October 27,

2020

Quarterly (4th) Groundwater Monitoring Report (October – December)
3 Bear Energy Services, LLC, Cottonwood Facility (2RF-128)
Eddy County, New Mexico

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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 2020 fourth (4th) quarter (October - December) 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).

The following activities occurred on October 6, 2020:

- Gauge four (4) monitoring wells (MW-1 through MW-4) for light non-aqueous phase liquid (LNAPL) and depth to groundwater.
- Purge and sample groundwater from four (4) wells (MW-1 through MW-4) utilizing the low stress (low flow) method.
- 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 29.13 feet below ground surface (bgs) at MW-1 to 65.11 feet bgs at MW-4.
- Depth to groundwater decreased (rising) in MW-4 at 2.01 feet compared to the previous monitoring period (August 13, 2020).
- Depth to groundwater increased (lowering) in wells MW-1, MW-2, MW-3 at 0.07, 0.31, and 0.55 feet, respectively, compared to the previous monitoring period (August 13, 2020).
- The groundwater potentiometric surface elevation ranged from 3,431.16 feet above mean sea level (MSL) at well MW-1 (up gradient) to 3,390.95 feet above MSL at MW-4 (cross gradient and down gradient).
- An apparent groundwater divide occurs in the area between monitoring well MW-1 causes groundwater to flow to the northeast towards wells MW-2 and MW-3 and southeast towards well MW-4 at gradients between 0.04 and 0.18 feet per foot.
- No significant change in the groundwater flow direction or gradient was observed on October 6, 2020.
- BTEX was less than the analytical method reporting limit (RL) in all samples.
- TPH was reported above the RL in samples in MW-4 (0.251 mg/L).
- The Site does not appear to be the source for the TPH reported in samples from MW-4.
- Chloride was reported below the WQCC domestic water quality standard (250 mg/L) in samples from MW-1 (218 mg/L), MW-2 (137 mg/L), MW-3 (111 mg/L) on October 6, 2020.
- Chloride exceeded the WQCC domestic water quality standard (250 mg/L) in the sample from MW-4 (21,000 mg/L), which is consistent with previous monitoring periods.

3 Bear will continue monitor the leak detection system and immediately report any changes to the OCD. 3 Bear will also 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 ɜ Bear Energy Services LLC (ɜ Bear) to present quarterly (4 times per year) groundwater monitoring results from four (4) monitoring wells (MW-1, MW-2, MW-3 and MW-4) at the Cottonwood Facility (Site) in Eddy County, New Mexico. This report is for groundwater samples collected for the fourth (4^{th}) quarter on October 6, 2020. 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.

3.0 GROUNDWATER POTENTIONMETRIC SURFACE ELEVATION

On October 6, 2020, LAI personnel gauged monitoring wells MW-1 through MW-4 for light non-aqueous phase liquid (LNAPL) and depth to groundwater. LNAPL was not present in the monitoring wells. Groundwater was gauged in wells MW-1, MW-2, MW-3, and MW-4 at 31.89, 52.00, 46.19 and 68.09 feet below top of casing (TOC), respectively. Depth to groundwater decreased (rising) in well MW-4 at 2.01 feet, compared to the previous monitoring period (August 13, 2020). Depth to groundwater increased (lowering) in wells MW-1, MW-2, MW-3 at 0.07, 0.31, and 0.55 feet, respectively, compared to the previous monitoring period (August 13, 2020).

The groundwater potentiometric surface elevation ranged from 3,431.16 feet above mean sea level (MSL) at well MW-1 (up gradient) to 3,390.95 feet above MSL at MW-4 (cross gradient and down gradient). An apparent groundwater divide occurs in the area that causes groundwater to flow to the northeast towards wells MW-2 and MW-3 and southeast towards well MW-4 at gradients between 0.04 and 0.18 feet per foot. No significant change in the groundwater flow direction or gradient was observed on October 6, 2020. Table 1 presents the groundwater gauging summary. Figure 3 presents the groundwater potentiometric map for October 6, 2020.

4.0 GROUNDWATER SAMPLES AND ANALYSIS

On October 6, 2020, LAI personnel collected groundwater samples from wells MW-1 through MW-4 using the low stress or low flow method, according to EPA protocol (EQASOP-GW4, Revision 4, September 19, 2017) where an environmental pump is submerged near the middle of the water column and the well is pumped at a low rate until environmental parameters stabilize. Groundwater samples were collected from the discharge of the dedicated disposable Tygon 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 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. A duplicate sample was collected from well MW-1 for laboratory quality assurance and quality control (QA/QC). DHL analyzed the samples for benzene, toluene, ethylbenzene, xylene (BTEX) according to EPA SW-846 Method SW-8021B, total petroleum hydrocarbons (TPH) according to EPA SW-846 Method, 8015M including gasoline range organics (C6 to C10), diesel range organics (>C10 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.

4.1 Organic Analysis

BTEX was not detected at concentrations above the analytical method reporting limits (RL) in the groundwater samples. TPH was reported above the analytical method reporting limit in samples from monitoring well MW-4 at 0.251 mg/L. The Site does not appear to be the source for the TPH. No data quality exceptions were noted in the DHL case narratives.

4.2 Inorganic Analysis

The laboratory reported chloride below the WQCC domestic water quality standard (250 mg/L) in samples from monitoring wells MW-1 (218 mg/L), MW-2 (137 mg/L) and MW-3 (111 mg/L). Chloride remained above the WQCC domestic water quality standard in well MW-4 (21,000 mg/L) on October 6, 2020. The Site does not appear to be the source for chloride in well MW-4. The duplicate (QA/QC) sample from monitoring well MW-1 is within laboratory tolerances for the original sample confirming no laboratory QA/QC issues. Figure 4 presents a map showing chloride concentrations in groundwater on October 6, 2020.

On January 29, 2019 and May 15, 2019, the laboratory analyzed a layer of naturally occurring salts that formed as a precipitate in samples from monitoring well MW-4. The laboratory reported chloride in the precipitate at 87,700 mg/L and 25,900 mg/L, on January 29, 2019 and May 15, 2019, respectively. The precipitate is considered as naturally occurring and contributes to the elevated chloride reported in the groundwater samples. No data quality exceptions were noted in the DHL case narratives for chloride. Table 3 presents the precipitate sample analytical data summary.

5.0 CONCLUSIONS

The following observations are documented in this report:

- A hydrologic divide in the vicinity of monitoring well MW-1 causes groundwater to flow to the northeast to southeast at gradients between 0.04 and 0.18 feet per foot.
- No significant changes in the groundwater flow direction and gradient were observed on October 6, 2020.
- BTEX was below the RL in all samples on October 6, 2020.
- TPH was previously (August 13, 2020) reported at 0.107 mg/L in the sample from monitoring well MW-1 and was less than the RL on October 6, 2020.
- TPH was reported above the RL in the sample from monitoring well MW-4 (0.251 mg/L) on October 6, 2020 and is consistent with the previous monitoring period with a slight increase from the previous (August 13, 2020) monitoring period when TPH was reported at 0.137 mg/L.
- The Site does not appear to be the source for the TPH in well MW-4.
- Chloride was below the WQCC domestic water quality standard in all samples except well MW-4 (21,000 mg/L) and is unrelated to 3 Bear operations.

