5	20	
Surr: 1,2-Dichloroethane-d4	524		500.0		105	72	119	0	0	
Surr: 4-Bromofluorobenzene	544		500.0		109	76	119	0	0	
Surr: Dibromofluoromethane	523		500.0		105	85	115	0	0	
Surr: Toluene-d8	515		500.0		103	81	120	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 NELAP certified	

CLIENT: Larson & Associates
Work Order: 1909128
Project: 3 Bear, Cottonwood Facility

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_190918A

Sample ID ICV-190918	Batch ID: R106447	TestNo: SW8260C	Units: mg/L
SampType: ICV	Run ID: GCMS3_190918A	Analysis Date: 9/18/2019 9:46:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0928	0.00200	0.0928	0	100	80	120			
Ethylbenzene	0.0982	0.00600	0.0928	0	106	80	120			
Toluene	0.0987	0.00600	0.0928	0	106	80	120			
Total Xylenes	0.311	0.00600	0.278	0	112	80	120			
Surr: 1,2-Dichloroethane-d4	49.0		50.00		98.1	72	119			
Surr: 4-Bromofluorobenzene	55.2		50.00		110	76	119			
Surr: Dibromofluoromethane	49.3		50.00		98.6	85	115			
Surr: Toluene-d8	50.5		50.00		101	81	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 NELAP certified	

CLIENT: Larson & Associates
Work Order: 1909128
Project: 3 Bear, Cottonwood Facility

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_190918A

The QC data in batch 92819 applies to the following samples: 1909128-01B, 1909128-02B, 1909128-03B, 1909128-04B

Sample ID MB-92819	Batch ID: 92819	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC2_190918A	Analysis Date: 9/18/2019 11:14:26 AM	Prep Date: 9/18/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride <0.300 1.00

Sample ID LCS-92819	Batch ID: 92819	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC2_190918A	Analysis Date: 9/18/2019 11:30:26 AM	Prep Date: 9/18/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride 10.4 1.00 10.00 0 104 90 110

Sample ID LCSD-92819	Batch ID: 92819	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC2_190918A	Analysis Date: 9/18/2019 11:46:26 AM	Prep Date: 9/18/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride 10.5 1.00 10.00 0 105 90 110 0.246 20

Sample ID 1909128-01BMS	Batch ID: 92819	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_190918A	Analysis Date: 9/18/2019 7:40:44 PM	Prep Date: 9/18/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride 2360 100 2000 247.9 105 90 110

Sample ID 1909128-01BMSD	Batch ID: 92819	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_190918A	Analysis Date: 9/18/2019 7:56:44 PM	Prep Date: 9/18/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride 2340 100 2000 247.9 105 90 110 0.442 20

Sample ID 1909128-02BMS	Batch ID: 92819	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_190918A	Analysis Date: 9/18/2019 8:28:44 PM	Prep Date: 9/18/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride 328 10.0 200.0 117.3 105 90 110

Sample ID 1909128-02BMSD	Batch ID: 92819	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_190918A	Analysis Date: 9/18/2019 8:44:44 PM	Prep Date: 9/18/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride 328 10.0 200.0 117.3 105 90 110 0.049 20

- | | |
|--|---|
| <p>Qualifiers:</p> <ul style="list-style-type: none"> B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL | <ul style="list-style-type: none"> DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAP certified |
|--|---|

CLIENT: Larson & Associates
Work Order: 1909128
Project: 3 Bear, Cottonwood Facility

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_190918A

Sample ID ICV-190918	Batch ID: R106437	TestNo: E300	Units: mg/L							
SampType: ICV	Run ID: IC2_190918A	Analysis Date: 9/18/2019 10:42:26 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	26.7	1.00	25.00	0	107	90	110			
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Sample ID CCV1-190918	Batch ID: R106437	TestNo: E300	Units: mg/L							
SampType: CCV	Run ID: IC2_190918A	Analysis Date: 9/18/2019 4:57:35 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.7	1.00	10.00	0	107	90	110			
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Sample ID CCV2-190918	Batch ID: R106437	TestNo: E300	Units: mg/L							
SampType: CCV	Run ID: IC2_190918A	Analysis Date: 9/18/2019 10:20:43 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.7	1.00	10.00	0	107	90	110			
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Sample ID CCV3-190918	Batch ID: R106437	TestNo: E300	Units: mg/L							
SampType: CCV	Run ID: IC2_190918A	Analysis Date: 9/19/2019 9:43:33 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.6	1.00	10.00	0	106	90	110			
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Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAP certified</p>
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October 01, 2019

