

October 23, 2012

Mr. Charlie Jensen
Encana Oil & Gas (USA) Inc.
143 Diamond Loop
Parachute, CO 81635

Re: West Divide Creek 2012 Third Quarter Seep Status – Remediation #1815

Dear Mr. Jensen:

Rule Engineering (Rule) prepared this report to present the results of the quarterly monitoring and review of historical data of all groundwater monitoring stations associated with the West Divide Creek Seep for Encana Oil and Gas (USA) Inc. Rule was contracted by Encana to continue monitoring and Operation and Maintenance (O&M) of the existing remediation system at West Divide Creek in July of 2011. This letter report provides a summary of 3rd quarter 2012 sampling results and recommendations for the gas seep associated with Colorado Oil and Gas Conservation Commission (COGCC) Remediation #1815 pursuant to the Schwartz 2-15B well Order No. 1V-276. Figure 1 provides a map of monitoring stations and remediation system locations for this site.

**2012 Third Quarter Monitoring
Groundwater**

During September 18 and 19, 2012 Rule sampled 23 groundwater monitoring wells as part of the quarterly monitoring program. Monitoring well MW-13 is plugged and abandoned. Monitoring well MW-19 is known to be plugged and will be abandoned if possible in the future (as its location is within a marshy area). Prior to sample collection, static water levels were measured at the wells and piezometers to within 0.01 feet (ft) from the top of the north side of the PVC casing using an electronic water level meter. Piezometer 5 was plugged by sediment therefore DTW was not measured. Prior to collection of the groundwater sample, each well was purged of three casing volumes of water using disposable bailers. Field parameters were obtained during sample collection which included pH, temperature, specific conductance, dissolved oxygen and oxygen reduction potential (ORP) with an YSI[®] water quality meter. Groundwater field measurement results are provided in Table 1.

A total of three (3) duplicate samples were collected for field and laboratory quality assurance/quality control (QA/QC). Duplicate samples DUP-1-091912, DUP-2-091912 and DUP-3-091912 were collected at monitoring stations MW-4, MW-2, and MW-17, respectively.

All groundwater samples were immediately placed on ice after sample collection and shipped under Chain-of-Custody procedures to Environmental Science Corporation (ESC) for laboratory analysis. Samples were received in good condition within appropriate temperatures by ESC and analyzed for the following parameters:

- Benzene, Toluene, Ethylbenzene, Total Xylene's (BTEX), Method-8260
- Methane, Ethane, Ethene, Method-RSK175
- Chloride, Method-9056

- Sodium, Method-6010B

A summary of the groundwater analytical results is presented in Tables 2 and 3.

In addition to the groundwater chemistry analysis provided by ESC, samples for isotopic analysis of methane were shipped to Isotech Laboratories (Isotech). Based on historical groundwater analytical results of dissolved methane >1.0 mg/L, samples from monitoring wells MW-2, 4, 9, 14, and 17 were analyzed for isotopes of carbon and hydrogen in methane and stable isotopes of carbon in ethane and propane. Samples were received at the laboratory in good condition within appropriate temperatures. A summary of the isotope analytical results is presented in Table 4.

Surface-Water

Rule collected eight (8) surface-water samples on October 19, 2012 at the established monitoring stations. Field parameters were obtained during sample collection which included pH, temperature, specific conductance, dissolved oxygen, and ORP with an YSI® water quality meter. The surface-water field measurements are provided in Table 5. All surface-water samples were immediately placed on ice after sample collection. Samples were received in good condition within appropriate temperatures by ESC and analyzed for the following parameters:

- BTEX, Method-8260
- Methane, Ethane, Ethene, Method-RSK175
- Chloride, Method-9056
- Sodium, Method-6010B

A summary of surface-water analytical results are presented in Tables 6 and 7.

Remediation System

From June 20, 2012 to September 18, 2012, the air sparging system was operational from 0800 hrs to 1200 hrs daily. The following flow rates were recorded for remediation air sparge wells: AS-2 operated at 6.5 standard cubic feet per minute (SCFM), AS-3 at 6.0 SCFM, AS-9 at 5.0 SCFM, AS-10, 11, and 13 each operated at 5.5 SCFM. AS-8 was believed to be malfunctioning with a reading of 10.0 SCFM (pin was pegged). Blower 1 was operating at 67 SCFM.

Results

Site Hydrology

During the 3rd quarter 2012 monitoring period, groundwater elevation varied from surface at MW-25, with an elevation 5968.97 feet above mean sea level (AMSL), to 5934.68 feet at MW-23. Figure 2 illustrates the potentiometric surface for the site during this quarter. An average groundwater gradient was determined to be 0.026 with a groundwater flow to the northeast/north consistent with the drainage system of West Divide Creek within the seep area.

Analytical Results

Groundwater analytical results indicate that monitoring stations MW-2, MW-4, and MW-17 had dissolved benzene concentrations of 0.044 mg/L, 0.045 mg/L and 0.037 mg/L, respectively. Dissolved toluene and ethylbenzene concentrations were below detection levels in all wells. Total dissolved xylenes were detected at MW-2 and MW-4 at concentrations of 0.005 mg/L and

0.01 mg/L, respectively. The detections of total xylenes are below COGCC Table 910-1 groundwater standards. Figure 3 illustrates dissolved BTEX and dissolved methane results for the third quarter 2012.

Figure 4 illustrates the dissolved benzene impacts greater than 0.005 mg/L. Dissolved benzene concentrations above Table 910-1 allowable limits were detected in wells MW-2, MW-4, and MW-17. Monitoring wells 1, 7, and 16 have been “non-detect” for dissolved benzene since 2005, indicating two separate source areas for these wells. Additionally, MW-2 and MW-4 are outside the radius of influence of the remediation system. This separation of the dissolved benzene impacted area illustrates stabilization of the source area with minimal impact from the remediation system.

The highest concentrations of dissolved methane were observed in MW-4 (8.2 mg/L), MW-2 (5.6 mg/L), MW-17 (3.3 mg/L), and MW-9 (3.2 mg/L). Figure 5 illustrates the dissolved methane concentrations above 1 mg/L, with the highest concentrations of dissolved methane observed within the seep area, consistent with historical data. The separation of the dissolved methane plume within the seep area is consistent with the dissolved benzene plume separation. Isotopic analysis indicate dissolved methane samples from MW-2, 4, 9, 14 and 17 plot as thermogenic (Figure 6). The presence of butane and propane in MW-2, 4, 9 and 17 and the presence of pentane are indicators of thermogenic gas.

Figure 7 illustrates dissolved sodium (Na) and chloride (Cl) concentrations in groundwater and surface-water. The highest Na concentration in groundwater was 400 mg/L at MW-27 and the lowest was 35 mg/L at MW-25. The Na concentrations in surface-water ranged from 81 mg/L to 110 mg/L. The highest Cl concentration in groundwater was 53 mg/L at MW-23 and the lowest was 4.8 mg/L at MW-15. The Cl concentrations in surface-water ranged from 14 mg/L to 16 mg/L. Currently there are no primary drinking water standards for chloride or sodium with respect to COGCC or Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission Regulation No. 41. CDPHE does have a secondary drinking water standard for chloride of 250 mg/L.

Figure 7 illustrates the seep area has little to no correlation to higher concentrations of sodium or chloride concentrations. The highest concentrations were observed far downgradient of the seep area and can be attributed to natural groundwater geochemistry conditions.

Analytical results for surface water samples indicate no detections of BTEX, and no detections of dissolved methane (Tables 6 and 7).

Discussion of Historical Groundwater Monitoring Results

Since the start of the seep in 2004, Encana has collected 1,368 groundwater samples within the seep area (through daily, weekly, or quarterly sampling). A summary of the historical BTEX and Methane concentrations is provided in the electronic attachment (Appendix B).

Monitoring stations 11, 13, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, Eich1/Eich2, and Lang have not had a detection of BTEX in 99 months. Encana continues to monitor these stations far past a point of compliance. Industry standard for petroleum contaminated sites for clean monitoring stations is 5 quarters. When the analytical results from continued groundwater monitoring show concentrations that are below the COGCC Groundwater Standards in Table 910-1 for 5 or more consecutive quarters, and given the understanding that the plume is not

expanding further, monitoring at these locations should be reviewed. Monitoring using a smaller set of sampling locations downgradient of the source area should be sufficient.

Groundwater monitoring point Eich2 is a lateral extension of well Eich1. Eich1 is the main well and Eich2 has a lateral pipe extending to the east from Eich1 where a spigot is mounted for water usage. So, when Eich1/Eich2 is referenced, it is referring to the same well.

Below is a summary of monitoring stations impacted by the seep, from upgradient to downgradient along the site:

- MW-12: Dissolved benzene concentrations declined dramatically before the system was installed in 2005 (Figure 8) and have remained below the groundwater standard since March 2007. MW-12 is upgradient of the treatment area.
- MW-9: Dissolved benzene concentrations declined dramatically before the system was installed in 2005 (Figure 9) and have remained below the groundwater standard since March 2007. MW-9 is upgradient of the treatment area.
- MW-14: Dissolved benzene concentrations declined dramatically before the system was installed in 2005 (Figure 10) and have remained below the groundwater standard since March 2007. MW-14 was considered to be within the original source area, but is upgradient of the actual treatment area.
- MW-4: Dissolved benzene concentrations remain above the groundwater standard (Figure 11). MW-4 is upgradient of the treatment area, but dissolved benzene concentrations have declined over time.
- MW-2: Dissolved benzene concentrations remain above the groundwater standard (Figure 12). MW-2 is upgradient of the treatment area, but dissolved benzene concentrations have declined over time.
- MW-16: Dissolved benzene concentrations declined dramatically before the system was installed in 2005 (Figure 13) and have remained below the groundwater standard since October 2005. MW-16 is upgradient of the treatment area.
- MW-6: Dissolved benzene concentrations declined dramatically before the system was installed in 2005 (Figure 14) and have remained below the groundwater standard since May 2005.
- MW-1: Dissolved benzene concentrations declined to non-detect levels before the system was installed (Figure 15) and have remained below the groundwater standard since March 2005.
- MW-7: Dissolved benzene concentrations declined to non-detect levels before the system was installed (Figure 16) and have remained below the groundwater standard since April 2005.

- MW-17: Dissolved benzene concentrations declined before the system start up, and continue to decline (Figure 17), but remain above the groundwater standard.
- MW-8: Dissolved benzene concentrations declined to non-detect levels before the system was installed (Figure 18) and have remained below the groundwater standard since July 2005.

Divide Creek Remediation Analysis

As described in previous West Divide Creek Seep Status Reports, the overall decline in dissolved benzene concentrations are attributed to a reduction in the mass flux of hydrocarbons from the seep. The natural processes of dilution, degradation, dispersion, and volatilization under the current site conditions provide remediation through natural attenuation (RNA), resulting in the observed decline in concentrations. Based on the extensive monitoring conducted to date, the groundwater plume is stable and/or diminishing, and demonstrates no potential for migration towards downgradient groundwater receptors (ie. water wells), without immediate detection within the existing monitoring well network.

Historical and current data, including dissolved oxygen monitoring, indicate the treatment system has minimal or no effect on the current source area. The 3rd quarter results reveal the relative percentage difference in the treatment area compared to background (MW-11, Background vs. MW-25, Treatment Area) is 47% decrease.

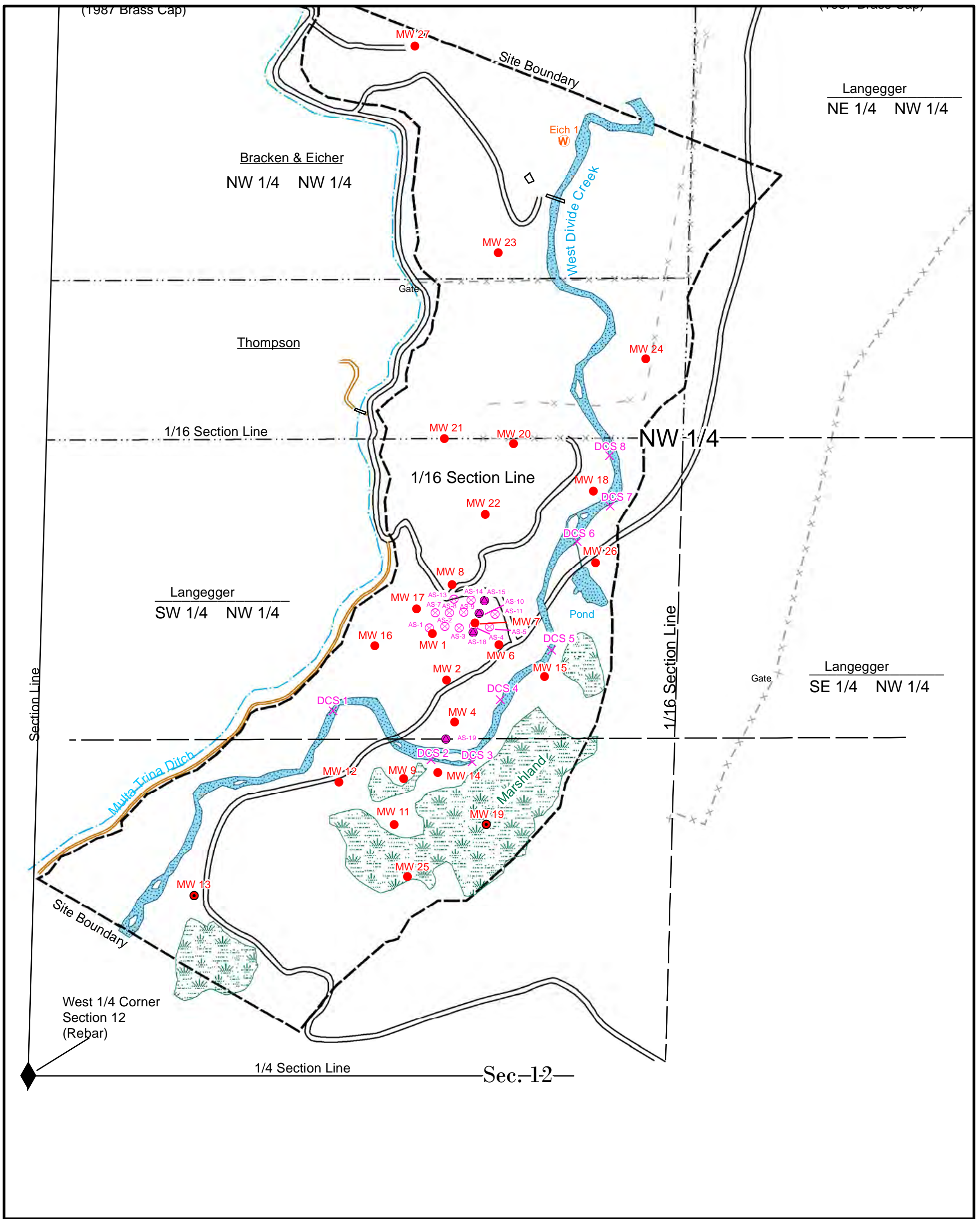
Rule Engineering appreciates the opportunity to provide services to Encana. If you have any questions please contact me at 970-244-8500.