6.0 RECOMMENDATIONS

3 Bear will continue quarterly (4 times per year) groundwater monitoring. LAI will conduct quarterly gauging and sampling wells in the following order: MW-2, MW-3, MW-1, and MW-4. 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
									12/4/2019	31.73	28.97	60.67	3,431.32
									2/18/2020	31.50	28.74	60.90	3,431.55
									5/7/2020	31.72	28.96	60.68	3,431.33
									8/13/2020	31.82	29.06	60.58	3,431.23
									10/6/2020	31.89	29.13	60.51	3,431.16
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	Dry			
									11/13/2018	Dry			
									12/12/2018	42.52	39.48	16.18	3,415.74
									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
									12/4/2019	45.01	41.97	13.69	3,413.25
									2/18/2020	45.10	42.06	13.60	3,413.16
									5/7/2020	49.30	46.26	9.40	3,408.96
									8/13/2020	51.69	48.65	7.01	3,406.57
									10/6/2020	52.00	48.96	6.70	3,406.26
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
									12/4/2019	44.83	41.83	8.07	3,413.50
									2/18/2020	45.60	42.60	7.30	3,412.73
									5/7/2020	45.68	42.68	7.22	3,412.65

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)
									8/13/2020	45.64	42.64	7.26	3,412.69
									10/6/2020	46.19	43.19	6.71	3,412.14
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		Dry		
									11/13/2018		Dry		
									12/12/2018	74.36	71.38	3.74	3,384.68
									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
									12/4/2019	66.31	63.33	11.79	3,392.73
									2/18/2020	71.80	68.82	6.30	3,387.24
									5/7/2020	72.20	69.22	5.90	3,386.84
									8/13/2020	70.10	67.12	8.00	3,388.94
									10/6/2020	68.09	65.11	10.01	3,390.95

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
GroundwaterSample 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)	Xylenes (mg/L)	C6 -C10 (mg/L)	>C10-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	<0.0600	<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
	12/4/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0739	<0.0739	<0.2078	224
	2/18/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0772	<0.0772	<0.2144	214
	5/7/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0787	<0.0787	<0.2174	246
	8/13/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	0.107	<0.0758	**0.107**	228
	10/6/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0782	<0.0782	<0.2164	218
MW-2	9/25/2018					Dry				
	11/13/2018					Dry				
	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
	12/4/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0751	<0.0751	<0.2102	105
	2/18/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0766	<0.0766	<0.2132	120
	5/7/2020	<0.00800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0823	<0.0823	<0.2246	121
	8/13/2020	<0.00800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0841	<0.0841	<0.2282	124
	10/6/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0789	<0.0789	<0.2178	137
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

Table 2
GroundwaterSample 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)	Xylenes (mg/L)	C6 -C10 (mg/L)	>C10-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**
	9/20/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0737	<0.0737	<0.2074	130
	12/4/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0752	<0.0752	<0.2104	111
	2/18/2020	<0.00800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0794	<0.0794	<0.2188	120
	5/7/2020	<0.00800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0997	<0.0997	<0.2594	305
	8/13/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0822	<0.0822	<0.2244	125
	10/6/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0787	<0.0787	<0.2174	111
MW-4	9/25/2018					Dry				
	11/13/2018					Dry				
	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	<0.00200	<0.00200	<0.00200	<0.0600	<0.762	<0.762	<0.2114	22,900
	9/20/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.741	<0.741	<0.082	26,000
	12/4/2019	<0.000800	<0.00200	<0.00200	<0.00200	<0.600	<0.752	<0.752	<2.104	24,400
	2/18/2020	<0.00800	<0.0200	<0.0200	<0.0200	<0.600	<0.577	<0.577	<1.754	25,800
	5/7/2020	<0.00800	<0.0200	<0.0200	<0.0200	<0.600	<0.110	<0.110	<0.820	25,400
	8/13/2020	<0.00800	<0.00200	<0.00200	<0.00200	<0.600	0.137	<0.0566	**0.137**	19,800
	10/6/2020	<0.00800	<0.0200	<0.0200	<0.0200	<0.600	0.251	<0.0790	**0.251**	21,000
	QA/QC (Duplicate) Samples									
Dup - 1 - MW-1	2/18/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0802	<0.0802	<0.2204	210
Dup-1 - MW-1	5/7/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0800	<0.0800	<0.2200	221
Dup-1 - MW-1	8/13/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0747	<0.0747	<0.2094	213
Dup-1 - MW-1	10/6/2020	<0.000800	<0.00200	<0.00200	<0.00200	<0.0600	<0.0785	<0.0785	<0.2170	196

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) equivelent to parts per million (ppm)
-- No data vailable
< values - denootes concentration is less than method reporting limit (RL).
* - Human health standard
** - Domestic water quality standard

Table 3
Groundwater Precipitate Sample Analytical Data Summary
3Bears Cottonwood Facility
Eddy County, New Mexico

Well No.	Collection Date	Barium (mg/L)	Calcium (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)
MW-4	1/29/2019	<0.463	347	46.9	20,500	894	87,700	8.87
	5/15/2019	--	333	--	50,500	2,370	25,900	--

Well No.	Collection Date	Bicarbonate mg/L	Carbonate mg/L	Hydroxide mg/L	Total mg/L			
MW-4	1/29/2019	--	--	--	--			
	5/15/2019	5140	<	<	5140			
MW-2	5/15/2019	116	<	<	116			

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) equivelent to parts per million (ppm)
-- No data vailable
< values - denootes concentration is less than method reporting limit (RL).
* - Human health standard
** - Domestic water quality standard