Mark Larson
Larson & Associates
507 N. Marienfeld #205
Midland, TX 79701

TEL: (432) 687-0901

FAX (432) 687-0456

RE: 3 Bear Energy - Cottonwood

Order No.: 1909203

Dear Mark Larson:

DHL Analytical, Inc. received 4 sample(s) on 9/24/2019 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAP except where noted in the Case Narrative. All non-NELAP 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,

A handwritten signature in red ink, appearing to read 'John DuPont'.

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-19-24



Table of Contents

Miscellaneous Documents	3
CaseNarrative 1909203	6
WorkOrderSampleSummary 1909203	7
PrepDatesReport 1909203	8
AnalyticalDatesReport 1909203	9
Analytical Report 1909203	10
AnalyticalQCSummaryReport 1909203	14

CHAIN-OF-CUSTODY



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

DATE: 9/23/19

PAGE 1 OF 1

PO#: _____ LAB WORK ORDER#: 1909203

PROJECT LOCATION OR NAME: 3 Bear Energy - Cottonwood

LAI PROJECT #: 18-0176-01 COLLECTOR: EC

Data Reported to:

TRRP report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	S=SOIL W=WATER A=AIR		P=PAINT SL=SLUDGE OT=OTHER		# of Containers	PRESERVATION					ANALYSES															FIELD NOTES								
	TIME ZONE: Time zone/State: MST	Lab #	Date	Time		Matrix	HCl	HNO ₃	H ₂ SO ₄ □ NaOH □	ICE	UNPRESSED	BTEX □ MTBE □	TRPH 418-1 □	GASOLINE MOD 8015 □	DIESEL - MOD 8015 □	OIL - MOD 8015 □	VOC 8260 □	SVOC 8270 □	8081 PESTICIDES □	8082 PESTICIDES □	TBLP - METALS (RCRA) □	TCLP - METALS (RCRA) □	TOTAL METALS (RCRA) □	LEAD - PEST □	RCU □ TOX □		TDS □ TSS □	BH □	EXPLOSIVES □	CHLORIDE □	ANIONS □	ALKALINITY □		
			9/20/19	12:40	W	5	X		X		X	X	X																					
				12:50																														
				13:05																														
				13:20																														

TOTAL 4

RELINQUISHED BY: (Signature) <i>[Signature]</i>	DATE/TIME 9/20/19 10:30	RECEIVED BY: (Signature) ISO	TURN AROUND TIME NORMAL <input checked="" type="checkbox"/> 1 DAY <input type="checkbox"/> 2 DAY <input type="checkbox"/> OTHER <input type="checkbox"/>	LABORATORY USE ONLY: RECEIVING TEMP: 3.0C THERM#: 18 CUSTODY SEALS - <input type="checkbox"/> BROKEN <input checked="" type="checkbox"/> INTACT <input type="checkbox"/> NOT USED <input checked="" type="checkbox"/> CARRIER BILL # Lone Star <input type="checkbox"/> HAND DELIVERED
RELINQUISHED BY: (Signature) ISO	DATE/TIME 9/24/19 07:24	RECEIVED BY: (Signature) <i>[Signature]</i>		
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)		