Sincerely,
Rule Engineering, LLC

Scotty Mann
Hydrogeologist/Project Manager

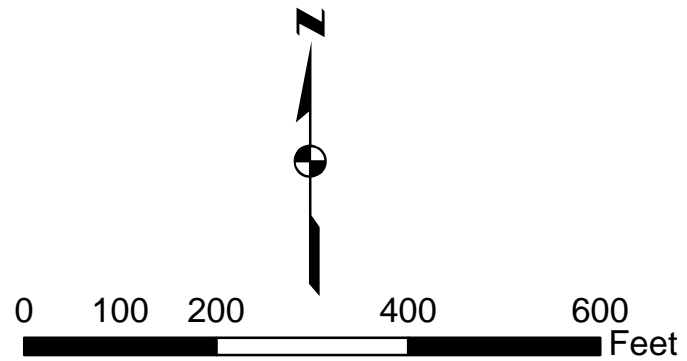
cc: Alex Fischer-COGCC
Linda Spry O'Rourke - COGCC
Kathy Friesen-Encana
Russ Knight-Rule
Pepi Langegger
Steve Thompson
Lisa Bracken

FIGURES



Legend

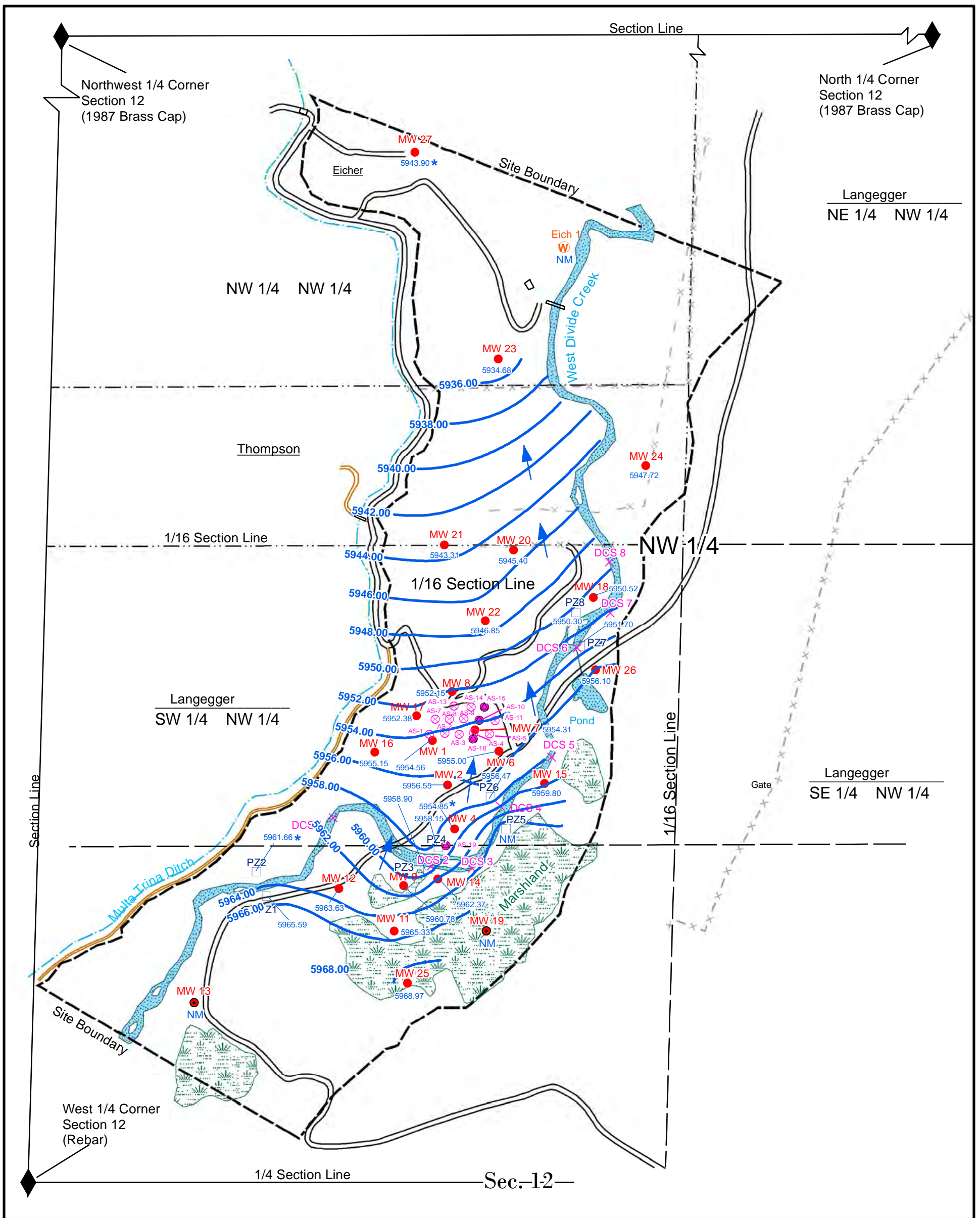
- Site Boundary
- Road
- Drainage
- × × × Fence
- × — Old Fence
- - - Property Line
- Trail
- Air Sparge
- × Divide Creek Sample Location
- Monitoring Well Location
- Abandoned or Plugged Monitoring Well Location
- Nested Air Sparge Well Location
- Piezometer Location
- ◆ Section Corners



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Site Location Map

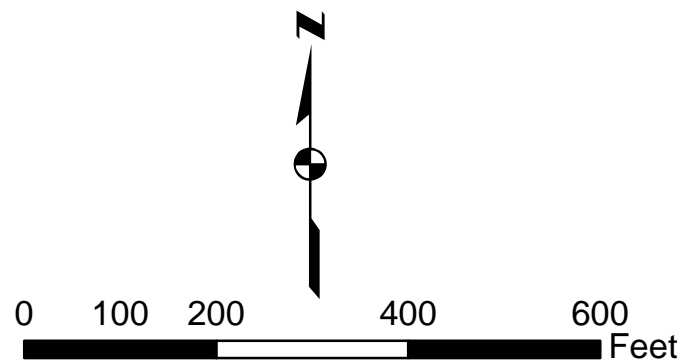


Legend

- Site Boundary
- Road
- Drainage
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- × Old Fence
- · - Property Line
- Trail
- Air_Sparge_unconverted
- × Divide Creek Sample Location
- Monitoring Well Location
- Abandoned or Plugged Monitoring Well Location
- Nested Air Sparge Well Location
- Piezometer Location
- ◆ Section Corners

Groundwater Legend

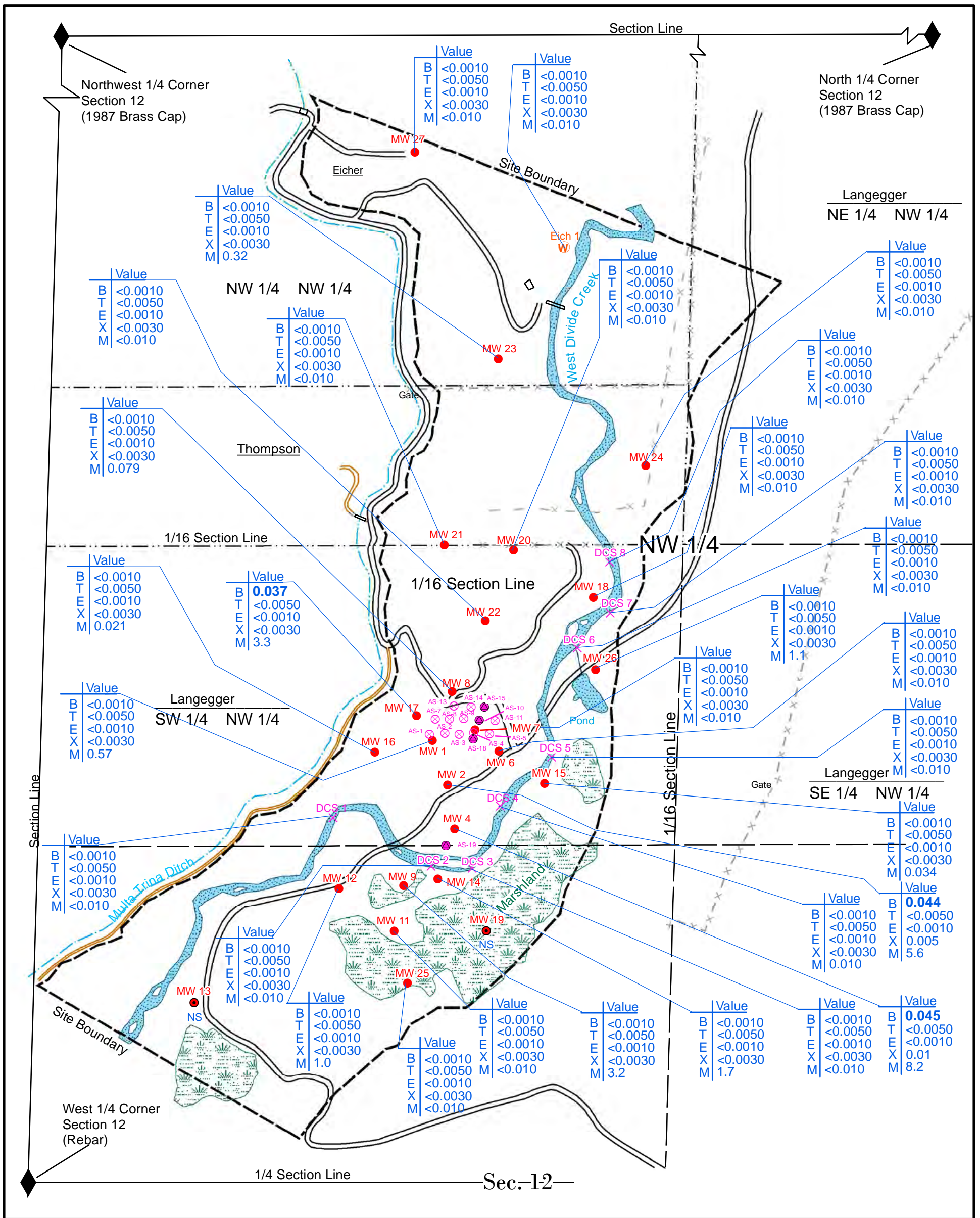
- 5940.00 — = Groundwater Elevation Contour (Feet)
- 5940.17 = Groundwater Elevation (Feet)
- NM = Not Measured
- * = Data not used in contouring
- ↑ = Flow Vector



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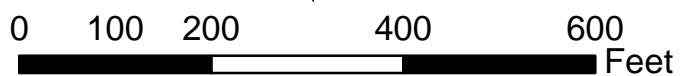
Groundwater Elevation Map
September 2012



Legend

- Site Boundary
- Road
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- × Fence
- × Old Fence
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- Trail
- Air Sparge
- × Divide Creek Sample Location
- Monitoring Well Location
- Abandoned or Plugged Monitoring Well Location
- Nested Air Sparge Well Location
- Piezometer Location
- ◆ Section Corners

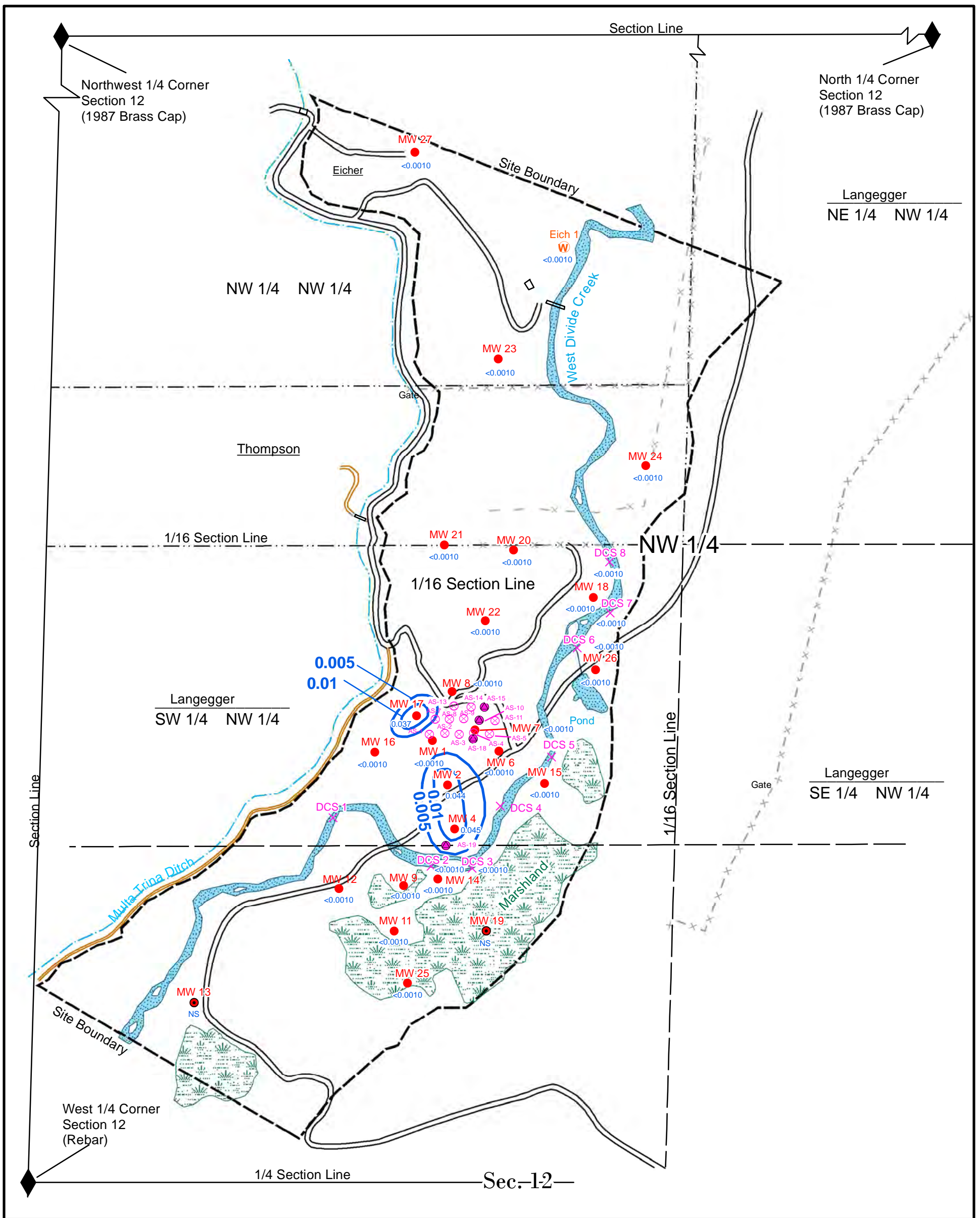
Chemical Data
 B = Benzene (mg/L)
 T = Toluene (mg/L)
 E = Ethylbenzene (mg/L)
 X = Xylenes (mg/L)
 M = Total Methane (mg/L)
 NS = Not Sampled



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Groundwater Analytical Results
 September 2012



Legend

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- × — Old Fence
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- Abandoned or Plugged Monitoring Well Location
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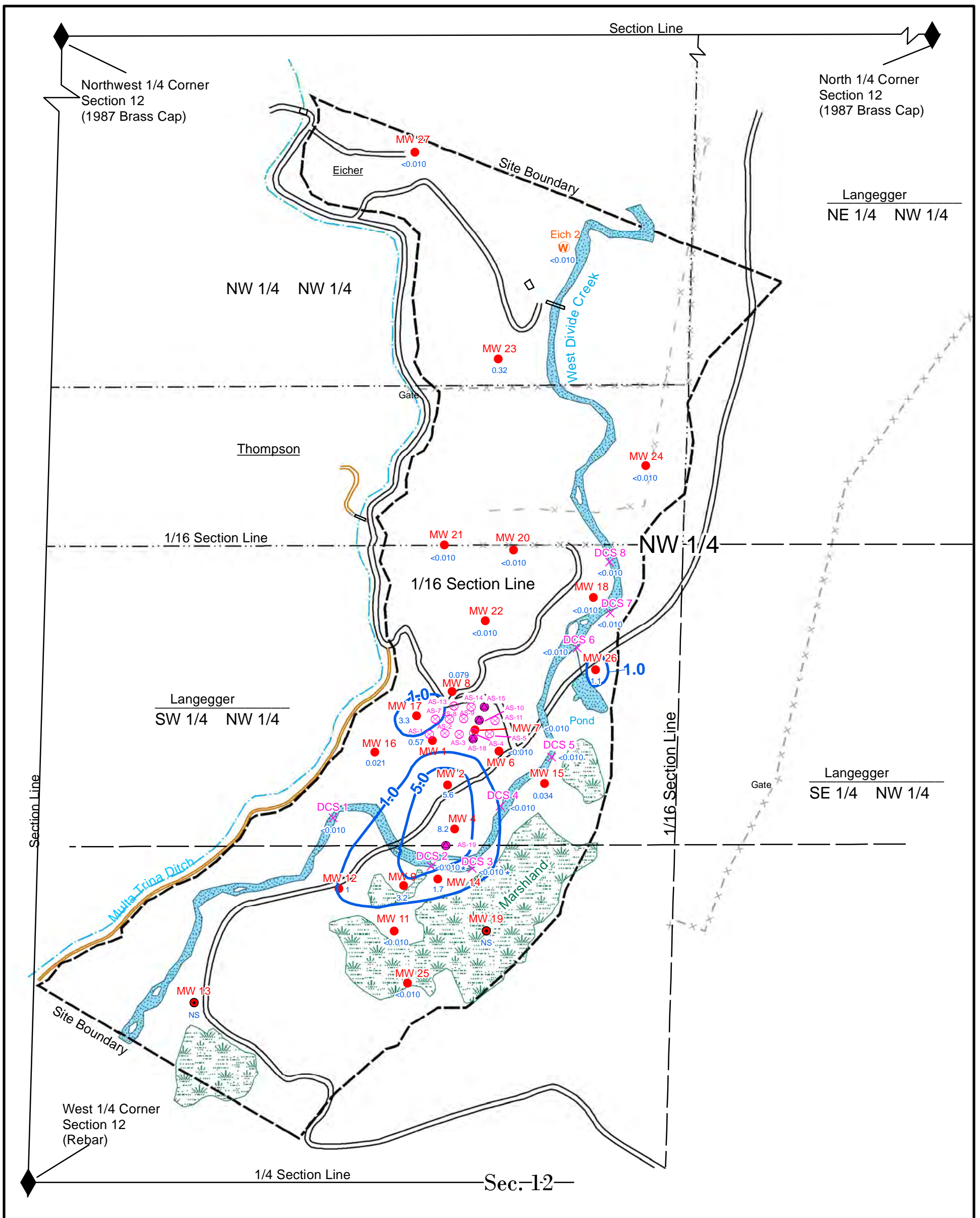
Chemical Data

- 0.005 — = Benzene Concentration Contour (mg/L)
- 0.045 = Benzene Concentration (mg/L)
- NS = Not Sampled

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**Dissolved Benzene Concentrations
September 2012**

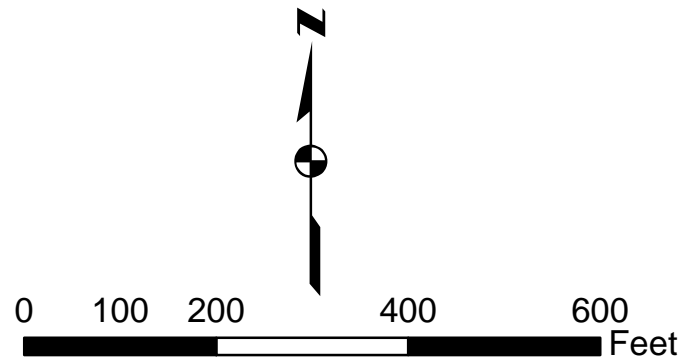


Legend

- Site Boundary
- Road
- Drainage
- × Fence
- × Old Fence
- - - Property Line
- Trail
- Air Sparge
- × Divide Creek Sample Location
- Monitoring Well Location
- Abandoned or Plugged Monitoring Well Location
- Nested Air Sparge Well Location
- Piezometer Location
- ◆ Section Corners