Figures

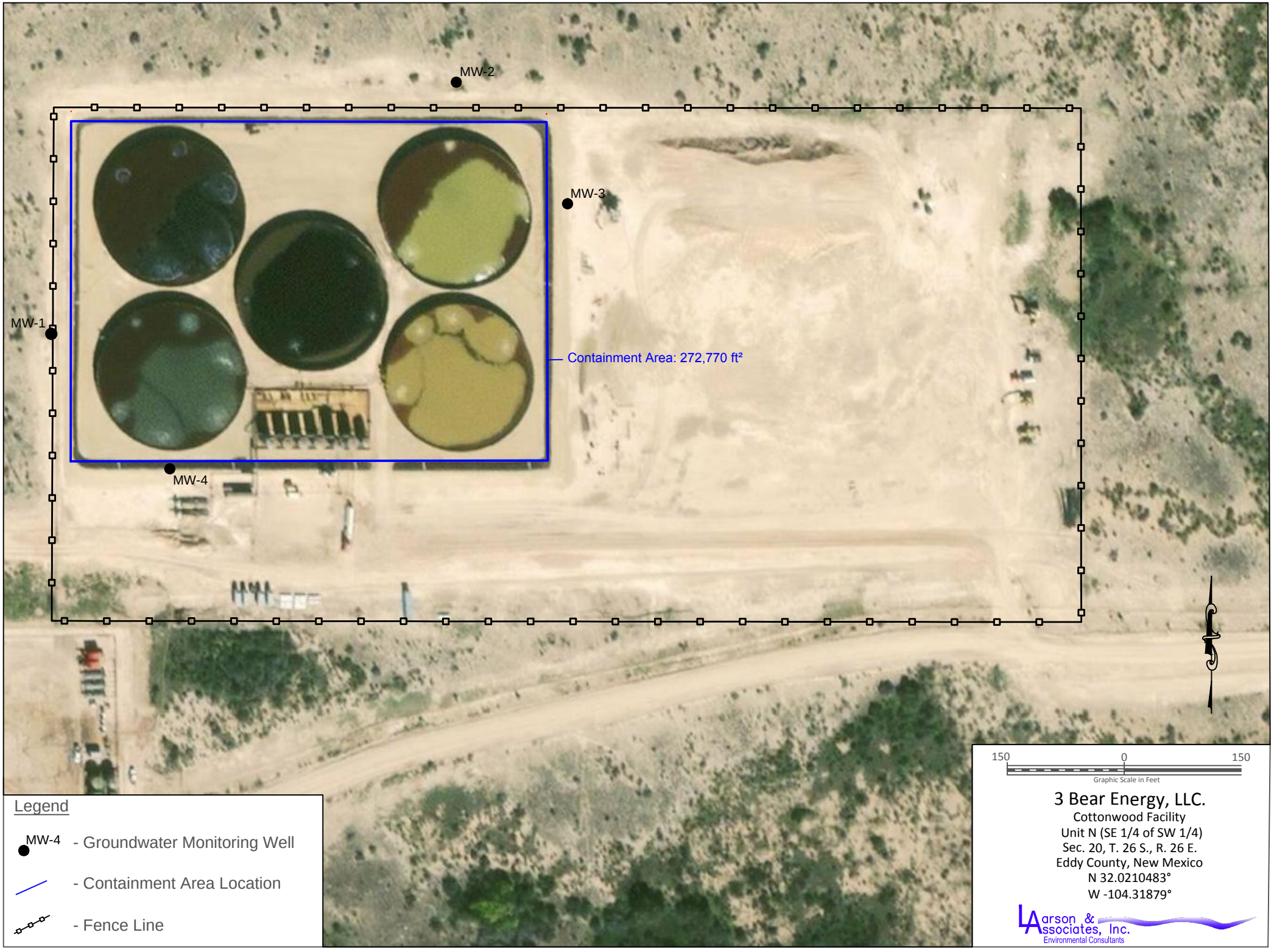


Figure 2 - Aerial Map

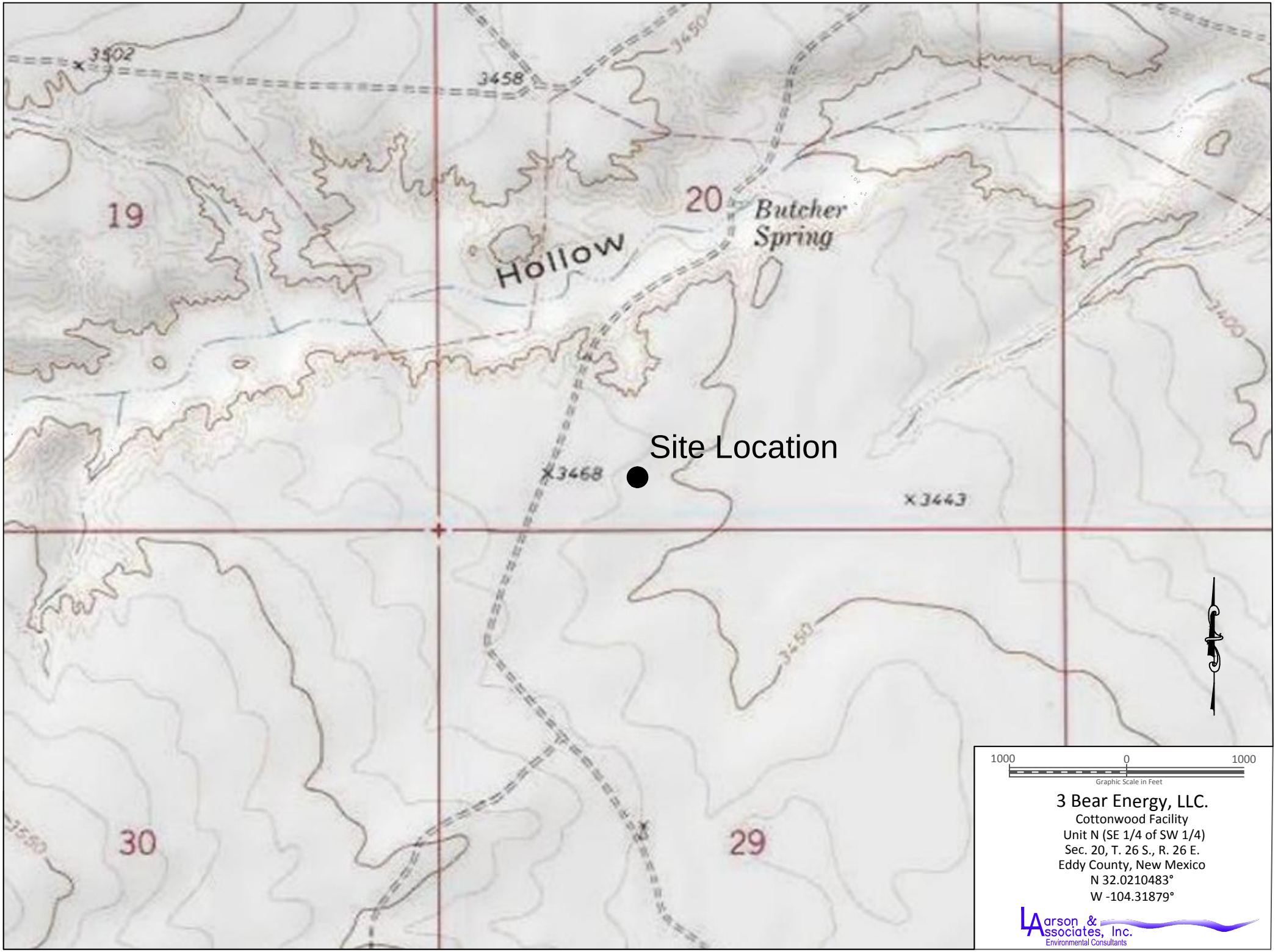


Figure 1 - Topographic Map

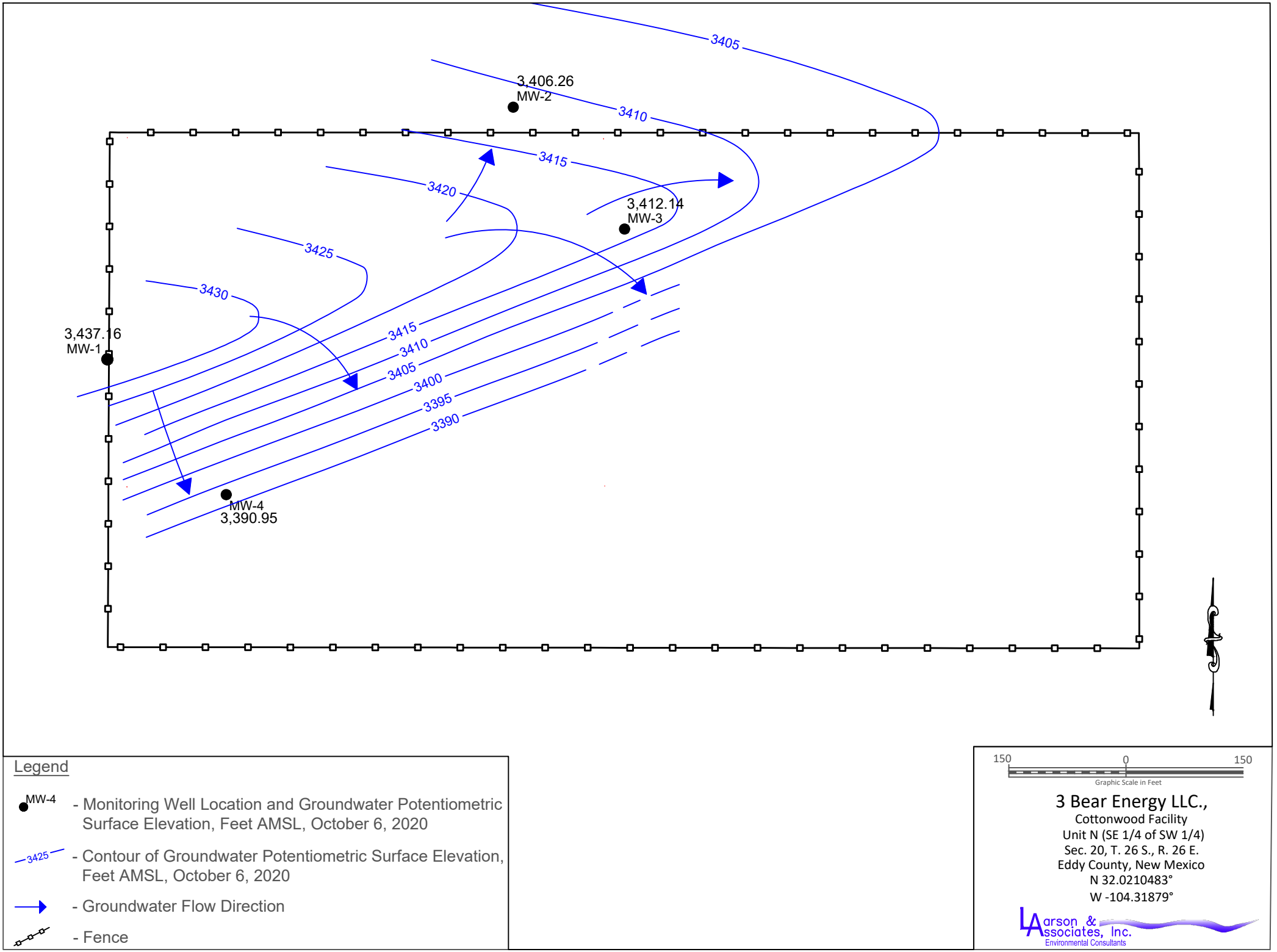
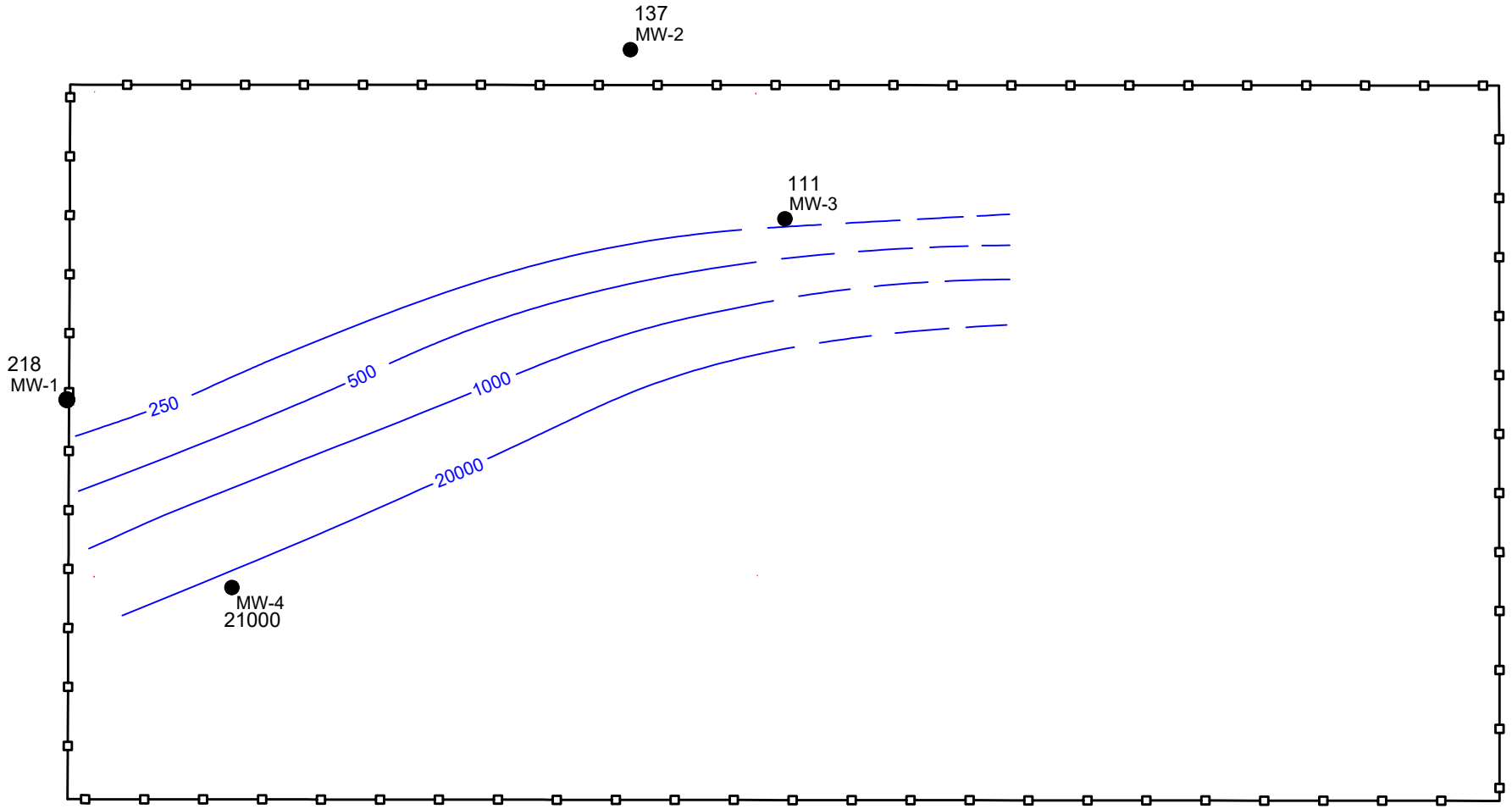


Figure 3 - Groundwater Potentiometric Map, October 6, 2020



Legend

MW-4 - Monitoring Well Location and Chloride Concentration in Groundwater, mg/L, October 6, 2020

1000 - Contour of Chloride Concentration on Groundwater, mg/L October 6, 2020

- 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 4 - Chloride Concentration in Groundwater Map, October 6, 2020

Appendix A
Laboratory Analytical Report and Chain of Custody Documentation

October 15, 2020

Mark Larson
Larson & Associates
507 N. Marienfeld #205
Midland, TX 79701
TEL: (432) 687-0901
FAX (432) 687-0456

Order No.: 2010059

RE: Cottonwood

Dear Mark Larson:

DHL Analytical, Inc. received 5 sample(s) on 10/8/2020 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,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-20-25

Table of Contents

№1360

CHAIN-OF-CUSTODY