LABORATORY: DHL

129889



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



Airbill No. LSO0BYG8

LSO0BYG8

1. To: Print Name (Person) _____ Phone (Important) _____		2. From: Print Name (Person) _____ Phone (Important) 432-687-0001	
Company Name _____		Company Name LARSON & ASSOCIATES	
Street Address (No P.O. Box or P.O. Box Zip Code) Deliveries _____		Street Address 507 NORTH MARLENFIELD	
Suite / Floor _____		Suite / Floor 205	
City _____	State _____	City MIDLAND	State TX
Zip _____	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.		4. Package: Weight: 30 lbs	
<input checked="" type="checkbox"/> LSO Priority Overnight* By 10:30 a.m. to most cities <input type="checkbox"/> LSO Early Overnight* By 8:30 a.m. select cities <input type="checkbox"/> LSO Economy Next Day* By 3 p.m. to most cities <input type="checkbox"/> LSO 2nd Day* <input type="checkbox"/> Deliver Without Delivery Signature (See Limits of Liability below)		<input type="checkbox"/> LSO Ground <input type="checkbox"/> LSO Saturday* <input type="checkbox"/> Other _____ <small>*Check commitment times and availability at www.lso.com</small> Assumed LSO Priority Overnight service unless otherwise noted.	
Your Company's Billing Reference Information _____		FOR DRIVER USE ONLY	
Ship Date: (mm/dd/yy) 09/23/11		Driver Number 101616	
5. Payment:		<input type="checkbox"/> Check here if LSO Supplies are used with LSO Ground Service.	
Release Signature _____		Pick-up Location _____	
L 22 x W 14 x H 14		Date: 9/23/11	
		Time: 2:57	
		City Code: _____	

CUSTODY SEAL

DATE 9/23/11

SIGNATURE

QEC

Quality Environmental Containers
800-255-3950 • www.qecusa.com

ILLEGIBLE HANDWRITING ON AIRBILL MAY DELAY TRANSIT TIMES OR RESULT IN NON-DELIVERY. 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. 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. "Signature Required" service is only available when printing a label online at lso.com. NO DELIVERY SIGNATURE WILL BE OBTAINED FOR LSO EARLY OVERNIGHT SERVICE. Packaging provided by LSO is for EXPRESS USE ONLY - NEVER TO BE USED FOR LSO GROUND SERVICE. OVERSIZE RATES MAY APPLY. DELIVERY COMMITMENTS MAY VARY. ADDITIONAL FEES MAY APPLY. See LSO Service Guide for further details.

Sample Receipt Checklist

Client Name Larson & Associates

Date Received: 9/24/2019

Work Order Number 1909203

Received by JW

Checklist completed by: [Signature] 9/24/2019
Signature Date

Reviewed by: [Initials] 9/24/2019
Initials Date

Carrier name LoneStar

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [checked] No [] Not Present []
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No [] 5.0 °C
Water - VOA vials have zero headspace? Yes [checked] No [] No VOA vials submitted []
Water - pH<2 acceptable upon receipt? Yes [] No [] NA [checked] LOT #
Adjusted? _____ Checked by _____
Water - pH>9 (S) or pH>10 (CN) acceptable upon receipt? Yes [] No [] NA [checked] 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 _____

CLIENT: Larson & Associates
Project: 3 Bear Energy - Cottonwood
Lab Order: 1909203

CASE NARRATIVE

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

- Method M8015V - GRO Analysis
- Method M8015D - DRO Analysis

LOG IN

The samples were received and log-in performed on 9/24/2019. A total of 4 samples were received and analyzed. The samples arrived in good condition and were properly packaged. The samples were collected in Mountain Standard time-zone.

ANIONS ANALYSIS

For DRO Analysis, the recovery of surrogate Isopropylbenzene for Sample MW-4 was below the method control limits. This is flagged accordingly in the Analytical Data Report. The remaining surrogate for this sample was within method control limits. No further corrective action was taken.

CLIENT: Larson & Associates
Project: 3 Bear Energy - Cottonwood
Lab Order: 1909203

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1909203-01	MW-1		09/20/19 12:40 PM	9/24/2019
1909203-02	MW-2		09/20/19 12:50 PM	9/24/2019
1909203-03	MW-3		09/20/19 01:05 PM	9/24/2019
1909203-04	MW-4		09/20/19 01:20 PM	9/24/2019

Lab Order: 1909203
Client: Larson & Associates
Project: 3 Bear Energy - Cottonwood

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1909203-01A	MW-1	09/20/19 12:40 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/25/19 09:50 AM	92935
1909203-01B	MW-1	09/20/19 12:40 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	09/26/19 01:00 PM	92949
1909203-02A	MW-2	09/20/19 12:50 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/25/19 09:50 AM	92935
1909203-02B	MW-2	09/20/19 12:50 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	09/26/19 01:00 PM	92949
1909203-03A	MW-3	09/20/19 01:05 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/25/19 09:50 AM	92935
1909203-03B	MW-3	09/20/19 01:05 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	09/26/19 01:00 PM	92949
1909203-04A	MW-4	09/20/19 01:20 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/25/19 09:50 AM	92935
1909203-04B	MW-4	09/20/19 01:20 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	09/26/19 01:00 PM	92949