Chemical Data

- 5.0 — = Thermogenic & Biogenic Methane Contour In Groundwater (mg/L)
- 3.5 — = Thermogenic & Biogenic Methane Concentration In Groundwater (mg/L)
- NS = Not Sampled
- * = Data Not Used In Contour

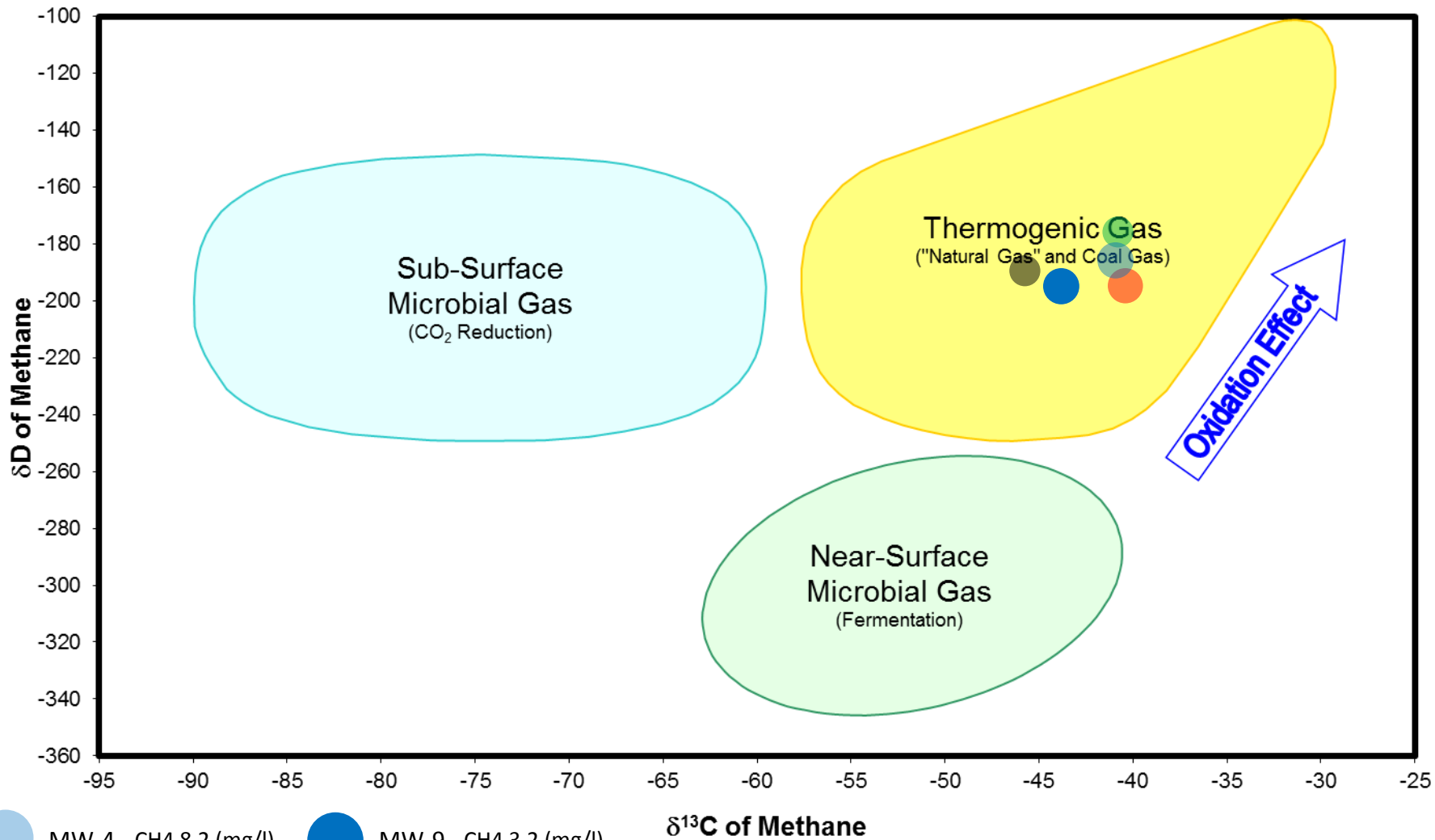


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**Total Dissolved Methane Concentrations
September 2012**

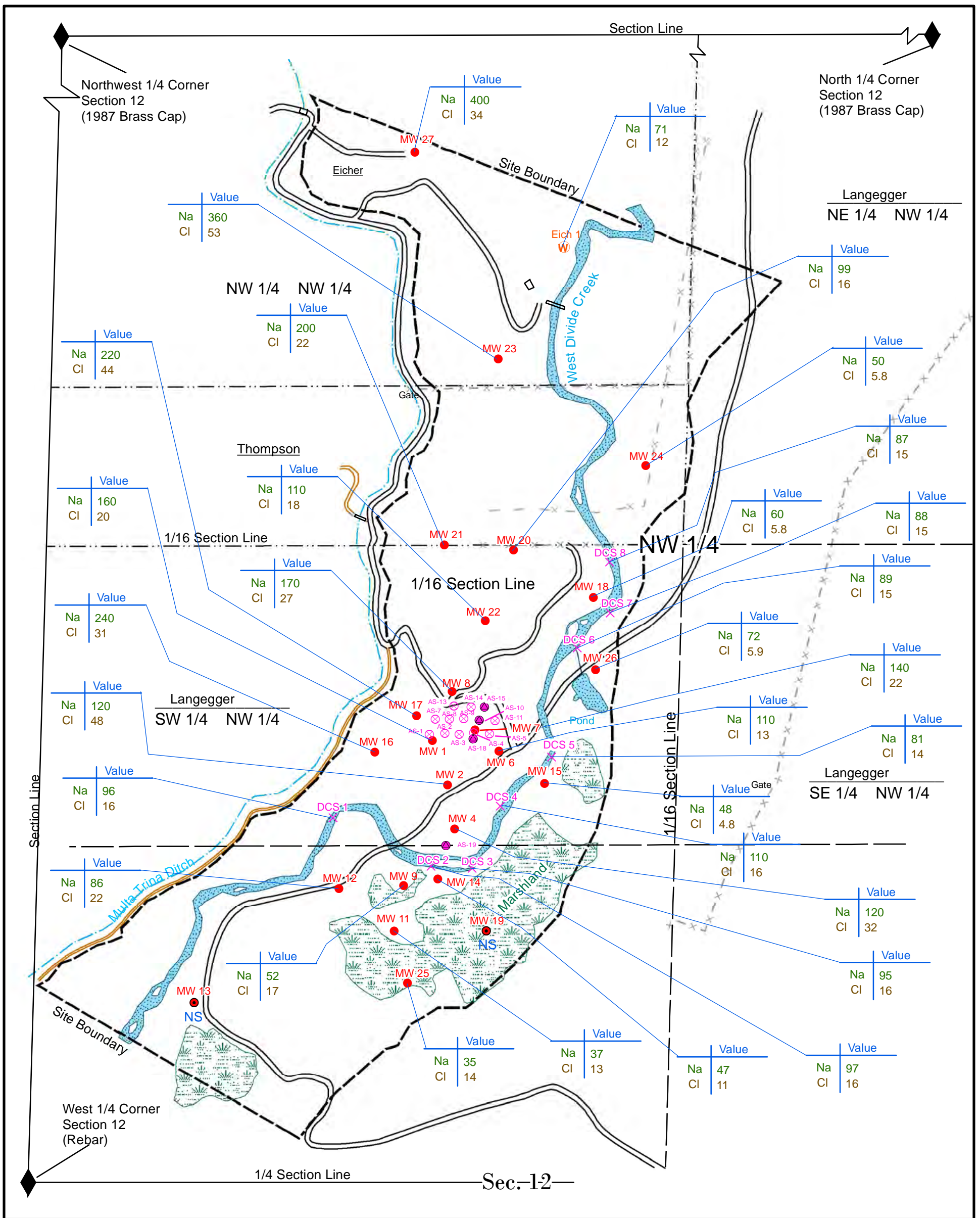
Typical Compositional Ranges of Methanes from Different Sources



- MW-4 CH₄ 8.2 (mg/l)
- MW-9 CH₄ 3.2 (mg/l)
- MW-2 CH₄ 5.6 (mg/l)
- MW-14 CH₄ 1.7 (mg/l)
- MW-17 CH₄ 3.3 (mg/l)

Figure 6

Courtesy of Isotech

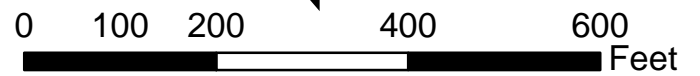


Legend

- Site Boundary
- Road
- Drainage
- × Fence
- × Old Fence
- - - Property Line
- Trail
- Air Sparge
- × Divide Creek Sample Location
- Monitoring Well Location
- Abandoned or Plugged Monitoring Well Location
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- Piezometer Location
- ◆ Section Corners

Chemical Data

Na = Sodium (mg/L)
 Cl = Chloride (mg/L)
 NS = Not Sampled



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**Sodium and Chloride Analytical Concentrations
 September 2012**

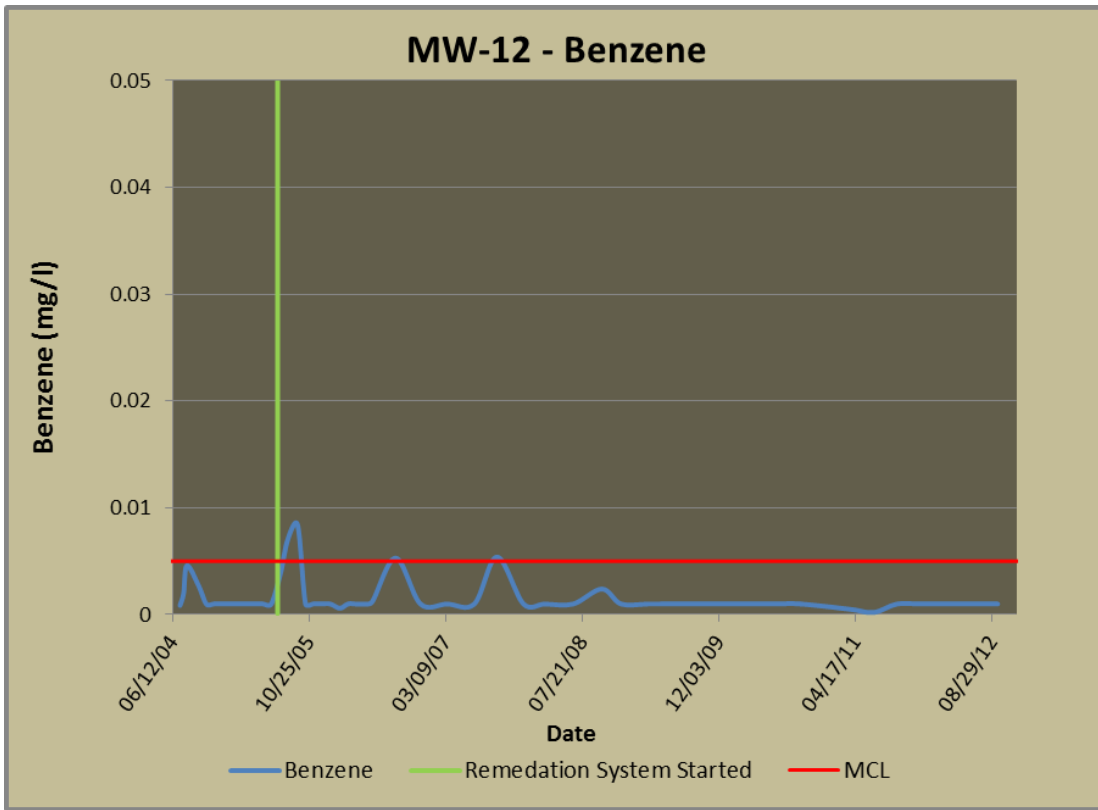


Figure 8 (MW-12 Historical Benzene Concentrations)

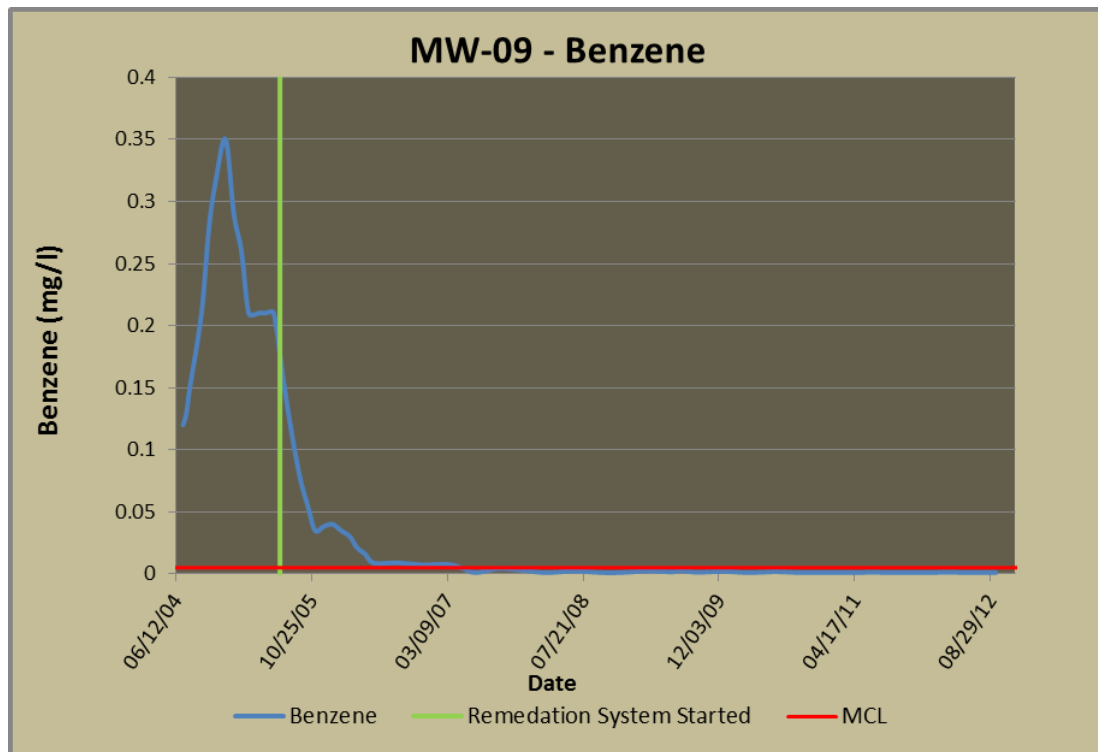


Figure 9 (MW-9 Historical Benzene Concentrations)

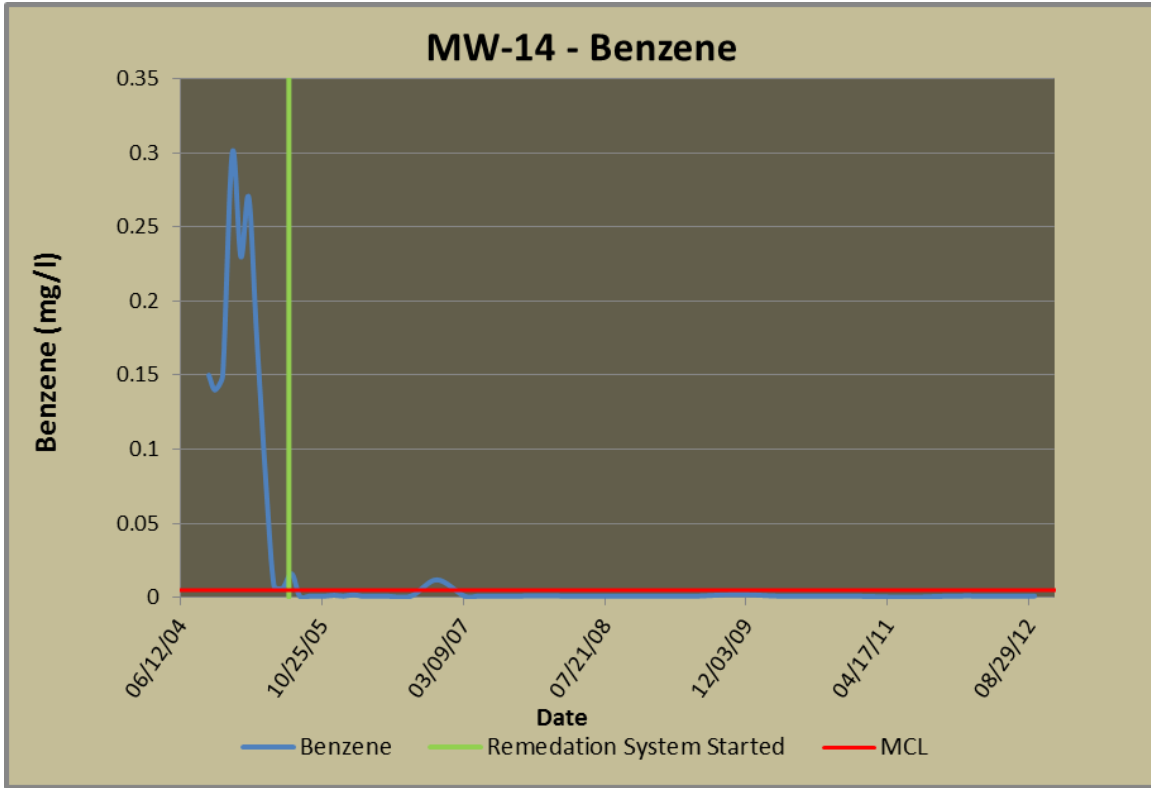


Figure 10 (MW-14 Historical Benzene Concentrations)