Larson & Associates, Inc.
Environmental Consultants

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

Data Reported to:

DATE: 10/7/20 PAGE 1 OF 1

PO#: LAB WORK ORDER#: 2010059

PROJECT LOCATION OR NAME: COTTON WOODS

LAI PROJECT #: 18-0176-01 COLLECTOR: DS/TJ

TRRP report? ☐ Yes ☒ No

TIME ZONE: Time zone/State: MST

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

Field Sample I.D.	Lab #	Date	Time	Matrix	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESSERVED	ANALYSES: BTEX ☑ MTBE ☐	TRPH 418.1 ☐	TPH 1005 ☐ TPH 1006 ☐	GASOLINE MOD 8015 ☑	DIESEL - MOD 8015 ☑	OIL - MOD 8015 ☑	VOC 8260 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLDPAH ☐	8081 PESTICIDES ☐ 8151 HERBICIDES ☐	8082 PCBS ☐	TBLP - 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 ☐	FIELD NOTES
MW-1	01	10/6/20	1230	W	6	X			X		X			X	X	X													X		
MW-2	02	"	1140	"	6	"			"		"			"	"	"													"		
MW-3	03	"	1220	"	6	"			"		"			"	"	"													"		
MW-4	04	"	1300	"	6	"			"		"			"	"	"													"		
DUP-1	05	"	-	"	6	"			"		"			"	"	"													"		
TOTAL 5																															

RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	10/7/20 / 1530	LSO
LSO	10/8/20 1010	[signature]
RELINQUISHED BY:(Signature)	DATE/TIME	RECEIVED BY: (Signature)

LABORATORY: DHL 3

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

LABORATORY USE ONLY:
RECEIVING TEMP: 3.5°C THERM#: 78
CUSTODY SEALS - ☐ BROKEN ☑ INTACT ☐ NOT USED
☑ CARRIER BILL # ☐ HAND DELIVERED Via LSO

129911 AI

LSO

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

Airbill No. LSO0BYGW

LSO0BYGW

1. To: Print Name (Person): John DuPont | Phone (Important): 512-388-8222
Company Name: DHL Analytical
Street Address (No P.O. Box or P.O. Box Zip Code Deliveries): 2300 Double Creek Drive
Suite / Floor:
City: Round Rock | State: TX | Zip: 78664

2. From: Print Name (Person): John White | Phone (Important): 432-687-0901
Company Name: LARSON & ASSOCIATES
Street Address: 507 NORTH MARIENFELD
Suite / Floor: 205
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.

4. Package: Weight: 40 lbs
Your Company's Billing Reference Information:
Ship Date: (mm/dd/yy) 10/07/20

5. Payment:

FOR DRIVER USE ONLY
Driver Number: 8
[ ] Check here if LSO Supplies are used with LSO Ground Service.
Pick-up Location:
Date: 10-7-20
Time: 1101
City Code: AUS

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

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. OVERSIZE RATES MAY APPLY. DELIVERY COMMITMENTS MAY VARY. ADDITIONAL FEES MAY APPLY.** See LSO Service Guide for further details.

CUSTODY SEAL
DATE 10/7/20
SIGNATURE

DHL ANALYTICAL

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Larson & Associates** Date Received: **10/8/2020**

Work Order Number **2010059** Received by: **RA**

Checklist completed by: _____ 10/8/2020 Reviewed by DC 10/8/2020
Signature | Date | 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 ☐	**3.4** °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: _____

DHL Analytical, Inc. **Date:** *15-Oct-20*

CLIENT: Larson & Associates
Project: Cottonwood
Lab Order: 2010059

CASE NARRATIVE

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

Method SW8260D - Volatile Organics Analysis
Method E300 - Anions Analysis
Method M8015D - DRO Analysis
Method M8015V - GRO Analysis

LOG IN

The samples were received and log-in performed on 10/8/20. A total of 5 samples were received. The samples arrived in good condition and was properly packaged.

VOLATILE ORGANICS ANALYSIS

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

GRO ANALYSIS

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

DRO ANALYSIS

For DRO analysis an MS/MSD was not performed due to insufficient sample volume. An LCS/LCSD was peformed instead.

For DRO analysis performed on 10/13/20 the surrogate recoveries for three samples were slightly below control limits for Isopropylbenzene. These are flagged accordingly. The remaining surrogate was within control limits. No further corrective actions were taken.

ANIONS ANALYSIS

For Anions analysis performed on 10/9/20 the matrix spike and matrix spike duplicate recoveries (2010056-02 MS/MSD) were slightly below control limits for Chloride. This was due to matrix effect. 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 this analyte. No further corrective actions were taken.

CLIENT:	Larson & Associates
Project:	Cottonwood
Lab Order:	2010059

CASE NARRATIVE

For Anions analysis performed on 10/8/20 Chloride was detected below the reporting limit in CCB1-201008. All samples were detected greater than 10 times the amount in CCB1-201008. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *15-Oct-20*

CLIENT: Larson & Associates
Project: Cottonwood
Lab Order: 2010059

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2010059-01	MW-1		10/06/20 12:30 PM	10/8/2020
2010059-02	MW-2		10/06/20 11:40 AM	10/8/2020
2010059-03	MW-3		10/06/20 12:20 PM	10/8/2020
2010059-04	MW-4		10/06/20 01:00 PM	10/8/2020
2010059-05	Dup-1		10/06/20	10/8/2020

Lab Order: 2010059
Client: Larson & Associates
Project: Cottonwood

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2010059-01A	MW-1	10/06/20 12:30 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	10/14/20 10:13 AM	98196
2010059-01B	MW-1	10/06/20 12:30 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	10/13/20 09:51 AM	98185
2010059-01C	MW-1	10/06/20 12:30 PM	Aqueous	E300	Anion Preparation	10/07/20 10:43 AM	98127
2010059-01D	MW-1	10/06/20 12:30 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	10/12/20 08:48 AM	98165
2010059-02A	MW-2	10/06/20 11:40 AM	Aqueous	SW5030C	Purge and Trap Water GC/MS	10/14/20 10:13 AM	98196
2010059-02B	MW-2	10/06/20 11:40 AM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	10/13/20 09:51 AM	98185
2010059-02C	MW-2	10/06/20 11:40 AM	Aqueous	E300	Anion Preparation	10/07/20 10:43 AM	98127
2010059-02D	MW-2	10/06/20 11:40 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	10/12/20 08:48 AM	98165
2010059-03A	MW-3	10/06/20 12:20 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	10/14/20 10:13 AM	98196
2010059-03B	MW-3	10/06/20 12:20 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	10/13/20 09:51 AM	98185
2010059-03C	MW-3	10/06/20 12:20 PM	Aqueous	E300	Anion Preparation	10/07/20 10:43 AM	98127
2010059-03D	MW-3	10/06/20 12:20 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	10/12/20 08:48 AM	98165
2010059-04A	MW-4	10/06/20 01:00 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	10/14/20 10:13 AM	98196
2010059-04B	MW-4	10/06/20 01:00 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	10/13/20 09:51 AM	98185
2010059-04C	MW-4	10/06/20 01:00 PM	Aqueous	E300	Anion Preparation	10/07/20 10:43 AM	98127
2010059-04D	MW-4	10/06/20 01:00 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	10/12/20 08:48 AM	98165
2010059-05A	Dup-1	10/06/20	Aqueous	SW5030C	Purge and Trap Water GC/MS	10/14/20 10:13 AM	98196
2010059-05B	Dup-1	10/06/20	Aqueous	SW5030C	Purge and Trap Water GC-Gas	10/13/20 09:51 AM	98185
2010059-05C	Dup-1	10/06/20	Aqueous	E300	Anion Preparation	10/07/20 10:43 AM	98127
2010059-05D	Dup-1	10/06/20	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	10/12/20 08:48 AM	98165