Lab Order: 1909203
Client: Larson & Associates
Project: 3 Bear Energy - Cottonwood

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1909203-01A	MW-1	Aqueous	M8015V	TPH Purgeable by GC - Water	92935	1	09/25/19 07:31 PM	GC4_190925A
1909203-01B	MW-1	Aqueous	M8015D	TPH Extractable by GC - Water	92949	1	09/29/19 10:22 AM	GC15_190929A
1909203-02A	MW-2	Aqueous	M8015V	TPH Purgeable by GC - Water	92935	1	09/25/19 07:55 PM	GC4_190925A
1909203-02B	MW-2	Aqueous	M8015D	TPH Extractable by GC - Water	92949	1	09/29/19 10:31 AM	GC15_190929A
1909203-03A	MW-3	Aqueous	M8015V	TPH Purgeable by GC - Water	92935	1	09/25/19 08:19 PM	GC4_190925A
1909203-03B	MW-3	Aqueous	M8015D	TPH Extractable by GC - Water	92949	1	09/29/19 10:40 AM	GC15_190929A
1909203-04A	MW-4	Aqueous	M8015V	TPH Purgeable by GC - Water	92935	10	09/25/19 08:44 PM	GC4_190925A
1909203-04B	MW-4	Aqueous	M8015D	TPH Extractable by GC - Water	92949	1	09/29/19 10:50 AM	GC15_190929A

DHL Analytical, Inc.

Date: 01-Oct-19

CLIENT: Larson & Associates
Project: 3 Bear Energy - Cottonwood
Project No: 18-0176-01
Lab Order: 1909203

Client Sample ID: MW-1
Lab ID: 1909203-01
Collection Date: 09/20/19 12:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D					Analyst: BTJ
TPH-DRO C10-C28	<0.0730	0.0730	0.0913		mg/L	1	09/29/19 10:22 AM
TPH-ORO >C28-C35	<0.0730	0.0730	0.0913		mg/L	1	09/29/19 10:22 AM
Surr: Isopropylbenzene	54.8	0	47-142		%REC	1	09/29/19 10:22 AM
Surr: Octacosane	84.6	0	51-124		%REC	1	09/29/19 10:22 AM
TPH PURGEABLE BY GC - WATER		M8015V					Analyst: BTJ
TPH-GRO (C6-C10)	<0.0600	0.0600	0.100		mg/L	1	09/25/19 07:31 PM
Surr: Tetrachlorethene	132	0	74-138		%REC	1	09/25/19 07:31 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

DHL Analytical, Inc.

Date: 01-Oct-19

CLIENT: Larson & Associates
Project: 3 Bear Energy - Cottonwood
Project No: 18-0176-01
Lab Order: 1909203

Client Sample ID: MW-2
Lab ID: 1909203-02
Collection Date: 09/20/19 12:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D			Analyst: BTJ		
TPH-DRO C10-C28	<0.0748	0.0748	0.0935		mg/L	1	09/29/19 10:31 AM
TPH-ORO >C28-C35	<0.0748	0.0748	0.0935		mg/L	1	09/29/19 10:31 AM
Surr: Isopropylbenzene	69.0	0	47-142		%REC	1	09/29/19 10:31 AM
Surr: Octacosane	88.4	0	51-124		%REC	1	09/29/19 10:31 AM
TPH PURGEABLE BY GC - WATER		M8015V			Analyst: BTJ		
TPH-GRO (C6-C10)	<0.0600	0.0600	0.100		mg/L	1	09/25/19 07:55 PM
Surr: Tetrachlorethene	103	0	74-138		%REC	1	09/25/19 07:55 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

DHL Analytical, Inc.