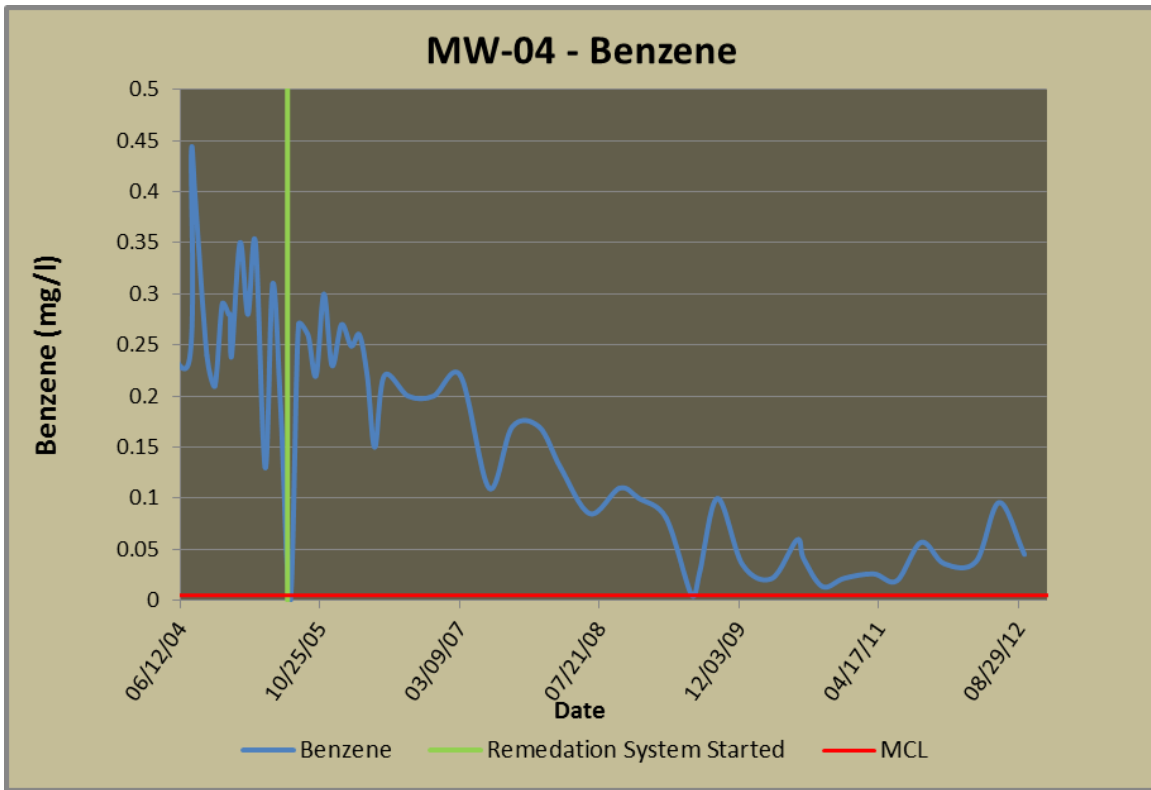


Figure 11 (MW-4 Historical Benzene Concentrations)

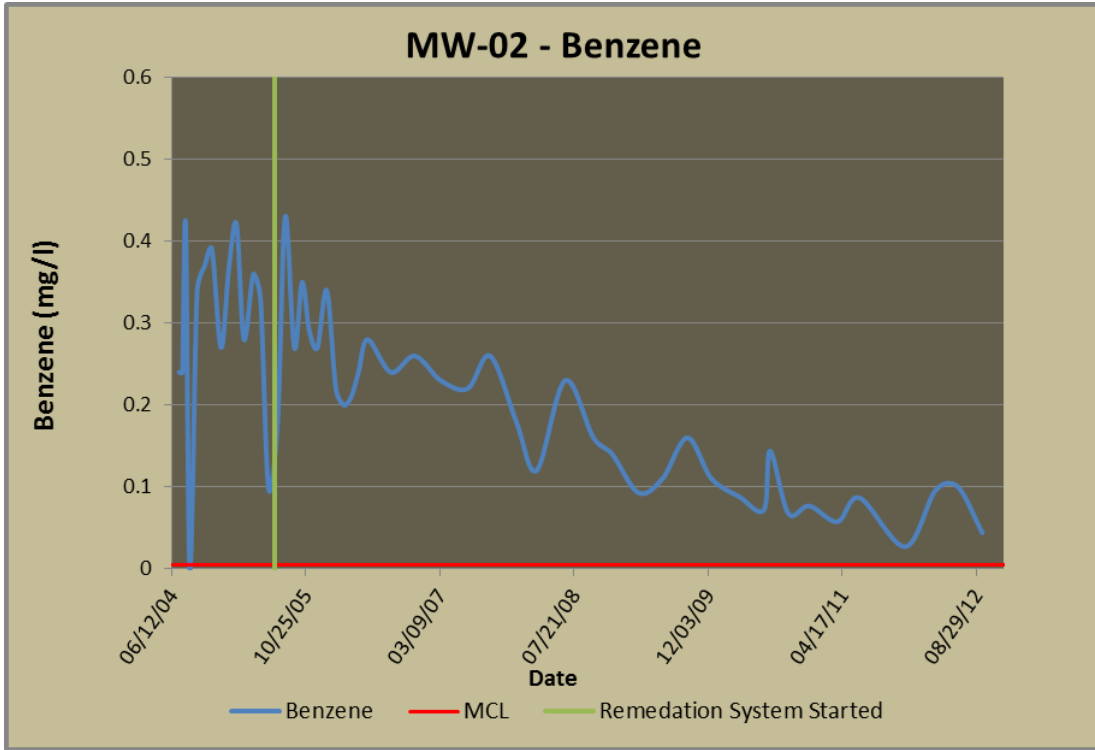


Figure 12 (MW-2 Historical Benzene Concentrations)

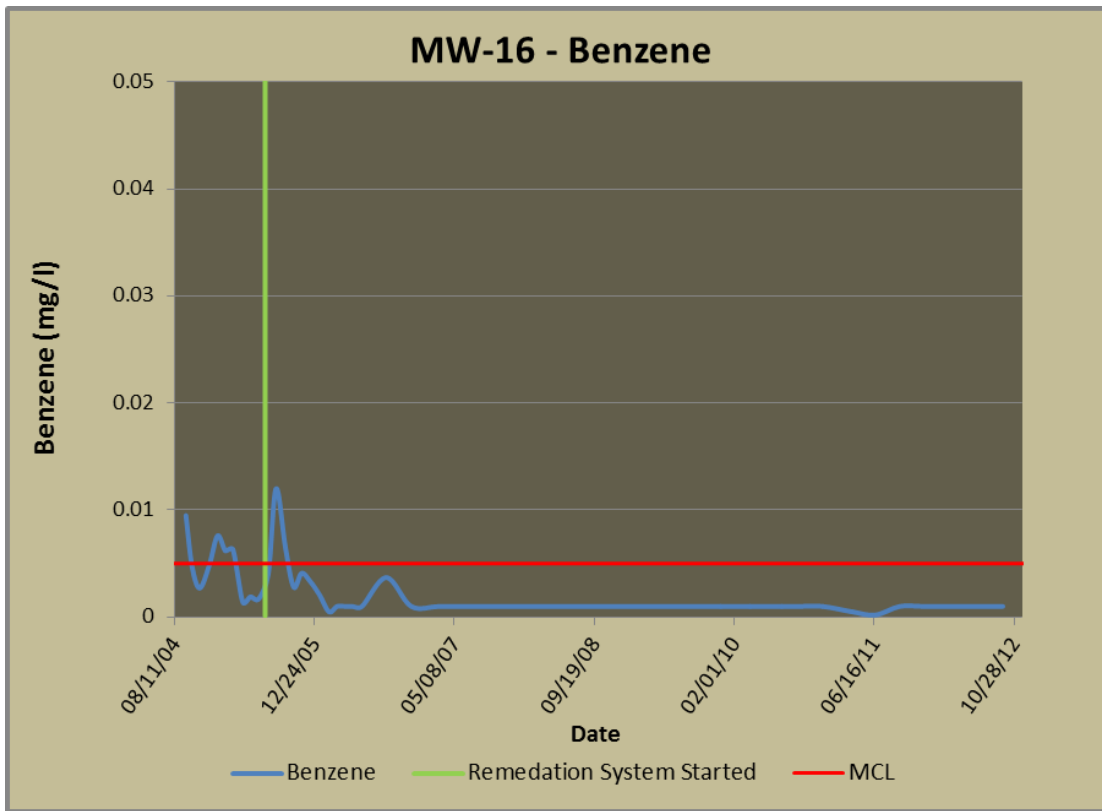


Figure 13 (MW-16 Historical Benzene Concentrations)

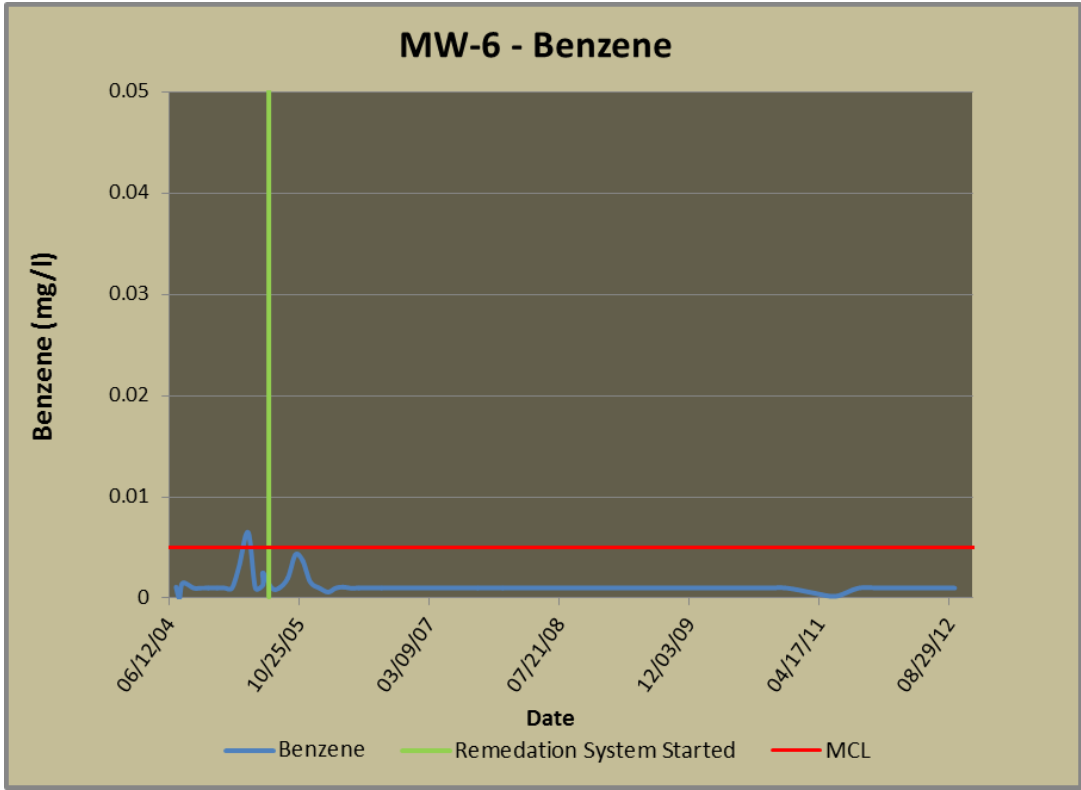


Figure 14 (MW-6 Historical Benzene Concentrations)

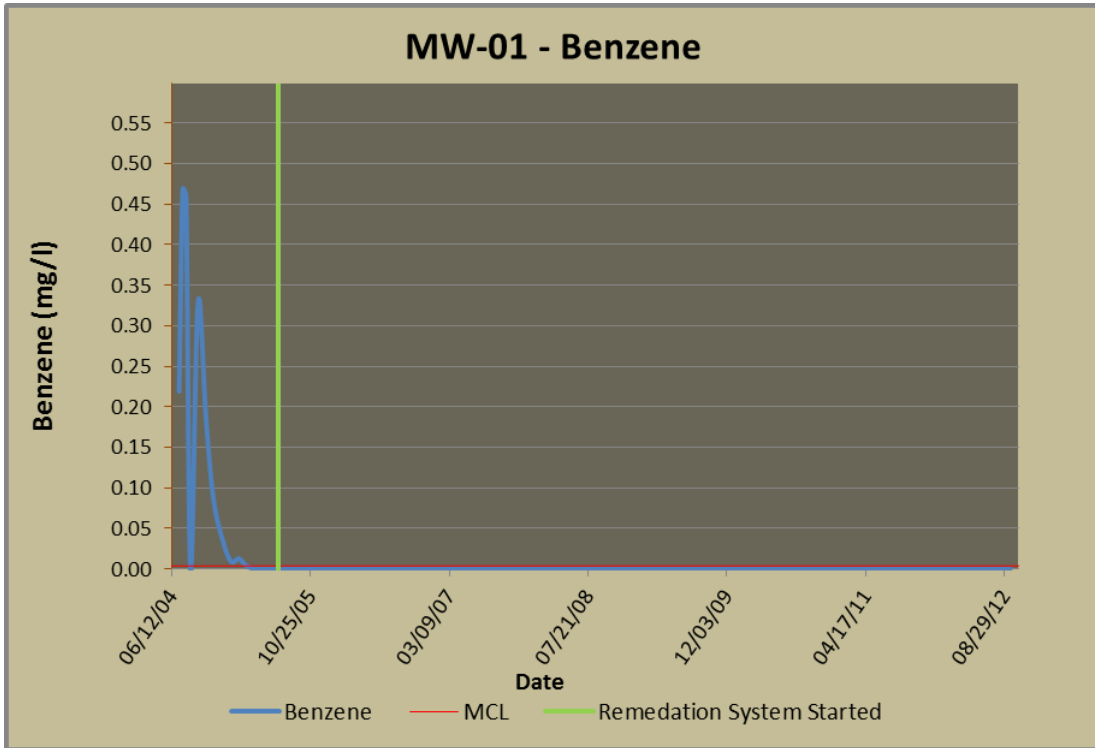


Figure 15 (MW-1 Historical Benzene Concentrations)

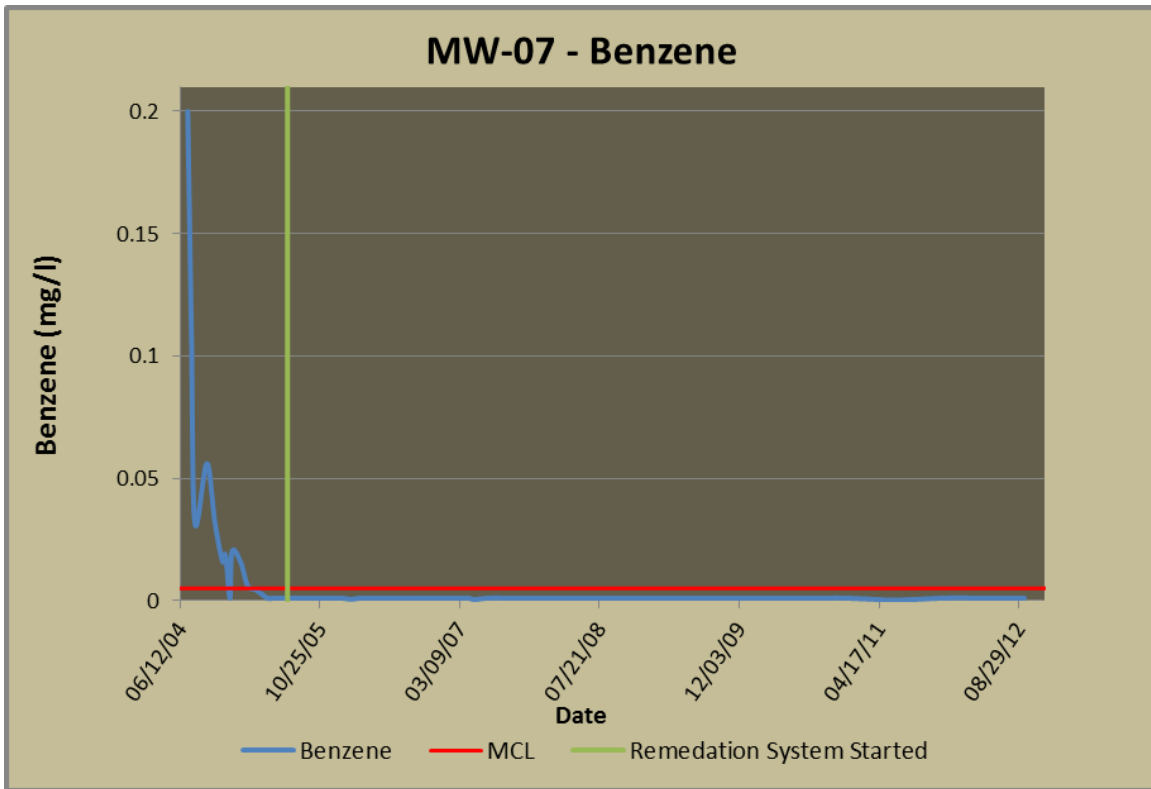


Figure 16 (MW-7 Historical Benzene Concentrations)