Lab Order: 2010059
Client: Larson & Associates
Project: Cottonwood

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2010059-01A	MW-1	Aqueous	SW8260D	Volatile Aromatics by GC/MS	98196	1	10/14/20 05:37 PM	GCMS3_201014A
2010059-01B	MW-1	Aqueous	M8015V	TPH Purgeable by GC - Water	98185	1	10/13/20 01:05 PM	GC4_201013A
2010059-01C	MW-1	Aqueous	E300	Anions by IC method - Water	98127	100	10/08/20 04:46 PM	IC2_201009A
2010059-01D	MW-1	Aqueous	M8015D	TPH Extractable by GC - Water	98165	1	10/13/20 12:24 PM	GC15_201013A
2010059-02A	MW-2	Aqueous	SW8260D	Volatile Aromatics by GC/MS	98196	1	10/14/20 06:02 PM	GCMS3_201014A
2010059-02B	MW-2	Aqueous	M8015V	TPH Purgeable by GC - Water	98185	1	10/13/20 01:31 PM	GC4_201013A
2010059-02C	MW-2	Aqueous	E300	Anions by IC method - Water	98127	10	10/08/20 05:18 PM	IC2_201009A
2010059-02D	MW-2	Aqueous	M8015D	TPH Extractable by GC - Water	98165	1	10/13/20 12:33 PM	GC15_201013A
2010059-03A	MW-3	Aqueous	SW8260D	Volatile Aromatics by GC/MS	98196	1	10/14/20 06:27 PM	GCMS3_201014A
2010059-03B	MW-3	Aqueous	M8015V	TPH Purgeable by GC - Water	98185	1	10/13/20 01:54 PM	GC4_201013A
2010059-03C	MW-3	Aqueous	E300	Anions by IC method - Water	98127	10	10/08/20 05:34 PM	IC2_201009A
2010059-03D	MW-3	Aqueous	M8015D	TPH Extractable by GC - Water	98165	1	10/13/20 12:42 PM	GC15_201013A
2010059-04A	MW-4	Aqueous	SW8260D	Volatile Aromatics by GC/MS	98196	10	10/14/20 02:30 PM	GCMS3_201014A
2010059-04B	MW-4	Aqueous	M8015V	TPH Purgeable by GC - Water	98185	10	10/13/20 02:19 PM	GC4_201013A
2010059-04C	MW-4	Aqueous	E300	Anions by IC method - Water	98127	1000	10/08/20 04:14 PM	IC2_201009A
2010059-04D	MW-4	Aqueous	M8015D	TPH Extractable by GC - Water	98165	1	10/13/20 12:51 PM	GC15_201013A
2010059-05A	Dup-1	Aqueous	SW8260D	Volatile Aromatics by GC/MS	98196	1	10/14/20 06:53 PM	GCMS3_201014A
2010059-05B	Dup-1	Aqueous	M8015V	TPH Purgeable by GC - Water	98185	1	10/13/20 02:45 PM	GC4_201013A
2010059-05C	Dup-1	Aqueous	E300	Anions by IC method - Water	98127	10	10/08/20 05:50 PM	IC2_201009A
2010059-05D	Dup-1	Aqueous	M8015D	TPH Extractable by GC - Water	98165	1	10/13/20 01:00 PM	GC15_201013A

DHL Analytical, Inc.

Date: *15-Oct-20*

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-1
Project:	Cottonwood	**Lab ID:**	2010059-01
Project No:	18-0176-01	**Collection Date:**	10/06/20 12:30 PM
Lab Order:	2010059	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	<0.0782	0.0782	0.0978		mg/L	1	10/13/20 12:24 PM
TPH-ORO >C28-C35	<0.0782	0.0782	0.0978		mg/L	1	10/13/20 12:24 PM
Surr: Isopropylbenzene	39.0	0	47-142	S	%REC	1	10/13/20 12:24 PM
Surr: Octacosane	86.1	0	51-124		%REC	1	10/13/20 12:24 PM
VOLATILE AROMATICS BY GC/MS		**SW8260D**					Analyst: **BTJ**
Benzene	<0.000800	0.000800	0.00200		mg/L	1	10/14/20 05:37 PM
Ethylbenzene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 05:37 PM
Toluene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 05:37 PM
Total Xylenes	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 05:37 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	10/14/20 05:37 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	10/14/20 05:37 PM
Surr: Dibromofluoromethane	101	0	85-115		%REC	1	10/14/20 05:37 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	10/14/20 05:37 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
TPH-GRO (C6-C10)	<0.0600	0.0600	0.100		mg/L	1	10/13/20 01:05 PM
Surr: Tetrachlorethene	115	0	74-138		%REC	1	10/13/20 01:05 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	218	30.0	100		mg/L	100	10/08/20 04:46 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: *15-Oct-20*

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-2
Project:	Cottonwood	**Lab ID:**	2010059-02
Project No:	18-0176-01	**Collection Date:**	10/06/20 11:40 AM
Lab Order:	2010059	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	<0.0789	0.0789	0.0987		mg/L	1	10/13/20 12:33 PM
TPH-ORO >C28-C35	<0.0789	0.0789	0.0987		mg/L	1	10/13/20 12:33 PM
Surr: Isopropylbenzene	43.8	0	47-142	S	%REC	1	10/13/20 12:33 PM
Surr: Octacosane	85.3	0	51-124		%REC	1	10/13/20 12:33 PM
VOLATILE AROMATICS BY GC/MS		**SW8260D**					Analyst: **BTJ**
Benzene	<0.000800	0.000800	0.00200		mg/L	1	10/14/20 06:02 PM
Ethylbenzene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:02 PM
Toluene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:02 PM
Total Xylenes	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:02 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	10/14/20 06:02 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	10/14/20 06:02 PM
Surr: Dibromofluoromethane	100	0	85-115		%REC	1	10/14/20 06:02 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	10/14/20 06:02 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
TPH-GRO (C6-C10)	<0.0600	0.0600	0.100		mg/L	1	10/13/20 01:31 PM
Surr: Tetrachlorethene	111	0	74-138		%REC	1	10/13/20 01:31 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	137	3.00	10.0		mg/L	10	10/08/20 05:18 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: *15-Oct-20*

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-3
Project:	Cottonwood	**Lab ID:**	2010059-03
Project No:	18-0176-01	**Collection Date:**	10/06/20 12:20 PM
Lab Order:	2010059	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	<0.0787	0.0787	0.0984		mg/L	1	10/13/20 12:42 PM
TPH-ORO >C28-C35	<0.0787	0.0787	0.0984		mg/L	1	10/13/20 12:42 PM
Surr: Isopropylbenzene	58.2	0	47-142		%REC	1	10/13/20 12:42 PM
Surr: Octacosane	82.2	0	51-124		%REC	1	10/13/20 12:42 PM
VOLATILE AROMATICS BY GC/MS		**SW8260D**					Analyst: **BTJ**
Benzene	<0.000800	0.000800	0.00200		mg/L	1	10/14/20 06:27 PM
Ethylbenzene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:27 PM
Toluene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:27 PM
Total Xylenes	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:27 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	10/14/20 06:27 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	10/14/20 06:27 PM
Surr: Dibromofluoromethane	100	0	85-115		%REC	1	10/14/20 06:27 PM
Surr: Toluene-d8	101	0	81-120		%REC	1	10/14/20 06:27 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
TPH-GRO (C6-C10)	<0.0600	0.0600	0.100		mg/L	1	10/13/20 01:54 PM
Surr: Tetrachlorethene	110	0	74-138		%REC	1	10/13/20 01:54 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	111	3.00	10.0		mg/L	10	10/08/20 05:34 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: *15-Oct-20*