Date: 01-Oct-19

CLIENT: Larson & Associates
Project: 3 Bear Energy - Cottonwood
Project No: 18-0176-01
Lab Order: 1909203

Client Sample ID: MW-3
Lab ID: 1909203-03
Collection Date: 09/20/19 01:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D			Analyst: BTJ		
TPH-DRO C10-C28	<0.0737	0.0737	0.0921		mg/L	1	09/29/19 10:40 AM
TPH-ORO >C28-C35	<0.0737	0.0737	0.0921		mg/L	1	09/29/19 10:40 AM
Surr: Isopropylbenzene	69.3	0	47-142		%REC	1	09/29/19 10:40 AM
Surr: Octacosane	89.1	0	51-124		%REC	1	09/29/19 10:40 AM
TPH PURGEABLE BY GC - WATER		M8015V			Analyst: BTJ		
TPH-GRO (C6-C10)	<0.0600	0.0600	0.100		mg/L	1	09/25/19 08:19 PM
Surr: Tetrachlorethene	111	0	74-138		%REC	1	09/25/19 08:19 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

DHL Analytical, Inc.

Date: 01-Oct-19

CLIENT: Larson & Associates
Project: 3 Bear Energy - Cottonwood
Project No: 18-0176-01
Lab Order: 1909203

Client Sample ID: MW-4
Lab ID: 1909203-04
Collection Date: 09/20/19 01:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		M8015D					Analyst: BTJ
TPH-DRO C10-C28	<0.741	0.741	0.926		mg/L	1	09/29/19 10:50 AM
TPH-ORO >C28-C35	<0.741	0.741	0.926		mg/L	1	09/29/19 10:50 AM
Surr: Isopropylbenzene	40.9	0	47-142	S	%REC	1	09/29/19 10:50 AM
Surr: Octacosane	94.3	0	51-124		%REC	1	09/29/19 10:50 AM
TPH PURGEABLE BY GC - WATER		M8015V					Analyst: BTJ
TPH-GRO (C6-C10)	<0.600	0.600	1.00		mg/L	10	09/25/19 08:44 PM
Surr: Tetrachlorethene	118	0	74-138		%REC	10	09/25/19 08:44 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	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 NELAP certified

CLIENT: Larson & Associates

ANALYTICAL QC SUMMARY REPORT

Work Order: 1909203

Project: 3 Bear Energy - Cottonwood

RunID: GC15_190929A

The QC data in batch 92949 applies to the following samples: 1909203-01B, 1909203-02B, 1909203-03B, 1909203-04B

Sample ID	MB-92949	Batch ID:	92949	TestNo:	M8015D	Units:	mg/L
SampType:	MBLK	Run ID:	GC15_190929A	Analysis Date:	9/29/2019 9:37:35 AM	Prep Date:	9/26/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
TPH-ORO >C28-C35	<0.0800	0.100								
Surr: Isopropylbenzene	0.0662		0.1000		66.2	47	142			
Surr: Octacosane	0.0862		0.1000		86.2	51	124			

Sample ID	LCS-92949	Batch ID:	92949	TestNo:	M8015D	Units:	mg/L
SampType:	LCS	Run ID:	GC15_190929A	Analysis Date:	9/29/2019 10:04:45 AM	Prep Date:	9/26/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	0.937	0.100	1.250	0	75.0	50	114			
Surr: Isopropylbenzene	0.0698		0.1000		69.8	47	142			
Surr: Octacosane	0.0901		0.1000		90.1	51	124			

Sample ID	1909178-01DMS	Batch ID:	92949	TestNo:	M8015D	Units:	mg/L
SampType:	MS	Run ID:	GC15_190929A	Analysis Date:	9/29/2019 12:38:32 PM	Prep Date:	9/26/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	8.65	0.877	10.96	2.571	55.5	50	114			
Surr: Isopropylbenzene	0.461		0.8772		52.6	47	142			
Surr: Octacosane	0.668		0.8772		76.2	51	124			

Sample ID	1909178-01DMSD	Batch ID:	92949	TestNo:	M8015D	Units:	mg/L
SampType:	MSD	Run ID:	GC15_190929A	Analysis Date:	9/29/2019 12:47:35 PM	Prep Date:	9/26/2019

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	9.65	0.867	10.83	2.571	65.3	50	114	10.9	30	
Surr: Isopropylbenzene	0.545		0.8666		62.9	47	142	0	0	
Surr: Octacosane	0.755		0.8666		87.2	51	124	0	0	

Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL

DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAP certified

CLIENT: Larson & Associates
Work Order: 1909203
Project: 3 Bear Energy - Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_190929A

