

December 6, 2011

Mr. Charlie Jensen
Encana Oil & Gas (USA) Inc.
2717 County Road 215, Suite 100
Parachute, CO 81635

Re: West Divide Creek 2011 Third Quarter Seep Status

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 results and recommendations for the gas seep associated with Colorado Oil and Gas Conservation Commission (COGCC) ORDER NO. 1V-276. Figure 1 provides a map of monitoring stations and remediation system locations for this site.

**2011 Third Quarter Monitoring
Groundwater**

During September 14 and 15, 2011 Rule sampled 19 groundwater monitoring wells as part of the quarterly monitoring program. Two monitoring wells (MW-23 and MW-27) and one domestic well (Eich2) were sampled by Olsson & Associates September 15, 2011. Two monitoring wells MW-15 and MW-19 were inaccessible due to vegetation growth. MW-19 is known to be plugged and will be abandoned if possible in the future, as it's location is within a marshy area. An effort will also be made to locate MW-15 during the fourth quarter sampling event when vegetation conditions are minimal. 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. Depth to water (DTW) was measured in all available wells and piezometers at the site. Piezometers 5 and 8 were 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. The field measurement results are provided in Table 1.

A total of 3 duplicate samples were collected for field and laboratory quality assurance/quality control (QA/QC). Duplicate samples DUP-1-091511, DUP-2-091511 and DUP-3-091511 were collected at monitoring stations MW-17, MW-2 and MW-14 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

Two samples (MW-2 and MW-4) were analyzed for additional parameters (Major cations and anions) that were requested by the COGCC for another project. The analytical reports (Appendix A) contain this data, but no discussion is provided in this report for the additional analysis. A summary of the groundwater analytical results is presented in Table 2 and 3.

In addition to the groundwater chemistry analysis provided by ECS, samples for isotopic methane (biogenic/thermogenic) analysis were shipped to Isotech Laboratories (Isotech). Monitoring wells MW-2, 4, 9, 14 and 17 were analyzed for isotopic methane. Samples were received in good condition within appropriate temperatures by Isotech and analyzed for stable isotopes of carbon and hydrogen in methane and stable isotopes of carbon in ethane and propane. A summary of the isotopic methane analytical results is presented in Table 4.

Surface-Water

Rule collected eight surface-water samples on September 14, 2011 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 is presented in Table 6 and 7.

Remediation System

Prior to September 15, 2011 the system was running from 0100 hrs to 0900 hrs daily. All sparge wells were running, excluding AS-6 and AS-15, from previous operations. All operational air sparge wells were running between 4 and 6 standard cubic feet per minute (SCFM), and pressures ranging from 3 to 4.5 pounds per square inch (PSI). Blower 1 and Blower 2 were running at 40 SCFM. After September 15, the air sparging system was optimized to run from 1200 hrs to 1600 hrs daily and reduce the air flow to remediation wells AS-2, 8, 9, 10, 11 and 13, each operating at a flow rate of approximately 6 CFM with Blower 1 running at 55 CFM and Blower 2 turned off. These changes to the remediation system were made to increase operational efficiency of the blowers while continuing to maintain the level of oxygenation of the aquifer that can be achieved with the current configuration of the remediation wells.

Results

Site Hydrology

During the monitoring period of September 2011, groundwater elevation varied from surface at MW-25, with an elevation 5968 ft above mean sea level (AMSL), to 5936 ft at MW-23. Figure 2 illustrates the potentiometric surface for the site during this quarter. An average groundwater gradient was determined to be 0.025 with a groundwater flow to the northeast/north consistent with the drainage system of the West Divide Creek within the seep area.

Analytical Results

Groundwater analytical results indicate that monitoring stations MW-2, MW-4 and MW-17 had benzene concentrations of 0.13 mg/L, 0.057 mg/L and 0.064 mg/L respectively. Toluene and Ethylbenzene were below detection levels in all wells. Total xylenes were detected at MW-2 and MW-4 at concentrations of 0.035 mg/L, 0.02 mg/L respectively, which are below COGCC Table 910-1 standards. Figure 3 illustrates BTEX and methane results for the third quarter. Figure 4 illustrates the benzene impacts greater than 0.005 mg/l. The highest concentration of methane was observed in MW-2 and MW-4 with concentrations of 8.0 mg/L and 16.0 mg/L respectively. Figure 5 illustrates the methane concentrations above 1 mg/L. Isotopic analysis indicate all samples (MW-2, 4, 9, 14 and 17) are of thermogenic origin (Figure 6).