CLIENT:	Larson & Associates	**Client Sample ID:**	MW-4
Project:	Cottonwood	**Lab ID:**	2010059-04
Project No:	18-0176-01	**Collection Date:**	10/06/20 01:00 PM
Lab Order:	2010059	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	0.251	0.0790	0.0987		mg/L	1	10/13/20 12:51 PM
TPH-ORO >C28-C35	<0.0790	0.0790	0.0987		mg/L	1	10/13/20 12:51 PM
Surr: Isopropylbenzene	42.0	0	47-142	S	%REC	1	10/13/20 12:51 PM
Surr: Octacosane	90.6	0	51-124		%REC	1	10/13/20 12:51 PM
VOLATILE AROMATICS BY GC/MS		**SW8260D**					Analyst: **BTJ**
Benzene	<0.00800	0.00800	0.0200		mg/L	10	10/14/20 02:30 PM
Ethylbenzene	<0.0200	0.0200	0.0600		mg/L	10	10/14/20 02:30 PM
Toluene	<0.0200	0.0200	0.0600		mg/L	10	10/14/20 02:30 PM
Total Xylenes	<0.0200	0.0200	0.0600		mg/L	10	10/14/20 02:30 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	10	10/14/20 02:30 PM
Surr: 4-Bromofluorobenzene	102	0	76-119		%REC	10	10/14/20 02:30 PM
Surr: Dibromofluoromethane	100	0	85-115		%REC	10	10/14/20 02:30 PM
Surr: Toluene-d8	102	0	81-120		%REC	10	10/14/20 02:30 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
TPH-GRO (C6-C10)	<0.600	0.600	1.00		mg/L	10	10/13/20 02:19 PM
Surr: Tetrachlorethene	116	0	74-138		%REC	10	10/13/20 02:19 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	21000	300	1000		mg/L	1000	10/08/20 04:14 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: *15-Oct-20*

CLIENT:	Larson & Associates	**Client Sample ID:**	Dup-1
Project:	Cottonwood	**Lab ID:**	2010059-05
Project No:	18-0176-01	**Collection Date:**	10/06/20
Lab Order:	2010059	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER		**M8015D**					Analyst: **BTJ**
TPH-DRO C10-C28	<0.0785	0.0785	0.0981		mg/L	1	10/13/20 01:00 PM
TPH-ORO >C28-C35	<0.0785	0.0785	0.0981		mg/L	1	10/13/20 01:00 PM
Surr: Isopropylbenzene	51.2	0	47-142		%REC	1	10/13/20 01:00 PM
Surr: Octacosane	88.6	0	51-124		%REC	1	10/13/20 01:00 PM
VOLATILE AROMATICS BY GC/MS		**SW8260D**					Analyst: **BTJ**
Benzene	<0.000800	0.000800	0.00200		mg/L	1	10/14/20 06:53 PM
Ethylbenzene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:53 PM
Toluene	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:53 PM
Total Xylenes	<0.00200	0.00200	0.00600		mg/L	1	10/14/20 06:53 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	10/14/20 06:53 PM
Surr: 4-Bromofluorobenzene	100	0	76-119		%REC	1	10/14/20 06:53 PM
Surr: Dibromofluoromethane	101	0	85-115		%REC	1	10/14/20 06:53 PM
Surr: Toluene-d8	101	0	81-120		%REC	1	10/14/20 06:53 PM
TPH PURGEABLE BY GC - WATER		**M8015V**					Analyst: **BTJ**
TPH-GRO (C6-C10)	<0.0600	0.0600	0.100		mg/L	1	10/13/20 02:45 PM
Surr: Tetrachlorethene	115	0	74-138		%REC	1	10/13/20 02:45 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	196	3.00	10.0		mg/L	10	10/08/20 05:50 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
Work Order: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_201013A

The QC data in batch 98165 applies to the following samples: 2010059-01D, 2010059-02D, 2010059-03D, 2010059-04D, 2010059-05D

Sample ID: **MB-98165** Batch ID: **98165** TestNo: **M8015D** Units: **mg/L**
SampType: **MBLK** Run ID: **GC15_201013A** Analysis Date: **10/13/2020 11:49:48 A** Prep Date: **10/12/2020**

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	0.0524		0.1000		52.4	47	142			
Surr: Octacosane	0.0833		0.1000		83.3	51	124			

Sample ID: **LCS-98165** Batch ID: **98165** TestNo: **M8015D** Units: **mg/L**
SampType: **LCS** Run ID: **GC15_201013A** Analysis Date: **10/13/2020 11:58:52 A** Prep Date: **10/12/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.02	0.100	1.250	0	81.4	50	114			
Surr: Isopropylbenzene	0.0598		0.1000		59.8	47	142			
Surr: Octacosane	0.0857		0.1000		85.7	51	124			

Sample ID: **LCSD-98165** Batch ID: **98165** TestNo: **M8015D** Units: **mg/L**
SampType: **LCSD** Run ID: **GC15_201013A** Analysis Date: **10/13/2020 12:07:56 P** Prep Date: **10/12/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.04	0.100	1.250	0	83.5	50	114	2.45	30	
Surr: Isopropylbenzene	0.0581		0.1000		58.1	47	142	0	0	
Surr: Octacosane	0.0875		0.1000		87.5	51	124	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: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_201013A

Sample ID: **ICV-201013**	Batch ID: **R112626**	TestNo: **M8015D**	Units: **mg/L**
SampType: **ICV**	Run ID: **GC15_201013A**	Analysis Date: **10/13/2020 11:17:30 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	460	0.100	500.0	0	91.9	80	120			
TPH-ORO >C28-C35	0.527	0.100	0							
Surr: Isopropylbenzene	24.9		25.00		99.6	80	120			
Surr: Octacosane	21.9		25.00		87.6	80	120			

Sample ID: **CCV1-201013**	Batch ID: **R112626**	TestNo: **M8015D**	Units: **mg/L**
SampType: **CCV**	Run ID: **GC15_201013A**	Analysis Date: **10/13/2020 2:15:01 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	225	0.100	250.0	0	90.1	80	120			
TPH-ORO >C28-C35	0.154	0.100	0							
Surr: Isopropylbenzene	12.6		12.50		101	80	120			
Surr: Octacosane	10.9		12.50		87.2	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: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_201013A

The QC data in batch 98185 applies to the following samples: 2010059-01B, 2010059-02B, 2010059-03B, 2010059-04B, 2010059-05B

Sample ID: **LCS-98185**	Batch ID: **98185**	TestNo: **M8015V**	Units: **mg/L**
SampType: **LCS**	Run ID: **GC4_201013A**	Analysis Date: **10/13/2020 11:28:46 A**	Prep Date: **10/13/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.74	0.100	2.500	0	110	67	136			
Surr: Tetrachlorethene	0.340		0.4000		85.1	74	138			

Sample ID: **LCSD-98185**	Batch ID: **98185**	TestNo: **M8015V**	Units: **mg/L**
SampType: **LCSD**	Run ID: **GC4_201013A**	Analysis Date: **10/13/2020 11:54:14 A**	Prep Date: **10/13/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	3.02	0.100	2.500	0	121	67	136	9.88	30	
Surr: Tetrachlorethene	0.356		0.4000		88.9	74	138	0	0	

Sample ID: **MB-98185**	Batch ID: **98185**	TestNo: **M8015V**	Units: **mg/L**
SampType: **MBLK**	Run ID: **GC4_201013A**	Analysis Date: **10/13/2020 12:41:27 P**	Prep Date: **10/13/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	<0.0600	0.100								
Surr: Tetrachlorethene	0.424		0.4000		106	74	138			

Sample ID: **2010059-01BMS**	Batch ID: **98185**	TestNo: **M8015V**	Units: **mg/L**
SampType: **MS**	Run ID: **GC4_201013A**	Analysis Date: **10/13/2020 3:41:36 PM**	Prep Date: **10/13/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.64	0.100	2.500	0	106	67	136			
Surr: Tetrachlorethene	0.407		0.4000		102	74	138			

Sample ID: **2010059-01BMSD**	Batch ID: **98185**	TestNo: **M8015V**	Units: **mg/L**
SampType: **MSD**	Run ID: **GC4_201013A**	Analysis Date: **10/13/2020 4:04:58 PM**	Prep Date: **10/13/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.98	0.100	2.500	0	119	67	136	12.0	30	
Surr: Tetrachlorethene	0.408		0.4000		102	74	138	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: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_201013A