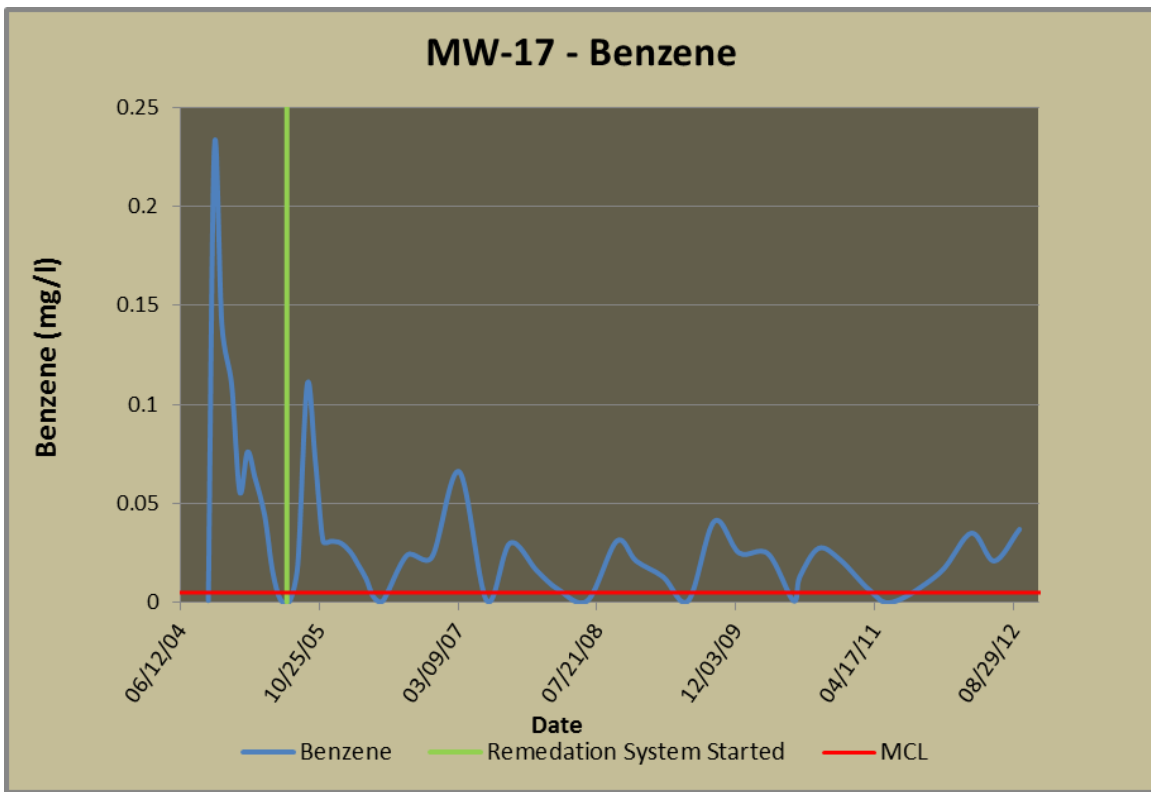


Figure 17 (MW-17 Historical Benzene Concentrations)

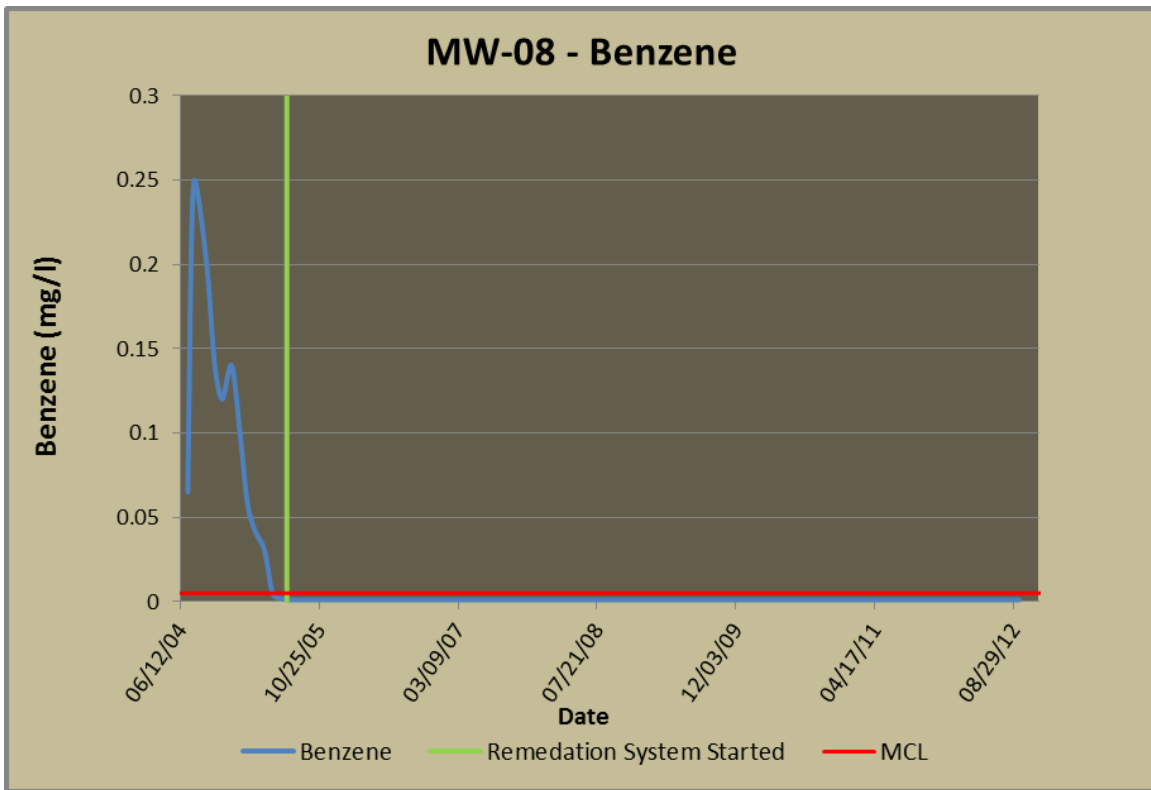


Figure 18 (MW-8 Historical Benzene Concentrations)

TABLES

Table 1. September 2012 Groundwater Field Parameters

Monitoring Station	DTW (ft)	Temp (°C)	SPC (mS/cm)	DO (mg/L)	pH	ORP (mV)	Water Quality Observations
MW-1	7.64	11.70	1.13	3.01	8.28	-48.50	WQ: Brown in color, slight turbid, no sheen, no odor, no effer.
MW-2	6.15	12.90	0.87	2.65	8.35	-74.20	WQ: Mildly turbid, no sheen, no effervescence, light sulfur odor, light brown in color *DUP-2-091912 *Iso taken
MW-4	8.55	15.10	0.89	2.55	8.66	-62.30	WQ: Mildly turbid, no sheen, no effervescence, light sulfur odor, black particulates present *DUP-1-091912 *iso taken
MW-6	7.70	14.20	1.21	1.20	8.07	-30.20	WQ: Rusty in color, no sheen, no odor, no effer.
MW-7	8.19	12.70	1.18	2.93	8.07	-15.10	WQ: Light brown/clear, no sheen, no odor, no effer.
MW-8	10.45	12.10	1.23	3.29	8.23	-68.70	WQ: Mildly turbid, no sheen, no effervescence
MW-9	4.32	10.70	0.94	3.06	8.01	-98.70	WQ: turbid, grey, no sheen, no odor, no effer. *iso taken
MW-11	4.37	9.00	0.76	3.30	8.14	-70.40	WQ: Mildly turbid, no sheen, no effervescence, light brown, slight sulfur odor
MW-12	2.77	10.10	1.02	3.39	8.14	-62.50	WQ: Mildly turbid, no sheen, no effervescence, light brown, slight sulfur odor
MW-14	4.93	12.70	1.01	3.07	7.87	-91.70	WQ: Turbid, brown, no sheen, no odor, mild effer. *iso taken
MW-15	0.40	12.10	0.77	6.71	8.19	-27.10	WQ: Heavy turbid, no sheen, no effervescence, dark brown
MW-16	7.65	12.20	1.27	3.25	8.70	-48.30	WQ: Clear, no odor, no sheen, no effer, slight turbid.
MW-17	8.82	12.60	1.21	2.35	8.47	-154.80	WQ: Light tan/clear, no sheen, strong sulfur odor, no effer. *DUP-3-091912 *iso taken
MW-18	4.78	13.00	0.93	3.32	8.11	-29.80	WQ: Mildly turbid, no sheen, no effervescence
MW-20	10.80	12.30	1.09	4.24	8.09	-25.80	WQ: Mildly turbid, no sheen, no effervescence, light brow, slight sulfur odor
MW-21	26.19	10.00	1.23	4.18	8.33	-33.90	WQ: Light Brown, no sheen, no effervescence, mild turbid
MW-22	12.65	11.00	1.08	5.72	8.21	-15.00	WQ: Clear, no sheen, no effervescence
MW-23	18.02	10.50	1.9	3.60	8.24	-68.50	WQ: Mildly turbid, no sheen, no effervescence, strong sulfur odor, black particulates present
MW-24	7.18	13.20	0.87	4.51	8.19	-17.30	WQ: Light brown, mild turbid, no odor, no sheen, no effer.
MW-25	2.83	10.20	0.71	5.33	8.26	-67.90	WQ: Mildly turbid, no sheen, no effervescence, Light brown, slight sulfur odor
MW-26	1.10	13.80	0.88	3.20	7.97	-24.20	WQ: Mildly turbid, no sheen, no effervescence, Light Brown.
MW-27	12.31	12.40	1.97	7.43	8.38	-65.10	WQ: Mildly turbid, no sheen, no effervescence, Light brown.
Eicher1	NR	16.40	0.93	3.09	8.14	-82.10	WQ: Brown in color, very turbid, strong sulfur odor, no sheen, no effervescence.

Notes: NR= Not recorded

Table 2. September 2012, West Divide Creek BTEX Groundwater Concentrations

Monitoring Station	Sample ID	Lab ID	Sample Date	Benzene (mg/L)				Toluene (mg/L)				Ethylbenzene (mg/L)				Total Xylenes (mg/L)			
				RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual
EICH1	EICH1-091912	L596223-01	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW1	MW1-091812	L596294-01	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW11	MW11-091812	L596294-06	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW12	MW12-091812	L596294-07	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW14	MW14-091812	L596294-08	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW15	MW15-091812	L596294-09	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW16	MW16-091812	L596294-10	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW17	DUP3-091912	L596294-23	9/19/2012	0.001	0.00033	0.037		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW17	MW17-091912	L596294-11	9/19/2012	0.001	0.00033	0.012		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW18	MW18-091812	L596294-12	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW2	DUP2-091912	L596294-22	9/19/2012	0.001	0.00033	0.023		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	0.0041	
MW2	MW2-091912	L596223-03	9/19/2012	0.001	0.00033	0.044		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	0.005	
MW20	MW20-091812	L596294-13	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW21	MW21-091812	L596294-14	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW22	MW22-091812	L596294-15	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW23	MW23-091812	L596294-16	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW24	MW24-091812	L596294-17	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW25	MW25-091812	L596294-18	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW26	MW26-091812	L596294-19	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW27	MW27-091812	L596294-20	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW4	DUP1-091912	L596294-21	9/19/2012	0.001	0.00033	0.039		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	0.009	
MW4	MW4-091912	L596223-02	9/19/2012	0.001	0.00033	0.045		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	0.01	
MW6	MW6-091812	L596294-02	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW7	MW7-091812	L596294-03	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW8	MW8-091812	L596294-04	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
MW9	MW9-091812	L596294-05	9/18/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	

Value exceeds Table 910-1

Table 3. September 2012, Methane, Ethane, Ethene, Chloride Sodium Groundwater Concentrations.

Monitoring Station	Sample ID	Lab ID	Sample Date	Methane (mg/L)				Ethane (mg/L)				Ethene (mg/L)				Chloride (mg/L)				Sodium (mg/L)			
				RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual
EICH1	EICH1-091912	L596223-01	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	12		0.5	0.12	71	
MW1	MW1-091812	L596294-01	9/18/2012	0.01	0.0021	0.57		0.013	0.004	0.065		0.013	0.0057	ND		1	0.053	20		0.5	0.12	160	B
MW11	MW11-091812	L596294-06	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	13		0.5	0.12	37	B
MW12	MW12-091812	L596294-07	9/18/2012	0.05	0.01	1		0.013	0.004	0.17		0.013	0.0057	ND		1	0.053	22		0.5	0.12	86	B
MW14	MW14-091812	L596294-08	9/18/2012	0.05	0.01	1.7		0.013	0.004	0.22		0.013	0.0057	ND		1	0.053	11		0.5	0.12	47	B
MW15	MW15-091812	L596294-09	9/18/2012	0.01	0.0021	0.034		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	4.8		0.5	0.12	48	B
MW16	MW16-091812	L596294-10	9/18/2012	0.01	0.0021	0.021		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	31		0.5	0.12	240	
MW17	DUP3-091912	L596294-23	9/19/2012	0.1	0.021	3.3		0.13	0.04	0.7		0.13	0.057	ND		1	0.053	44		0.5	0.12	220	
MW17	MW17-091912	L596294-11	9/19/2012	0.1	0.021	2.4		0.013	0.004	0.88		0.013	0.0057	ND		1	0.053	41		0.5	0.12	220	
MW18	MW18-091812	L596294-12	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	5.8		0.5	0.12	60	
MW2	DUP2-091912	L596294-22	9/19/2012	0.1	0.021	4.6		0.13	0.04	1.3		0.13	0.057	ND		1	0.053	38		0.5	0.12	120	
MW2	MW2-091912	L596223-03	9/19/2012	0.1	0.021	5.6		0.13	0.04	1.2		0.13	0.057	ND		1	0.053	48		0.5	0.12	120	
MW20	MW20-091812	L596294-13	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	16		0.5	0.12	99	
MW21	MW21-091812	L596294-14	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	22		0.5	0.12	200	
MW22	MW22-091812	L596294-15	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	18		0.5	0.12	110	
MW23	MW23-091812	L596294-16	9/18/2012	0.01	0.0021	0.32		0.013	0.004	0.015		0.013	0.0057	ND		1	0.053	53		0.5	0.12	360	
MW24	MW24-091812	L596294-17	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	5.8		0.5	0.12	50	
MW25	MW25-091812	L596294-18	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	14		0.5	0.12	35	
MW26	MW26-091812	L596294-19	9/18/2012	0.02	0.0041	1.1		0.026	0.0081	ND		0.026	0.011	ND		1	0.053	5.9		0.5	0.12	72	
MW27	MW27-091812	L596294-20	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	34		0.5	0.12	400	
MW4	DUP1-091912	L596294-21	9/19/2012	0.1	0.021	5.9		0.13	0.04	1.3		0.13	0.057	ND		1	0.053	30		0.5	0.12	120	
MW4	MW4-091912	L596223-02	9/19/2012	0.2	0.041	8.2		0.26	0.081	1.8		0.26	0.11	ND		1	0.053	32		0.5	0.12	120	
MW6	MW6-091812	L596294-02	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	13		0.5	0.12	110	B
MW7	MW7-091812	L596294-03	9/18/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	22		0.5	0.12	140	B
MW8	MW8-091812	L596294-04	9/18/2012	0.01	0.0021	0.079		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	27		0.5	0.12	170	B
MW9	MW9-091812	L596294-05	9/18/2012	0.1	0.021	3.2		0.13	0.04	0.44		0.13	0.057	ND		1	0.053	17		0.5	0.12	52	B

Note: No Methane Standard for Groundwater in COGCC Table 910-1

Qualifiers:

B (EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.

Table 4. September, 2012, Isotech Data.

Isotech	Sample	Sample	He	H2	Ar	O2	CO2	N2	CO	C1	C2	C2H4	C3	C3H6	iC4	nC4	iC5	vX5	X6+	δ13X1	dDC1	d13C2	d13C3	Specific	BTU	* Helium
Lab No.	Name	Date	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	‰	‰	‰	‰	Gravity		Dilution Factor
265174	MW9-091812	9/18/2012	na	nd	1.14	3.16	6.96	57.61	nd	28.6	2.06	nd	0.378	nd	0.0347	0.034	0.0104	0.002	0.0124	-44.09	-214.7	-28.19	-24.3	0.901	339	0.6
265175	MW14-091812	9/18/2012	na	nd	0.382	0.31	10.27	64.26	nd	22.69	1.53	nd	0.406	nd	0.0513	0.0658	0.0148	0.0089	0.0131	-40.72	-201.6	-27.6	-25	0.937	273	0.57
265176	MW2-091912	9/19/2012	na	nd	0.428	3.95	3.69	21.18	nd	61.22	7.08	nd	1.82	nd	0.251	0.25	0.0662	0.0177	0.0447	-41.09	-175.3	-27.08	-25.13	0.764	814	0.54
265177	MW4-091912	9/19/2012	na	nd	0.468	1.67	3.02	21.79	nd	62.43	7.19	nd	2.47	nd	0.382	0.395	0.108	0.012	0.0645	-40.63	-187.1	-28.1	-25.78	0.76	857	0.55
265178	MW17-091912	9/19/2012	na	nd	1.1	0.23	4.7	56.83	nd	33.46	3.53	nd	0.126	nd	0.0116	0.0076	0.0018	0.0008	0.003	-45.81	-191	-27.73	-21.9	0.863	406	0.6

Notes:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace.

Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

Additional Remarks: nd = not detected, na = not analyzed

Table 5. September 2012 Surface Water Field Parameters

Monitoring Station	Temp (°C)	SPC (mS/cm)	DO (mg/L)	pH	ORP (mV)	Water Quality Observations
DCS1	10.30	1.030	7.80	9.23	0.50	Light Brown, mild turbid, no adverser observation
DCS2	10.10	1.030	7.65	9.23	1.40	Light Brown, mild turbid, no adverser observation
DCS3	10.00	1.030	7.61	9.22	-2.10	Light Brown, mild turbid, no adverser observation
DCS4	9.80	1.010	7.44	9.19	-8.90	Light Brown, mild turbid, no adverser observation
DCS5	9.20	1.000	7.20	9.15	-11.50	Light Brown, mild turbid, no adverser observation
DCS6	9.00	0.990	7.20	9.14	-21.20	Light Brown, mild turbid, no adverser observation
DCS7	8.70	0.990	6.87	9.13	-42.00	Light Brown, mild turbid, no adverser observation
DCS8	8.40	0.990	7.09	9.10	-57.60	Light Brown, mild turbid, no adverser observation

Table 6. September 2012 West Divide Creek Surface Water BTEX Results

Monitoring Station	Sample ID	Lab ID	Sample Date	Benzene (mg/L)				Toluene (mg/L)				Ethylbenzene (mg/L)				Total Xylenes (mg/L)			
				RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual
DCS1	DCS1-091912	L596294-24	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
DCS2	DCS2-091912	L596294-25	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
DCS3	DCS3-091912	L596294-27	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
DCS4	DCS4-091912	L596294-28	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
DCS5	DCS5-091912	L596294-29	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
DCS6	DCS6-091912	L596294-30	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
DCS7	DCS7-091912	L596294-31	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	
DCS8	DCS8-091912	L596294-32	9/19/2012	0.001	0.00033	ND		0.005	0.00078	ND		0.001	0.00038	ND		0.003	0.0011	ND	

Qualifiers:

Table 7. September 2012 West Divide Creek Surface Water Methane, Ethane, Ethene, Chloride and Sodium Results.

Monitoring Station	Sample ID	Lab ID	Sample Date	Methane (mg/L)				Ethane (mg/L)				Ethene (mg/L)				Chloride (mg/L)				Sodium (mg/L)			
				RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual	RDL	MDL	Value	Qual
DCS1	DCS1-091912	L596294-24	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	16		0.5	0.12	96	
DCS2	DCS2-091912	L596294-25	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	16		0.5	0.12	97	
DCS3	DCS3-091912	L596294-27	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	16		0.5	0.12	95	
DCS4	DCS4-091912	L596294-28	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	16		0.5	0.12	110	
DCS5	DCS5-091912	L596294-29	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	14		0.5	0.12	81	
DCS6	DCS6-091912	L596294-30	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	15		0.5	0.12	89	
DCS7	DCS7-091912	L596294-31	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	15		0.5	0.12	88	
DCS8	DCS8-091912	L596294-32	9/19/2012	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.053	15		0.5	0.12	87	

Qualifiers:

Note: No Methane standard for surface-water in COGCC Table 910-1

Table 8. September 2012, Summary of Duplicate Results.

Monitoring Station	Sample ID	Lab ID	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Methane (mg/L)	Chloride (mg/L)	Sodium (mg/L)
MW2	DUP2-091912	L596294-22	9/19/12	0.023	ND	ND	0.0041	4.6	38	120
MW2	MW2-091912	L596223-03	9/19/12	0.044	ND	ND	0.005	5.6	48	120
MW4	DUP1-091912	L596294-21	9/19/12	0.039	ND	ND	0.0088	5.9	30	120
MW4	MW4-091912	L596223-02	9/19/12	0.045	ND	ND	0.01	8.2	32	120
MW17	DUP3-091912	L596294-23	9/19/12	0.037	ND	ND	ND	3.3	44	220
MW17	MW17-091912	L596294-11	9/19/12	0.012	ND	ND	ND	2.4	41	220

APPENDIX A



12065 Lebanon Rd.
Mt. Juliet, TN 37122
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Charlie Jensen
Encana
2717 Co. Rd. 215, Ste 100
Parachute, CO 81635

Report Summary

Friday September 28, 2012

Report Number: L596294


Samples Received: 09/20/12

Client Project: WDC

Description: West Divide Creek - 02E

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


Jared Willis, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979

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12065 Lebanon Rd.
 Mt. Juliet, TN 37122
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW1-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 16:00

ESC Sample # : L596294-01
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	20.	1.0	mg/l	9056	09/21/12	1
Methane	0.57	0.010	mg/l	RSK175	09/22/12	1
Ethane	0.065	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	160	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	97.8		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	99.8		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 09/28/12 09:43 Printed: 09/28/12 09:44



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW6-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 13:00

ESC Sample # : L596294-02
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	13.	1.0	mg/l	9056	09/21/12	1
Methane	BDL	0.010	mg/l	RSK175	09/22/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	110	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	98.3		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	102.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW7-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 13:30

ESC Sample # : L596294-03
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	22.	1.0	mg/l	9056	09/21/12	1
Methane	BDL	0.010	mg/l	RSK175	09/22/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	140	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	98.1		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	102.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW8-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 14:00

ESC Sample # : L596294-04
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	27.	1.0	mg/l	9056	09/21/12	1
Methane	0.079	0.010	mg/l	RSK175	09/22/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	170	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	98.5		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	100.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW9-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 09:30

ESC Sample # : L596294-05
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	17.	1.0	mg/l	9056	09/21/12	1
Methane	3.2	0.10	mg/l	RSK175	09/22/12	10
Ethane	0.44	0.13	mg/l	RSK175	09/22/12	10
Ethene	BDL	0.13	mg/l	RSK175	09/22/12	10
Sodium	52.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	96.5		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	101.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW11-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 09:00

ESC Sample # : L596294-06
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	13.	1.0	mg/l	9056	09/21/12	1
Methane	BDL	0.010	mg/l	RSK175	09/22/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	37.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	98.7		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	106.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW12-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 09:15

ESC Sample # : L596294-07
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	22.	1.0	mg/l	9056	09/21/12	1
Methane	1.0	0.050	mg/l	RSK175	09/25/12	5
Ethane	0.17	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	86.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	96.9		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	103.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW14-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 09:45

ESC Sample # : L596294-08
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	11.	1.0	mg/l	9056	09/21/12	1
Methane	1.7	0.050	mg/l	RSK175	09/25/12	5
Ethane	0.22	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	47.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	98.5		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	101.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW15-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 12:30

ESC Sample # : L596294-09
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	4.8	1.0	mg/l	9056	09/21/12	1
Methane	0.034	0.010	mg/l	RSK175	09/22/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	48.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	99.8		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	105.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	106.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW16-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 14:30

ESC Sample # : L596294-10
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	31.	1.0	mg/l	9056	09/21/12	1
Methane	0.021	0.010	mg/l	RSK175	09/22/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	240	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/23/12	1
Surrogate Recovery						
Toluene-d8	99.0		% Rec.	8260B	09/23/12	1
Dibromofluoromethane	101.		% Rec.	8260B	09/23/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/23/12	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/23/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 Note:

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW17-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 00:00

ESC Sample # : L596294-11
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	41.	1.0	mg/l	9056	09/21/12	1
Methane	2.4	0.10	mg/l	RSK175	09/25/12	10
Ethane	0.88	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	220	0.50	mg/l	6010B	09/26/12	1
Benzene	0.012	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	98.3		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	101.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	103.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW18-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 12:00

ESC Sample # : L596294-12
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	5.8	1.0	mg/l	9056	09/21/12	1
Methane	BDL	0.010	mg/l	RSK175	09/22/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/12	1
Sodium	60.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	98.1		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	102.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW20-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 11:30

ESC Sample # : L596294-13
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	16.	1.0	mg/l	9056	09/21/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	99.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	99.5		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	103.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	106.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW21-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 10:15

ESC Sample # : L596294-14
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	22.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	200	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	99.2		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	105.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	104.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW22-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 11:45

ESC Sample # : L596294-15
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	18.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	110	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	98.8		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	73.1		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	105.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW23-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 11:00

ESC Sample # : L596294-16
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	53.	1.0	mg/l	9056	09/22/12	1
Methane	0.32	0.010	mg/l	RSK175	09/25/12	1
Ethane	0.015	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	360	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	97.5		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	101.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	106.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW24-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 15:30

ESC Sample # : L596294-17
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	5.8	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	50.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	98.4		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	101.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW25-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 08:30

ESC Sample # : L596294-18
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	14.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	35.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	98.2		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	102.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	106.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW26-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 15:00

ESC Sample # : L596294-19
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	5.9	1.0	mg/l	9056	09/22/12	1
Methane	1.1	0.020	mg/l	RSK175	09/25/12	2
Ethane	BDL	0.026	mg/l	RSK175	09/25/12	2
Ethene	BDL	0.026	mg/l	RSK175	09/25/12	2
Sodium	72.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/24/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/24/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/24/12	1
Surrogate Recovery						
Toluene-d8	99.7		% Rec.	8260B	09/24/12	1
Dibromofluoromethane	105.		% Rec.	8260B	09/24/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/24/12	1
4-Bromofluorobenzene	103.		% Rec.	8260B	09/24/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : MW27-091812
 Collected By : Shad Johnson
 Collection Date : 09/18/12 10:30

ESC Sample # : L596294-20
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	34.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	400	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	108.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	100.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	96.0		% Rec.	8260B	09/22/12	1

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DUP1-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 11:30

ESC Sample # : L596294-21
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	30.	1.0	mg/l	9056	09/22/12	1
Methane	5.9	0.10	mg/l	RSK175	09/25/12	10
Ethane	1.3	0.13	mg/l	RSK175	09/25/12	10
Ethene	BDL	0.13	mg/l	RSK175	09/25/12	10
Sodium	120	0.50	mg/l	6010B	09/26/12	1
Benzene	0.039	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	0.0088	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	109.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	100.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	99.0		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DUP2-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 12:00

ESC Sample # : L596294-22
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	38.	1.0	mg/l	9056	09/22/12	1
Methane	4.6	0.10	mg/l	RSK175	09/25/12	10
Ethane	1.3	0.13	mg/l	RSK175	09/25/12	10
Ethene	BDL	0.13	mg/l	RSK175	09/25/12	10
Sodium	120	0.50	mg/l	6010B	09/26/12	1
Benzene	0.023	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	0.0041	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	108.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	98.7		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	97.1		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DUP3-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 12:30

ESC Sample # : L596294-23
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	44.	1.0	mg/l	9056	09/22/12	1
Methane	3.3	0.10	mg/l	RSK175	09/25/12	10
Ethane	0.70	0.13	mg/l	RSK175	09/25/12	10
Ethene	BDL	0.13	mg/l	RSK175	09/25/12	10
Sodium	220	0.50	mg/l	6010B	09/26/12	1
Benzene	0.037	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	111.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	100.		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS1-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 00:00

ESC Sample # : L596294-24
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	16.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	96.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	115.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	98.5		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS2-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 11:15

ESC Sample # : L596294-25
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	16.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	97.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	115.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	99.1		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS3-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 10:45

ESC Sample # : L596294-27

Site ID : 02E

Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	16.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	95.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	115.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	102.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	98.5		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Est. 1970

REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS4-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 10:30

ESC Sample # : L596294-28
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	16.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	110	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	107.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	113.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	98.6		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
 2717 Co. Rd. 215, Ste 100
 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS5-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 10:15

ESC Sample # : L596294-29
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	14.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	81.	0.50	mg/l	6010B	09/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	114.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	98.1		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 Note:

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REPORT OF ANALYSIS

Charlie Jensen
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 Parachute, CO 81635

September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS6-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 10:00

ESC Sample # : L596294-30
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	15.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	89.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	114.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	102.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	98.7		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS7-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 09:45

ESC Sample # : L596294-31
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	15.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	88.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	113.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	97.7		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 Note:

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REPORT OF ANALYSIS

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September 28, 2012

Date Received : September 20, 2012
 Description : West Divide Creek - 02E
 Sample ID : DCS8-091912
 Collected By : Shad Johnson
 Collection Date : 09/19/12 09:30

ESC Sample # : L596294-32
 Site ID : 02E
 Project # : WDC

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	15.	1.0	mg/l	9056	09/22/12	1
Methane	BDL	0.010	mg/l	RSK175	09/25/12	1
Ethane	BDL	0.013	mg/l	RSK175	09/25/12	1
Ethene	BDL	0.013	mg/l	RSK175	09/25/12	1
Sodium	87.	0.50	mg/l	6010B	09/27/12	1
Benzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	107.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	123.		% Rec.	8260B	09/22/12	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	97.9		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L596294-01	WG614643	SAMP	Sodium	R2366635	B
L596294-02	WG614643	SAMP	Sodium	R2366635	B
L596294-03	WG614643	SAMP	Sodium	R2366635	B
L596294-04	WG614643	SAMP	Sodium	R2366635	B
L596294-05	WG614643	SAMP	Sodium	R2366635	B
L596294-06	WG614643	SAMP	Sodium	R2366635	B
L596294-07	WG614643	SAMP	Sodium	R2366635	B
L596294-08	WG614643	SAMP	Sodium	R2366635	B
L596294-09	WG614643	SAMP	Sodium	R2366635	B
L596294-15	WG613772	SAMP	Dibromofluoromethane	R2362655	J2

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
B	(EPA) - The indicated compound was found in the associated method blank as well as the laboratory sample.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG613736	09/21/12 07:11
Chloride	< 1	mg/l			WG613737	09/21/12 19:20
Ethane	< .013	mg/l			WG614092	09/22/12 13:57
Ethene	< .013	mg/l			WG614092	09/22/12 13:57
Methane	< .01	mg/l			WG614092	09/22/12 13:57
Benzene	< .001	mg/l			WG613774	09/21/12 23:04
Ethylbenzene	< .001	mg/l			WG613774	09/21/12 23:04
Toluene	< .005	mg/l			WG613774	09/21/12 23:04
Total Xylenes	< .003	mg/l			WG613774	09/21/12 23:04
4-Bromofluorobenzene		% Rec.	98.04	82-120	WG613774	09/21/12 23:04
Dibromofluoromethane		% Rec.	107.8	82-126	WG613774	09/21/12 23:04
Toluene-d8		% Rec.	106.5	92-112	WG613774	09/21/12 23:04
a,a,a-Trifluorotoluene		% Rec.	99.84	90-116	WG613774	09/21/12 23:04
Chloride	< 1	mg/l			WG614035	09/22/12 07:40
Benzene	< .001	mg/l			WG613772	09/23/12 18:51
Ethylbenzene	< .001	mg/l			WG613772	09/23/12 18:51
Toluene	< .005	mg/l			WG613772	09/23/12 18:51
Total Xylenes	< .003	mg/l			WG613772	09/23/12 18:51
4-Bromofluorobenzene		% Rec.	105.7	82-120	WG613772	09/23/12 18:51
Dibromofluoromethane		% Rec.	100.8	82-126	WG613772	09/23/12 18:51
Toluene-d8		% Rec.	100.2	92-112	WG613772	09/23/12 18:51
a,a,a-Trifluorotoluene		% Rec.	105.0	90-116	WG613772	09/23/12 18:51
Ethane	< .013	mg/l			WG614516	09/25/12 13:00
Ethene	< .013	mg/l			WG614516	09/25/12 13:00
Methane	< .01	mg/l			WG614516	09/25/12 13:00
Ethane	< .013	mg/l			WG614562	09/25/12 14:40
Ethene	< .013	mg/l			WG614562	09/25/12 14:40
Methane	< .01	mg/l			WG614562	09/25/12 14:40
Sodium	< .5	mg/l			WG614643	09/26/12 22:29
Sodium	< .5	mg/l			WG614673	09/26/12 15:04
Sodium	< .5	mg/l			WG614830	09/27/12 20:00

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Chloride	mg/l	20.0	20.0		1.51	20	L596294-01	WG613736
Chloride	mg/l	7.20	7.10		1.95	20	L595619-01	WG613736

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Chloride	mg/l	17.0	17.0	0	20	L596294-05	WG613737
Chloride	mg/l	5.90	5.90	0.170	20	L596294-19	WG613737
Chloride	mg/l	100.	110.	5.61	20	L596220-01	WG614035
Sodium	mg/l	0	0.182	NA	20	L596252-01	WG614643
Sodium	mg/l	86.0	81.0	5.52	20	L596294-29	WG614673
Sodium	mg/l	8100	7930	2.12	20	L596295-06	WG614830

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chloride	mg/l	40	40.4	101.	90-110	WG613736
Chloride	mg/l	40	40.4	101.	90-110	WG613737
Ethane	mg/l	.645	0.704	109.	70-130	WG614092
Ethene	mg/l	.635	0.676	107.	70-130	WG614092
Methane	mg/l	.339	0.354	105.	70-130	WG614092
Benzene	mg/l	.025	0.0258	103.	72-119	WG613774
Ethylbenzene	mg/l	.025	0.0203	81.2	77-124	WG613774
Toluene	mg/l	.025	0.0227	90.9	75-114	WG613774
Total Xylenes	mg/l	.075	0.0608	81.1	77-123	WG613774
4-Bromofluorobenzene				100.2	82-120	WG613774
Dibromofluoromethane				110.8	82-126	WG613774
Toluene-d8				103.4	92-112	WG613774
a,a,a-Trifluorotoluene				100.2	90-116	WG613774
Chloride	mg/l	40	40.4	101.	90-110	WG614035
Benzene	mg/l	.025	0.0252	101.	72-119	WG613772
Ethylbenzene	mg/l	.025	0.0282	113.	77-124	WG613772
Toluene	mg/l	.025	0.0260	104.	75-114	WG613772
Total Xylenes	mg/l	.075	0.0862	115.	77-123	WG613772
4-Bromofluorobenzene				106.6	82-120	WG613772
Dibromofluoromethane				101.8	82-126	WG613772
Toluene-d8				100.3	92-112	WG613772
a,a,a-Trifluorotoluene				103.9	90-116	WG613772
Ethane	mg/l	.645	0.723	112.	70-130	WG614516
Ethene	mg/l	.635	0.704	111.	70-130	WG614516
Methane	mg/l	.339	0.375	111.	70-130	WG614516
Ethane	mg/l	.645	0.711	110.	70-130	WG614562
Ethene	mg/l	.635	0.687	108.	70-130	WG614562