Observed methane concentrations range from non-detect to 16 mg/L. The highest concentration was observed within the seep area and is thermogenic in origin. Currently there is no methane or sodium standard with COGCC or Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission Regulation NO. 41.

Figure 7 illustrates the combined sodium (Na) chloride (Cl) concentrations in groundwater. The highest NaCl concentration observed was in MW-23 with a concentration of 495 mg/L, which is downgradient of the seep area. The lowest concentration observed was in MW-25 with a concentration of 47.7 mg/L southeast of the seep. Some of the lowest concentrations were observed within the seep area (See Figure 7). Figure 7 illustrates the seep area has no correlation of sodium and chloride concentrations observed within the site. The largest concentrations observed are far downgradient of the seep area and can be attributed to natural groundwater geochemistry conditions.

Analytical results indicate that no organics were detected in the surface-water for the above mentioned analysis.

A summary table (Table 8) is presented to illustrate the relative percent difference (RPD) of the duplicate samples collected for QA/QC for this monitoring period. Two analytes, benzene and methane exceeded the 50% RPD standard for MW-2 and MW-4 respectively. With all other analytes being within the accepted RPD range for the duplicate samples, and an average variability of 25.11%, the reported results will be that of the higher reported value for the duplicate samples. The data is validated and a conservative approach will be used by reporting the higher of the two reported values.

Discussion of Historical Groundwater Monitoring Results

Since the start of the seep in 2004, Encana has collected 1,272 groundwater samples within the seep area. 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 87 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 (or below laboratory detection levels) 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.

Monitoring stations MW-2, MW-4 and MW-17 continue to illustrate that the source (Hydrocarbons) is present. Below is a summary of monitoring stations impacted by the seep.

At monitoring station MW-14, benzene concentrations declined dramatically before the system was installed in 2005 (Figure 8). Benzene concentrations have remained below the groundwater standard since March 2007. MW-14 was considered to be at the initial source area and is not within the treatment area.

Before the system was installed, MW-9 benzene concentrations declined to non-detect levels (Figure 9). MW-9 is not within the treatment area and benzene concentrations/source area have declined to non-detect.

MW-4 benzene concentrations remain above the groundwater standard, but continue to decline (Figure 10).

MW-2 benzene concentrations continue to be above the groundwater standard (Figure 11). MW-2 is not within the treatment area and benzene concentrations/source area have declined.

MW-1 benzene concentrations declined to non-detect levels before the system was installed (Figure 12). MW-1 benzene values have remained below groundwater standard since March 2005.

MW-17 benzene concentrations declined before the system start up, but have remained above the groundwater standard, and continue to decline (Figure 13).

MW-7 benzene concentrations declined to non-detect levels before the system was installed (Figure 14). MW-7 benzene concentrations have remained below groundwater standard since April 2005.

MW-8-benzene concentrations declined to non-detect levels before the system was installed (Figure 15). MW-8 benzene concentrations have remained below groundwater standard since July 2005.

MW-6 has shown no impacts since April 2005 (1 hit above the groundwater standard, prior to April 2005).

MW-12 has been clean since September 2007.

MW-16 has been clean since March 2006.

Divide Creek Remediation Analysis

The overall decline in 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), that has resulted in the observed concentration declines. Based on the extensive monitoring conducted to date, the groundwater plume is stable and will not migrate further to impact potential groundwater receptors at the water wells located downgradient.

Historical and current data indicate the treatment system has minimal or no effect on the current source area. Monitoring of dissolved oxygen indicates that the treatment system has limited effect on the source area. The background dissolved oxygen concentrations comparative to the treatment area concentrations are only increased by 16% within the treatment area for September 2011 (MW-25, Background vs. MW-8, Treatment Area).