Sample ID: **ICV-201013**	Batch ID: **R112641**	TestNo: **M8015V**	Units: **mg/L**
SampType: **ICV**	Run ID: **GC4_201013A**	Analysis Date: **10/13/2020 11:03:49 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	5.78	0.100	5.000	0	116	80	120			
Surr: Tetrachlorethene	0.389		0.4000		97.3	74	138			

Sample ID: **CCV1-201013**	Batch ID: **R112641**	TestNo: **M8015V**	Units: **mg/L**
SampType: **CCV**	Run ID: **GC4_201013A**	Analysis Date: **10/13/2020 4:28:42 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-GRO (C6-C10)	2.94	0.100	2.500	0	118	80	120			
Surr: Tetrachlorethene	0.411		0.4000		103	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

CLIENT: Larson & Associates
Work Order: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_201014A

The QC data in batch 98196 applies to the following samples: 2010059-01A, 2010059-02A, 2010059-03A, 2010059-04A, 2010059-05A

Sample ID: **LCS-98196** Batch ID: **98196** TestNo: **SW8260D** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS3_201014A** Analysis Date: **10/14/2020 12:20:00 P** Prep Date: **10/14/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0438	0.00200	0.0464	0	94.3	81	122			
Ethylbenzene	0.0452	0.00600	0.0464	0	97.3	73	127			
Toluene	0.0447	0.00600	0.0464	0	96.3	77	122			
Total Xylenes	0.142	0.00600	0.139	0	102	80	121			
Surr: 1,2-Dichloroethane-d4	50.4		50.00		101	72	119			
Surr: 4-Bromofluorobenzene	51.6		50.00		103	76	119			
Surr: Dibromofluoromethane	49.8		50.00		99.6	85	115			
Surr: Toluene-d8	51.0		50.00		102	81	120			

Sample ID: **MB-98196** Batch ID: **98196** TestNo: **SW8260D** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS3_201014A** Analysis Date: **10/14/2020 12:46:00 P** Prep Date: **10/14/2020**

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	50.5		50.00		101	72	119			
Surr: 4-Bromofluorobenzene	51.6		50.00		103	76	119			
Surr: Dibromofluoromethane	50.3		50.00		101	85	115			
Surr: Toluene-d8	51.0		50.00		102	81	120			

Sample ID: **2010078-02AMS** Batch ID: **98196** TestNo: **SW8260D** Units: **mg/L**
SampType: **MS** Run ID: **GCMS3_201014A** Analysis Date: **10/14/2020 10:21:00 P** Prep Date: **10/14/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	6.61	0.100	2.32	4.64	85.0	81	122			
Ethylbenzene	2.31	0.300	2.32	0	99.7	73	127			
Toluene	2.33	0.300	2.32	0	100	77	122			
Total Xylenes	7.49	0.300	6.95	0	108	80	121			
Surr: 1,2-Dichloroethane-d4	2520		2500		101	72	119			
Surr: 4-Bromofluorobenzene	2630		2500		105	76	119			
Surr: Dibromofluoromethane	2500		2500		100	85	115			
Surr: Toluene-d8	2550		2500		102	81	120			

Sample ID: **2010078-02AMSD** Batch ID: **98196** TestNo: **SW8260D** Units: **mg/L**
SampType: **MSD** Run ID: **GCMS3_201014A** Analysis Date: **10/14/2020 10:47:00 P** Prep Date: **10/14/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	6.53	0.100	2.32	4.64	81.5	81	122	1.24	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 NELAP certified

CLIENT: Larson & Associates
Work Order: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_201014A

Sample ID: **2010078-02AMSD** Batch ID: **98196** TestNo: **SW8260D** Units: **mg/L**
SampType: **MSD** Run ID: **GCMS3_201014A** Analysis Date: **10/14/2020 10:47:00 P** Prep Date: **10/14/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	2.25	0.300	2.32	0	97.1	73	127	2.56	20	
Toluene	2.27	0.300	2.32	0	97.8	77	122	2.55	20	
Total Xylenes	7.16	0.300	6.95	0	103	80	121	4.59	20	
Surr: 1,2-Dichloroethane-d4	2510		2500		100	72	119	0	0	
Surr: 4-Bromofluorobenzene	2580		2500		103	76	119	0	0	
Surr: Dibromofluoromethane	2510		2500		100	85	115	0	0	
Surr: Toluene-d8	2550		2500		102	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: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_201014A

Sample ID: **ICV-201014** Batch ID: **R112655** TestNo: **SW8260D** Units: **mg/L**
SampType: **ICV** Run ID: **GCMS3_201014A** Analysis Date: **10/14/2020 11:54:00 A** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0855	0.00200	0.0928	0	92.2	70	130			
Ethylbenzene	0.0894	0.00600	0.0928	0	96.3	70	130			
Toluene	0.0883	0.00600	0.0928	0	95.2	70	130			
Total Xylenes	0.283	0.00600	0.278	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	50.9		50.00		102	72	119			
Surr: 4-Bromofluorobenzene	52.9		50.00		106	76	119			
Surr: Dibromofluoromethane	50.0		50.00		99.9	85	115			
Surr: Toluene-d8	51.0		50.00		102	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: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_201009A

The QC data in batch 98127 applies to the following samples: 2010059-01C, 2010059-02C, 2010059-03C, 2010059-04C, 2010059-05C

Sample ID: **MB-98127**	Batch ID: **98127**	TestNo: **E300**	Units: **mg/L**
SampType: **MBLK**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 1:04:37 PM**	Prep Date: **10/7/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								

Sample ID: **LCS-98127**	Batch ID: **98127**	TestNo: **E300**	Units: **mg/L**
SampType: **LCS**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 2:05:01 PM**	Prep Date: **10/7/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.63	1.00	10.00	0	96.3	90	110			

Sample ID: **LCSD-98127**	Batch ID: **98127**	TestNo: **E300**	Units: **mg/L**
SampType: **LCSD**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 2:21:01 PM**	Prep Date: **10/7/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.58	1.00	10.00	0	95.8	90	110	0.550	20	

Sample ID: **2010056-01BMS**	Batch ID: **98127**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 6:22:00 PM**	Prep Date: **10/8/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	37.2	1.00	20.00	18.95	91.4	90	110			

Sample ID: **2010056-01BMSD**	Batch ID: **98127**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 6:38:00 PM**	Prep Date: **10/8/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	37.3	1.00	20.00	18.95	91.8	90	110	0.256	20	

Sample ID: **2010056-02BMS**	Batch ID: **98127**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 8:30:00 PM**	Prep Date: **10/8/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	44.6	1.00	20.00	28.03	83.1	90	110			S

Sample ID: **2010056-02BMSD**	Batch ID: **98127**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 8:46:00 PM**	Prep Date: **10/8/2020**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	44.7	1.00	20.00	28.03	83.4	90	110	0.144	20	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 NELAP certified

CLIENT: Larson & Associates
Work Order: 2010059
Project: Cottonwood

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_201009A

Sample ID: **ICV-201008**	Batch ID: **R112580**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 11:17:55 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.0	1.00	25.00	0	99.9	90	110			

Sample ID: **CCV1-201008**	Batch ID: **R112580**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 7:42:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.71	1.00	10.00	0	97.1	90	110			

Sample ID: **CCV2-201008**	Batch ID: **R112580**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_201009A**	Analysis Date: **10/8/2020 11:26:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.70	1.00	10.00	0	97.0	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 NELAP certified