Sample ID ICV-190929	Batch ID: R106633	TestNo: M8015D	Units: mg/L							
SampType: ICV	Run ID: GC15_190929A	Analysis Date: 9/29/2019 9:11:46 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	459	0.100	500.0	0	91.8	80	120			
TPH-ORO >C28-C35	2.18	0.100	0							
Surr: Isopropylbenzene	27.3		25.00		109	80	120			
Surr: Octacosane	22.6		25.00		90.4	80	120			

Sample ID CCV1-190929	Batch ID: R106633	TestNo: M8015D	Units: mg/L							
SampType: CCV	Run ID: GC15_190929A	Analysis Date: 9/29/2019 12:56:39 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	236	0.100	250.0	0	94.6	80	120			
TPH-ORO >C28-C35	<0.0800	0.100	0							
Surr: Isopropylbenzene	14.9		12.50		119	80	120			
Surr: Octacosane	12.0		12.50		96.3	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 NELAP certified

CLIENT: Larson & Associates
Work Order: 1909203
Project: 3 Bear Energy - Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_190925A

The QC data in batch 92935 applies to the following samples: 1909203-01A, 1909203-02A, 1909203-03A, 1909203-04A

Sample ID LCS-92935	Batch ID: 92935	TestNo: M8015V	Units: mg/L							
SampType: LCS	Run ID: GC4_190925A	Analysis Date: 9/25/2019 11:26:57 AM	Prep Date: 9/25/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.44	0.100	2.500	0	97.6	67	136			
Surr: Tetrachlorethene	0.366		0.4000		91.5	74	138			

Sample ID LCSD-92935	Batch ID: 92935	TestNo: M8015V	Units: mg/L							
SampType: LCSD	Run ID: GC4_190925A	Analysis Date: 9/25/2019 11:51:08 AM	Prep Date: 9/25/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.57	0.100	2.500	0	103	67	136	5.11	30	
Surr: Tetrachlorethene	0.362		0.4000		90.6	74	138	0	0	

Sample ID MB-92935	Batch ID: 92935	TestNo: M8015V	Units: mg/L							
SampType: MBLK	Run ID: GC4_190925A	Analysis Date: 9/25/2019 1:03:53 PM	Prep Date: 9/25/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	<0.0600	0.100								
Surr: Tetrachlorethene	0.476		0.4000		119	74	138			

Sample ID 1909193-01BMS	Batch ID: 92935	TestNo: M8015V	Units: mg/L							
SampType: MS	Run ID: GC4_190925A	Analysis Date: 9/25/2019 4:40:39 PM	Prep Date: 9/25/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.38	0.100	2.500	0	95.3	67	136			
Surr: Tetrachlorethene	0.491		0.4000		123	74	138			

Sample ID 1909193-01BMSD	Batch ID: 92935	TestNo: M8015V	Units: mg/L							
SampType: MSD	Run ID: GC4_190925A	Analysis Date: 9/25/2019 5:05:32 PM	Prep Date: 9/25/2019							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.30	0.100	2.500	0	92.2	67	136	3.36	30	
Surr: Tetrachlorethene	0.489		0.4000		122	74	138	0	0	

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

CLIENT: Larson & Associates
Work Order: 1909203
Project: 3 Bear Energy - Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_190925A

Sample ID ICV-190925	Batch ID: R106578	TestNo: M8015V	Units: mg/L							
SampType: ICV	Run ID: GC4_190925A	Analysis Date: 9/25/2019 11:02:52 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	4.94	0.100	5.000	0	98.8	80	120			
Surr: Tetrachlorethene	0.351		0.4000		87.7	74	138			

Sample ID CCV1-190925	Batch ID: R106578	TestNo: M8015V	Units: mg/L							
SampType: CCV	Run ID: GC4_190925A	Analysis Date: 9/25/2019 5:30:02 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.66	0.100	2.500	0	107	80	120			
Surr: Tetrachlorethene	0.461		0.4000		115	74	138			

Sample ID CCV2-190925	Batch ID: R106578	TestNo: M8015V	Units: mg/L							
SampType: CCV	Run ID: GC4_190925A	Analysis Date: 9/25/2019 9:32:28 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.20	0.100	2.500	0	87.8	80	120			
Surr: Tetrachlorethene	0.406		0.4000		102	74	138			

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 NELAP certified