* Performance of this Analyte is outside of established criteria.
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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Methane	mg/l	.339	0.369	109.	70-130	WG614562
Sodium	mg/l	11.3	11.6	103.	85-115	WG614643
Sodium	mg/l	11.3	10.7	94.7	85-115	WG614673
Sodium	mg/l	11.3	10.9	96.5	85-115	WG614830

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	40.4	40.4	101.	90-110	0	20	WG613736
Chloride	mg/l	40.4	40.4	101.	90-110	0	20	WG613737
Ethane	mg/l	0.681	0.704	106.	70-130	3.43	25	WG614092
Ethene	mg/l	0.652	0.676	103.	70-130	3.60	25	WG614092
Methane	mg/l	0.343	0.354	101.	70-130	3.31	25	WG614092
Benzene	mg/l	0.0248	0.0258	99.0	72-119	3.88	20	WG613774
Ethylbenzene	mg/l	0.0202	0.0203	81.0	77-124	0.430	20	WG613774
Toluene	mg/l	0.0222	0.0227	89.0	75-114	2.53	20	WG613774
Total Xylenes	mg/l	0.0607	0.0608	81.0	77-123	0.200	20	WG613774
4-Bromofluorobenzene				101.0	82-120			WG613774
Dibromofluoromethane				107.9	82-126			WG613774
Toluene-d8				104.3	92-112			WG613774
a,a,a-Trifluorotoluene				99.84	90-116			WG613774
Chloride	mg/l	40.4	40.4	101.	90-110	0	20	WG614035
Benzene	mg/l	0.0256	0.0252	102.	72-119	1.28	20	WG613772
Ethylbenzene	mg/l	0.0299	0.0282	119.	77-124	5.65	20	WG613772
Toluene	mg/l	0.0259	0.0260	104.	75-114	0.320	20	WG613772
Total Xylenes	mg/l	0.0881	0.0862	117.	77-123	2.22	20	WG613772
4-Bromofluorobenzene				106.9	82-120			WG613772
Dibromofluoromethane				103.5	82-126			WG613772
Toluene-d8				99.37	92-112			WG613772
a,a,a-Trifluorotoluene				103.1	90-116			WG613772
Ethane	mg/l	0.723	0.723	112.	70-130	0.0200	25	WG614516
Ethene	mg/l	0.699	0.704	110.	70-130	0.640	25	WG614516
Methane	mg/l	0.374	0.375	110.	70-130	0.460	25	WG614516
Ethane	mg/l	0.711	0.711	110.	70-130	0.0100	25	WG614562
Ethene	mg/l	0.688	0.687	108.	70-130	0.0800	25	WG614562
Methane	mg/l	0.368	0.369	109.	70-130	0.0700	25	WG614562

* Performance of this Analyte is outside of established criteria.
 For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Encana
Charlie Jensen
2717 Co. Rd. 215, Ste 100

Parachute, CO 81635

Quality Assurance Report
Level II

L596294

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

September 28, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Chloride	mg/l	122.	75.0	50	94.0	80-120	L595877-01	WG613736
Chloride	mg/l	75.7	27.0	50	97.4	80-120	L596294-04	WG613737
Benzene	mg/l	0.0277	0	.025	111.	51-134	L596268-01	WG613774
Ethylbenzene	mg/l	0.0232	0	.025	93.0	64-135	L596268-01	WG613774
Toluene	mg/l	0.0252	0	.025	101.	61-126	L596268-01	WG613774
Total Xylenes	mg/l	0.0684	0	.075	91.2	64-133	L596268-01	WG613774
4-Bromofluorobenzene					101.5	82-120		WG613774
Dibromofluoromethane					109.3	82-126		WG613774
Toluene-d8					105.3	92-112		WG613774
a,a,a-Trifluorotoluene					100.1	90-116		WG613774
Chloride	mg/l	65.1	16.0	50	98.2	80-120	L596294-24	WG614035
Benzene	mg/l	0.0233	0	.025	93.0	51-134	L596294-01	WG613772
Ethylbenzene	mg/l	0.0260	0	.025	104.	64-135	L596294-01	WG613772
Toluene	mg/l	0.0241	0	.025	96.3	61-126	L596294-01	WG613772
Total Xylenes	mg/l	0.0778	0	.075	104.	64-133	L596294-01	WG613772
4-Bromofluorobenzene					103.4	82-120		WG613772
Dibromofluoromethane					103.6	82-126		WG613772
Toluene-d8					99.33	92-112		WG613772
a,a,a-Trifluorotoluene					102.3	90-116		WG613772
Sodium	mg/l	11.4	0.182	11.3	99.3	75-125	L596252-01	WG614643
Sodium	mg/l	93.9	81.0	11.3	114.	75-125	L596294-29	WG614673
Sodium	mg/l	7930	7930	11.3	0*	75-125	L596295-06	WG614830

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chloride	mg/l	123.	122.	96.0	80-120	0.816	20	L595877-01	WG613736
Chloride	mg/l	75.8	75.7	97.6	80-120	0.132	20	L596294-04	WG613737
Benzene	mg/l	0.0267	0.0277	107.	51-134	3.99	20	L596268-01	WG613774
Ethylbenzene	mg/l	0.0228	0.0232	91.0	64-135	2.12	20	L596268-01	WG613774
Toluene	mg/l	0.0245	0.0252	98.0	61-126	2.65	20	L596268-01	WG613774
Total Xylenes	mg/l	0.0661	0.0684	88.1	64-133	3.44	20	L596268-01	WG613774
4-Bromofluorobenzene				100.3	82-120				WG613774
Dibromofluoromethane				105.0	82-126				WG613774
Toluene-d8				103.7	92-112				WG613774
a,a,a-Trifluorotoluene				99.90	90-116				WG613774
Chloride	mg/l	64.9	65.1	97.8	80-120	0.308	20	L596294-24	WG614035
Benzene	mg/l	0.0237	0.0233	94.6	51-134	1.69	20	L596294-01	WG613772

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Ethylbenzene	mg/l	0.0260	0.0260	104.	64-135	0.0200	20	L596294-01	WG613772
Toluene	mg/l	0.0246	0.0241	98.5	61-126	2.25	20	L596294-01	WG613772
Total Xylenes	mg/l	0.0793	0.0778	106.	64-133	1.86	20	L596294-01	WG613772
4-Bromofluorobenzene				103.2	82-120				WG613772
Dibromofluoromethane				100.4	82-126				WG613772
Toluene-d8				101.0	92-112				WG613772
a,a,a-Trifluorotoluene				104.8	90-116				WG613772
Sodium	mg/l	11.4	11.4	99.3	75-125	0	20	L596252-01	WG614643
Sodium	mg/l	94.2	93.9	117.	75-125	0.319	20	L596294-29	WG614673
Sodium	mg/l	8300	7930	655.*	75-125	4.56	20	L596295-06	WG614830

Batch number /Run number / Sample number cross reference

WG613736: R2358413: L596294-01 02 03
 WG613737: R2358433: L596294-04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
 WG614092: R2358793: L596294-01 02 03 04 05 06 07 08 09 10 11 12
 WG613774: R2361594: L596294-20 21 22 23 24 25 27 28 29 30 31 32
 WG614035: R2362555: L596294-24 25 27 28 29 30 31 32
 WG613772: R2362655: L596294-01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19
 WG614516: R2362933: L596294-07 08 11 13 14 15 16 17 18 19 20 21 22 23 24 25 27 28 29 30
 WG614562: R2363393: L596294-31 32
 WG614643: R2366635: L596294-01 02 03 04 05 06 07 08 09
 WG614673: R2367253: L596294-10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 27 28 29
 WG614830: R2369014: L596294-30 31 32

* * Calculations are performed prior to rounding of reported values.
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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.



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Brett Middleton
Encana
2717 Co. Rd. 215
Parachute, CO 81635

Report Summary

Thursday October 18, 2012

Report Number: L596223


Samples Received: 09/20/12

Client Project: F12E COA

Description: F12E Completion GW Sampling

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


Jared Willis , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-IN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

Brett Middleton
 Encana
 2717 Co. Rd. 215
 Parachute, CO 81635

October 18, 2012

Date Received : September 20, 2012
 Description : F12E Completion GW Sampling
 Sample ID : MW4-091912
 Collected By : SJ
 Collection Date : 09/19/12 11:30

ESC Sample # : L596223-02
 Site ID : F12E
 Project # : F12E COA

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	32.	1.0	mg/l	9056	09/20/12	1
Methane	8.2	0.20	mg/l	RSK175	09/22/12	20
Sodium, Dissolved	120	0.50	mg/l	6010B	09/26/12	1
Benzene	0.045	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	0.010	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	106.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	113.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	100.		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
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Reported: 09/28/12 15:54 Revised: 10/18/12 13:32
 L596223-02 (PH) - 7.8@18.8c



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REPORT OF ANALYSIS

Brett Middleton
 Encana
 2717 Co. Rd. 215
 Parachute, CO 81635

October 18, 2012

Date Received : September 20, 2012
 Description : F12E Completion GW Sampling
 Sample ID : MW2-091912
 Collected By : SJ
 Collection Date : 09/19/12 12:00

ESC Sample # : L596223-03
 Site ID : F12E
 Project # : F12E COA

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	48.	1.0	mg/l	9056	09/20/12	1
Methane	5.6	0.10	mg/l	RSK175	09/22/12	10
Sodium, Dissolved	120	0.50	mg/l	6010B	09/26/12	1
Benzene	0.044	0.0010	mg/l	8260B	09/22/12	1
Toluene	BDL	0.0050	mg/l	8260B	09/22/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/22/12	1
Total Xylenes	0.0050	0.0030	mg/l	8260B	09/22/12	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/22/12	1
Dibromofluoromethane	112.		% Rec.	8260B	09/22/12	1
4-Bromofluorobenzene	98.7		% Rec.	8260B	09/22/12	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit(PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
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Reported: 09/28/12 15:54 Revised: 10/18/12 13:32
 L596223-03 (PH) - 7.7@20.0c



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October 18, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG613671	09/20/12 08:18
Methane	< .01	mg/l			WG614092	09/22/12 13:57
Benzene	< .001	mg/l			WG613745	09/22/12 11:50
Ethylbenzene	< .001	mg/l			WG613745	09/22/12 11:50
Toluene	< .005	mg/l			WG613745	09/22/12 11:50
Total Xylenes	< .003	mg/l			WG613745	09/22/12 11:50
4-Bromofluorobenzene		% Rec.	100.4	82-120	WG613745	09/22/12 11:50
Dibromofluoromethane		% Rec.	112.8	82-126	WG613745	09/22/12 11:50
Toluene-d8		% Rec.	102.6	92-112	WG613745	09/22/12 11:50
Sodium, Dissolved	< .5	mg/l			WG614594	09/26/12 02:01

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Chloride	mg/l	12.0	12.0	4.08	20	L596265-01	WG613671
Sodium, Dissolved	mg/l	10.0	10.2	0	20	L596140-03	WG614594

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chloride	mg/l	40	40.5	101.	90-110	WG613671
Methane	mg/l	.339	0.354	105.	70-130	WG614092
Benzene	mg/l	.025	0.0251	100.	72-119	WG613745
Ethylbenzene	mg/l	.025	0.0199	79.6	77-124	WG613745
Toluene	mg/l	.025	0.0221	88.6	75-114	WG613745
Total Xylenes	mg/l	.075	0.0601	80.2	77-123	WG613745
4-Bromofluorobenzene				101.2	82-120	WG613745
Dibromofluoromethane				108.7	82-126	WG613745
Toluene-d8				105.4	92-112	WG613745
Sodium, Dissolved	mg/l	11.3	10.6	93.8	85-115	WG614594

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	40.5	40.5	101.	90-110	0	20	WG613671
Methane	mg/l	0.343	0.354	101.	70-130	3.31	25	WG614092
Benzene	mg/l	0.0252	0.0251	101.	72-119	0.530	20	WG613745
Ethylbenzene	mg/l	0.0200	0.0199	80.0	77-124	0.330	20	WG613745
Toluene	mg/l	0.0223	0.0221	89.0	75-114	0.620	20	WG613745
Total Xylenes	mg/l	0.0605	0.0601	81.0	77-123	0.640	20	WG613745
4-Bromofluorobenzene				100.2	82-120			WG613745

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Analyte	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
	Units	Result	Ref	%Rec				
Dibromofluoromethane				109.2	82-126			
Toluene-d8				104.0	92-112			

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Chloride	mg/l	86.7	38.0	50	97.4	80-120	L596220-06	WG613671
Benzene	mg/l	0.0297	0	.025	119.	51-134	L596179-01	WG613745
Ethylbenzene	mg/l	0.0240	0	.025	96.1	64-135	L596179-01	WG613745
Toluene	mg/l	0.0262	0	.025	105.	61-126	L596179-01	WG613745
Total Xylenes	mg/l	0.0702	0	.075	93.6	64-133	L596179-01	WG613745
4-Bromofluorobenzene					99.03	82-120		WG613745
Dibromofluoromethane					106.9	82-126		WG613745
Toluene-d8					102.4	92-112		WG613745
Sodium, Dissolved	mg/l	21.2	10.2	11.3	97.3	75-125	L596140-03	WG614594

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Chloride	mg/l	85.6	86.7	95.2	80-120	1.28	20	L596220-06	WG613671
Benzene	mg/l	0.0307	0.0297	123.	51-134	3.39	20	L596179-01	WG613745
Ethylbenzene	mg/l	0.0246	0.0240	98.4	64-135	2.42	20	L596179-01	WG613745
Toluene	mg/l	0.0270	0.0262	108.	61-126	2.94	20	L596179-01	WG613745
Total Xylenes	mg/l	0.0727	0.0702	96.9	64-133	3.46	20	L596179-01	WG613745
4-Bromofluorobenzene				101.0	82-120				WG613745
Dibromofluoromethane				110.7	82-126				WG613745
Toluene-d8				103.8	92-112				WG613745
Sodium, Dissolved	mg/l	21.4	21.2	99.1	75-125	0.939	20	L596140-03	WG614594

Batch number /Run number / Sample number cross reference

WG613671: R2357097: L596223-02 03
 WG614092: R2358793: L596223-02 03
 WG613745: R2361353: L596223-02 03
 WG614557: R2363754: L596223-02 03
 WG614594: R2364733: L596223-02 03
 WG614381: R2365015: L596223-02
 WG614608: R2365193: L596223-02 03
 WG614568: R2365453: L596223-02 03
 WG614382: R2365674: L596223-02 03
 WG614383: R2365693: L596223-02 03
 WG614675: R2365773: L596223-03
 WG614349: R2367494: L596223-02 03
 WG614611: R2369793: L596223-02 03

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Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Encana
 2717 CR 215, Ste. 100
 Parachute, CO 81635
 ENCRCO
 ENCRCO-RULEENG

Billing Information:
 Brett Middleton
 2717 County Road 215, Suite 100
 Parachute, CO 81635
 970-285-2739

Report to: Brett Middleton & Dan Prokop
 Email to: brett.middleton@encana.com;

Analysis/Container/Preservative

Chain of Custody
 Page 1 of 1



12065 Lebanon Road
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Phone: (800) 767-5859
 Phone: (615) 758-5858
 Fax: (615) 758-5859

Project Description: F12E Completion GW SAMPLING City/State Collected: CO

Phone: 970-285-2739 Client Project #: F12E COA ESC Key: ENCRCO-RULEENG

Collected by: SJ Site/Facility ID#: F12E P.O.#:

Collected by (signature): [Signature] Rush? (Lab MUST Be Notified) Date Results Needed: No. of Cntrs

Same Day 200%
 Next Day 100%
 Two Day 50%
 Three Day 25%

Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

Immediately Packed on Ice N Y

ALK/ALKB/ALKCA-500 ML NONP ORES
 RSK175
 SPCON/TDS/pH NON PRES
 DISSOLVED METALS
 V8260 BTEXM 40 ML AMV-HCL
 WET CHEM WITH NITRATE 250 ML
 AMMONIA (PRESERVED) ✓


CoCode ENCRCO (lab use only)
 Template/Prelogin
 Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	ALK/ALKB/ALKCA-500 ML NONP ORES	RSK175	SPCON/TDS/pH NON PRES	DISSOLVED METALS	V8260 BTEXM 40 ML AMV-HCL	WET CHEM WITH NITRATE 250 ML	AMMONIA (PRESERVED)	Remarks/Contaminant	Sample # (lab only)
EICH1-091912	Grab	GW	NA	9/19/12	1300	12	X	✓	✓	✓	✓	✓	✓	6546223	01
MW4-091912	Grab	GW	NA	9/19/12	1130	12	✓	✓	✓	✓	✓	✓	✓		02
MW2-091319	Grab	GW	NA	9/19/12	1200	12	✓	✓	✓	✓	✓	✓	✓		

*Matrix: Dissolved metals: As, Ba, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, K, Se, Ag, Na ... Wet Chem, Bromide, Chloride, Fluoride, Sulfate, Sulfide, Nitrate, Nitrite, Ammonia, Bi-carb, Carb, Total Carb, SpC, TDS, pH

pH _____ Temp _____
 Flow 5640 0630 8321 Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: <u>7.0</u>	Bottles Received: <u>36</u>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: <u>9-20-12</u>	Time: <u>0900</u>
				CoC Seals intact: ___ Y ___ N ___ NA	pH Checked: NCF:

Encana 2717 Co. Rd. 215, Ste 100 Parachute, CO 81635		Billing information: Accounts Payable- Brett Middleton 2717 Co. Rd. 215, Ste 100 Parachute, CO 81635		Analysis/Container/Preservative				Chain of Custody Page <u>L</u> of <u>4</u>			
Report to: Charlie Jensen		Email: Charles.Jensen@encana.com		CHLORIDE 125mlHDPE-NoPres NAICP 500mlHDPE-HNO3 RSK175 40mlAmb-NoPres V8260BTEX 40mlAmb-NoPres V8260BTEX- preserved 40mlAmb-HCl				 09-0074 Phone: (800) 767-5859 Phone: (615) 758-5858 Fax: (615) 758-5859 G197			
Project Description: West Divide Creek - 02E		City/State Collected CO						Acctnum: ENCRCO (lab use only)		Template/Prelogin: T77323/P403519	
Phone: (970) 285-2739 FAX: (970) 625-4636		Client Project #: WDC						Lab Project #: ENCRCO-WESTDIVIDE		Cooler #: 8.29 M/S	
Collected by (print): <i>Shad John 501</i>		Site/Facility ID#: 02E						P.O.#:		Shipped Via: FedEX Ground	
Collected by (signature): <i>[Signature]</i>		Rush? (Lab MUST Be Notified)		Date Results Needed		No. of Cntrs					
Immediately Packed on Ice N <u> </u> Y <input checked="" type="checkbox"/>		<input type="checkbox"/> Same Day 200% <input type="checkbox"/> Next Day 100% <input type="checkbox"/> Two Day 50% <input type="checkbox"/> Three Day 25%		Email? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes FAX? <input type="checkbox"/> No <input type="checkbox"/> Yes							
Sample ID		Comp/Grab	Matrix*	Depth	Date	Time	Remarks/Contaminant		Sample # (lab only)		
MW1-091812		Grab	GW	NA	9/18/12	1600	X X X X	1596294	01		
 		Grab	GW	NA	 	 	X X X X		02		
 		Grab	GW	NA	 	 	X X X X		03		
MW6-091812		Grab	GW	NA	9/18/12	1300	X X X X		04 02		
MW7-091812		Grab	GW	NA		1330	X X X X		05 03		
MW8-091812		Grab	GW	NA		1400	X X X X		06 04		
MW9-091812		Grab	GW	NA		0930	X X X X		07 05		
MW11-091812		Grab	GW	NA		0900	X X X X		08 06		
MW12-091812		Grab	GW	NA		0915	X X X X		09 07		

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: V8260BTEX is non-preserved and has 7-day holding time on all samples except any marked as "preserved".

pH _____ Temp _____
Flow _____ Other _____

504006308350
504006308360 504006308393
504006308382 54137239360

Relinquished by: (Signature) <i>[Signature]</i>	Date: 9/20/12	Time: 1600	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS	Condition: (lab use only)
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Temp: 2.8	Bottles Received: 310 + 3TB
	Date: 9/20/12	Time: 0900		COC Seal Intact: Y <u> </u> N <u> </u> NA <u> </u>	
				pH Checked: L2	NCF: _____

Encana

2717 Co. Rd. 215. Ste 100
Parachute, CO 81635

Billing information:

Accounts Payable- Brett Middleton
2717 Co. Rd. 215, Ste 100
Parachute, CO 81635

Analysis/Container/Preservative

CHLORIDE 125mlHDPE-NoPres	NAICP 500mlHDPE-HNO3	RSK175 40mlAmb-NoPres	V8260BTEX 40mlAmb-NoPres	V8260BTEX- preserved 40mlAmb-HCl
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Chain of Custody
Page 2 of 4



12065 Lebanon Road
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

Report to: **Charlie Jensen**

Email: **Charles.Jensen@encana.com**

Project Description: **West Divide Creek - 02E**

City/State Collected: **CO**

Phone: (970) 285-2739
FAX: (970) 625-4636

Client Project #: **WDC**

Lab Project #: **ENCRCO-WESTDIVIDE**

Collected by (print): **Shad Johnson**

Site/Facility ID#: **02E**

P.O.#:

Collected by (signature): *[Signature]*

Rush? (Lab MUST Be Notified)

Date Results Needed

Immediately Packed on Ice N Y

Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Email? No Yes
FAX? No Yes

No. of Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CHLORIDE 125mlHDPE-NoPres	NAICP 500mlHDPE-HNO3	RSK175 40mlAmb-NoPres	V8260BTEX 40mlAmb-NoPres	V8260BTEX- preserved 40mlAmb-HCl	Remarks/Contaminant	Sample # (lab only)
MW14-091812	Grab	GW	NA	9/18/12	0945	10	X	X	X	X			2556 294-10 09
MW15-091812		GW			1030	10	X	X	X	X			11 09
MW16-091812		GW			1430	10	X	X	X	X			12 10
MW17-091912		GW		9/19/12		10	X	X	X	X			13 11
MW18-091812		GW		9/18/12	1200	10	X	X	X	X			14 12
MW20-091812		GW			1130	10	X	X	X	X			15 13
MW21-091812		GW			1015	10	X	X	X	X			16 14
MW22-091812		GW			1145	10	X	X	X	X			17 15
MW23-091812		GW			1100	10	X	X	X	X			18 16

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: V8260BTEX is non-preserved and has 7-day holding time on all samples except any marked as "preserved".

pH _____ Temp _____

Flow _____ Other _____

Relinquished by (Signature): <i>[Signature]</i>	Date: 9/20/12	Time: 1500	Received by (Signature): <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only) <i>[Signature]</i>
Relinquished by (Signature): <i>[Signature]</i>	Date:	Time:	Received by (Signature): <i>[Signature]</i>	Temp: 28 °C	Bottles Received: 310+37B
Relinquished by (Signature): <i>[Signature]</i>	Date:	Time:	Received for lab by (Signature): <i>[Signature]</i>	Date: 9/20/12	Time: 0900
				COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	pH Checked: 7.2
					NCF:

Encana

2717 Co. Rd. 215, Ste 100
Parachute, CO 81635

Billing information:

Accounts Payable- Brett Middleton
2717 Co. Rd. 215, Ste 100
Parachute, CO 81635

Analysis/Container/Preservative

Chain of Custody
Page 3 of 4



12065 Lebanon Road
Mt. Juliet, TN 37122

Phone: (800) 767-5859
Phone: (615) 758-5858
Fax: (615) 758-5859

Report to: **Charlie Jensen** Email: **Charles.Jensen@encana.com**

Project Description: **West Divide Creek - 02E** City/State Collected: **CO**

Phone: (970) 285-2739 Client Project #: **WDC** Lab Project #: **ENCRCO-WESTDIVIDE**
FAX: (970) 625-4636

Collected by (print): **Shed Johnson** Site/Facility ID#: **02E** P.O.#:

Collected by (signature): *[Signature]* Rush? (Lab MUST Be Notified)
 ___ Same Day 200%
 ___ Next Day 100%
 ___ Two Day 50%
 ___ Three Day 25%
 Date Results Needed: _____
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes
 No. of Cntrs: **5W**

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CHLORIDE 125mlHDPE-NoPres	NAICP 500mlHDPE-HNO3	RSK175 40mlAmb-NoPres	V8260BTEX 40mlAmb-NoPres	V8260BTEX- preserved 40mlAmb-HCI
MW24-091812	Grab	GW	NA	9/18/12	1530	10	X	X	X	X	
MW25-091812		GW			0830	10	X	X	X	X	
MW26-091812		GW			1500	10	X	X	X	X	
MW27-091812		GW			1030	10	X	X	X	X	
D4P1-091912		GW		9/19/12	1130	10	X	X	X	X	
D4P2-091912		GW			1200	10	X	X	X	X	
D4P3-091912		GW			1230	10	X	X	X	X	
		GW				7	X	X	X	X	
		GW				7	X	X	X	X	

Account: **ENCRCO** (lab use only)
 Template/Prelogin: **T77323 P403519**
 Cooler #: **8.29 M J**
 Shipped Via: **FedEX Ground**

Remarks/Contaminant Sample # (lab only)


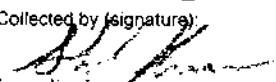
6596 294-1A 17
 20 18
 21 19
 22 20
 23 21
 24 22
 25 23

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: V8260BTEX is non-preserved and has 7-day holding time on all samples except any marked as "preserved".

pH _____ Temp _____
 Flow _____ Other _____

Relinquished by (Signature): <i>[Signature]</i>	Date: 9/18/12	Time: 1600	Received by (Signature): <i>[Signature]</i>	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only) 6 JE
Relinquished by (Signature): <i>[Signature]</i>	Date:	Time:	Received by (Signature): <i>[Signature]</i>	Temp: 2.8°C Bottles Received: 310+3TB	COC Seal Intact: Y N NA
Relinquished by (Signature): <i>[Signature]</i>	Date:	Time:	Received for lab by (Signature): <i>[Signature]</i>	Date: 9/20/12 Time: 0900	pH Checked: 23 NCF:


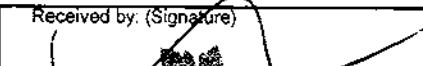


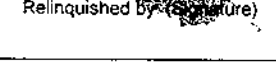

Encana 2717 Co. Rd. 215, Ste 100 Parachute, CO 81635		Billing information: Accounts Payable- Brett Middleton 2717 Co. Rd. 215, Ste 100 Parachute, CO 81635		Analysis/Container/Preservative				Chain of Custody Page 4 of 4	
Report to: Charlie Jensen		Email: Charles.Jensen@encana.com;		CHLORIDE 125mlHDPE-NoPres NAICP 500mlHDPE-HNO3 40 RSK175 40mlAmb-NoPres V8260BTEX 40mlAmb-NoPres V8260BTEX- preserved 40mlAmb-HCI				 L-A-B S-C-I-E-N-C-E-S 12065 Lebanon Road Mt. Juliet, TN 37122 Phone: (800) 767-5859 Phone: (615) 758-5858 Fax: (615) 758-5859	
Project Description: West Divide Creek - 02E		City/State Collected: CO						Acctnum: ENCRCO (lab use only) Template/Prelogin: T77323/P403519 Cooler #: 8.29 M8 Shipped Via: FedEX Ground	
Phone: (970) 285-2739 FAX: (970) 625-4636		Client Project #: WDC		Lab Project #: ENCRCO-WESTDIVIDE					
Collected by (print): Stad Johnson		Site/Facility ID#: 02E		P.O.#:					
Collected by (signature): 		Rush? (Lab MUST Be Notified)		Date Results Needed					
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>		<input type="checkbox"/> Same Day 200% <input type="checkbox"/> Next Day 100% <input type="checkbox"/> Two Day 50% <input type="checkbox"/> Three Day 25%		<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes		No. of Cntrs			
Sample ID		Comp/Grab	Matrix*	Depth	Date	Time			
DCS1-091912		Grab	GW SW	NA	9/19/12	1115	107	X	X
DCS2-091912		Grab	GW SW	NA	9/19/12	1100	107	X	X
DCS3-091912		Grab	GW SW	NA	9/19/12	1045	107	X	X
DCS4-091912		Grab	GW SW	NA	9/19/12	1030	107	X	X
DCS5-091912		Grab	GW SW	NA	9/19/12	1015	107	X	X
DCS6-091912		Grab	GW SW	NA	9/19/12	1000	107	X	X
DCS7-091912		Grab	GW SW	NA	9/19/12	0945	107	X	X
DCS8-091912		Grab	GW SW	NA	9/19/12	0930	107	X	X
		GW					7	X	X

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: V8260BTEX is non-preserved and has 7-day holding time on all samples except any marked as "preserved".

pH _____ Temp _____

Flow _____ Other _____

Relinquished by (Signature): 	Date: 9/19/12	Time: 1000	Received by (Signature): 	Samples returned via: <input checked="" type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only)
Relinquished by (Signature): 	Date:	Time:	Received by (Signature): 	Temp: 2.8°C	Bottles Received: 310+3TB
Relinquished by (Signature): 	Date:	Time:	Received for lab by (Signature): 	Date: 9/20/12	Time: 0900
				COC Seal Intact: Y <input type="checkbox"/> N <input type="checkbox"/> NA <input type="checkbox"/>	pH Checked: LO



L · A · B S · C · I · E · N · C · E · S

NON-CONFORMANCE FORM

Login No.: LS96294-MS
Date: 9/20/12
Evaluated by: MAH S
Client: ENCRO

Non-Conformance (check applicable items)

- Parameter(s) past holding time
- Improper temperature
- Improper container type
- Improper preservation
- Container lid not intact
- Login Clarification Needed
- Chain of custody is incomplete
- Chain of Custody is missing (see below)
- Broken container(s) (See below)
- Broken container: sufficient sample volume remains for analysis requested (See below)

If no COC: Received by _____ Date: _____ Time: _____
Temp: _____ Cont. Rec. _____ pH: _____
Fedex UPS SWA Other _____
Tracking # _____
 Insufficient packing material around container
 Insufficient packing material inside cooler
 Improper handling by carrier (FedEx / UPS / Courier)
 Sample was frozen

Comments: Did not receive D652-091912 @ 1100

Login Instructions: _____ TSR Initials: JW

Client informed by Call / email / fax / voice mail date: 9/21 time: 1344
Client contact: Shad Johnson

Client informed

Lab #: 265174 Job #: 19286
 Sample Name/Number: MW9-091812
 Company: Encana Oil & Gas
 Date Sampled: 9/18/2012
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek 02E
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/21/2012 Date Reported: 10/10/2012

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	nd			
Argon -----	1.14			
Oxygen -----	3.16			
Nitrogen -----	57.61			
Carbon Dioxide -----	6.96			
Methane -----	28.60	-44.09	-214.7	
Ethane -----	2.06	-28.19		
Ethylene -----	nd			
Propane -----	0.378	-24.3		
Propylene -----	nd			
Iso-butane -----	0.0347			
N-butane -----	0.0340			
Iso-pentane -----	0.0104			
N-pentane -----	0.0020			
Hexanes + -----	0.0124			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 339

Specific gravity, calculated: 0.901

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.60

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen. propane carbon isotope data obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 265175 Job #: 19286
 Sample Name/Number: MW14-091812
 Company: Encana Oil & Gas
 Date Sampled: 9/18/2012
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek 02E
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/21/2012 Date Reported: 10/10/2012

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	nd			
Argon -----	0.382			
Oxygen -----	0.31			
Nitrogen -----	64.26			
Carbon Dioxide -----	10.27			
Methane -----	22.69	-40.72	-201.6	
Ethane -----	1.53	-27.6		
Ethylene -----	nd			
Propane -----	0.406	-25.0		
Propylene -----	nd			
Iso-butane -----	0.0513			
N-butane -----	0.0658			
Iso-pentane -----	0.0148			
N-pentane -----	0.0089			
Hexanes + -----	0.0131			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 273

Specific gravity, calculated: 0.937

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.57

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen. ethane and propane carbon isotope data obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 265176 Job #: 19286
 Sample Name/Number: MW2-091912
 Company: Encana Oil & Gas
 Date Sampled: 9/19/2012
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek 02E
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/21/2012 Date Reported: 10/10/2012

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	nd			
Argon -----	0.428			
Oxygen -----	3.95			
Nitrogen -----	21.18			
Carbon Dioxide -----	3.69			
Methane -----	61.22	-41.09	-175.3	
Ethane -----	7.08	-27.08		
Ethylene -----	nd			
Propane -----	1.82	-25.13		
Propylene -----	nd			
Iso-butane -----	0.251			
N-butane -----	0.250			
Iso-pentane -----	0.0662			
N-pentane -----	0.0177			
Hexanes + -----	0.0447			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 814

Specific gravity, calculated: 0.764

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.54

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 265177 Job #: 19286
 Sample Name/Number: MW4-091912
 Company: Encana Oil & Gas
 Date Sampled: 9/19/2012
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek 02E
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/21/2012 Date Reported: 10/10/2012

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	nd			
Argon -----	0.468			
Oxygen -----	1.67			
Nitrogen -----	21.79			
Carbon Dioxide -----	3.02			
Methane -----	62.43	-40.63	-187.1	
Ethane -----	7.19	-28.10		
Ethylene -----	nd			
Propane -----	2.47	-25.78		
Propylene -----	nd			
Iso-butane -----	0.382			
N-butane -----	0.395			
Iso-pentane -----	0.108			
N-pentane -----	0.0120			
Hexanes + -----	0.0645			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 857

Specific gravity, calculated: 0.760

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.55

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen.

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

Lab #: 265178 Job #: 19286
 Sample Name/Number: MW17-091912
 Company: Encana Oil & Gas
 Date Sampled: 9/19/2012
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek 02E
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/21/2012 Date Reported: 10/10/2012

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	nd			
Argon -----	1.10			
Oxygen -----	0.23			
Nitrogen -----	56.83			
Carbon Dioxide -----	4.70			
Methane -----	33.46	-45.81	-191.0	
Ethane -----	3.53	-27.73		
Ethylene -----	nd			
Propane -----	0.126	-21.9		
Propylene -----	nd			
Iso-butane -----	0.0116			
N-butane -----	0.0076			
Iso-pentane -----	0.0018			
N-pentane -----	0.0008			
Hexanes + -----	0.0030			

Total BTU/cu.ft. dry @ 60deg F & 14.73psia, calculated: 406

Specific gravity, calculated: 0.863

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.60

*Addition of helium negates the ability to detect native helium and may negate the ability to detect hydrogen. propane carbon isotope data obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.

APPENDIX B

(Electronic Attachment)