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

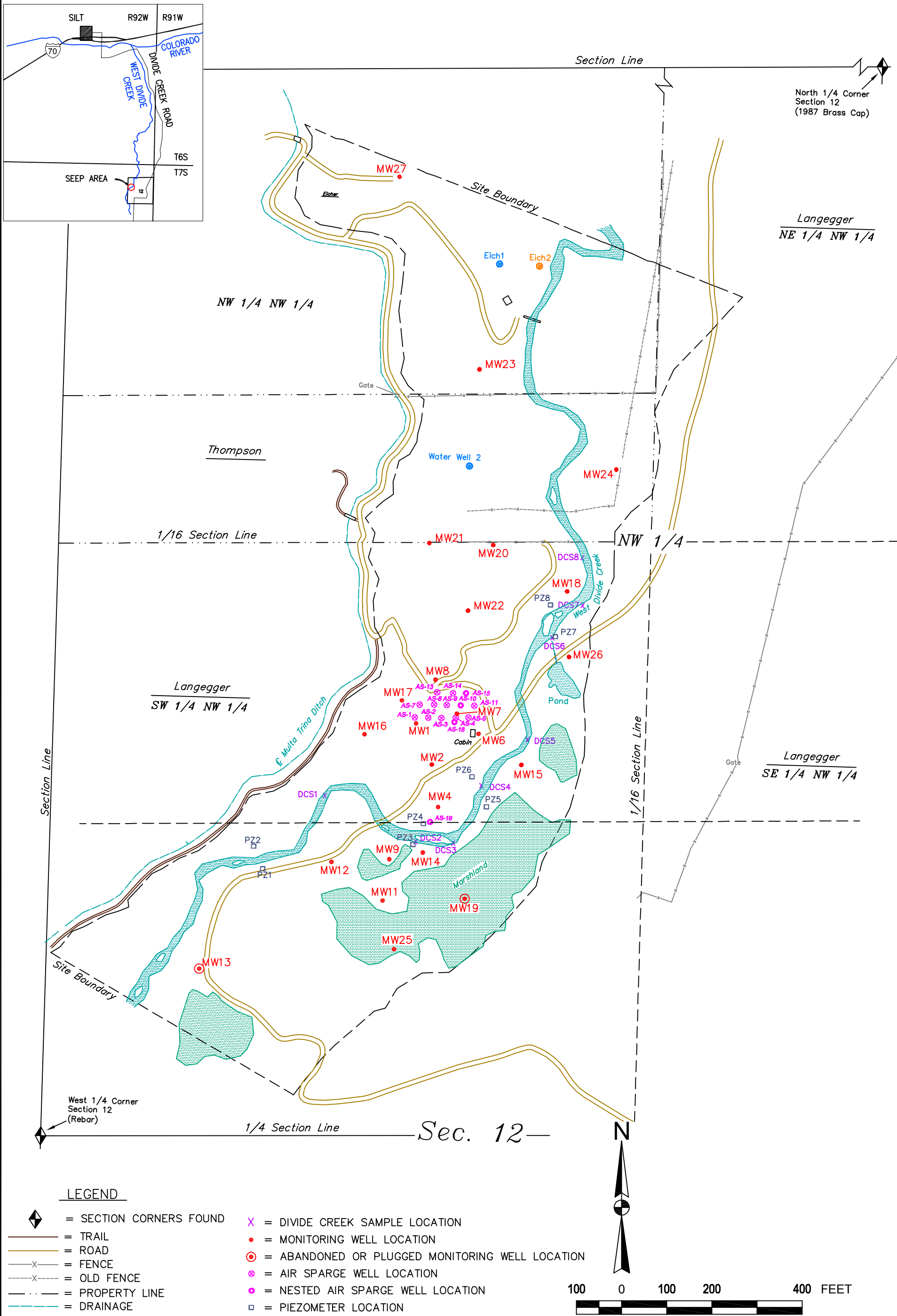
Sincerely,
Rule Engineering, LLC

Scotty Mann

Scotty Mann
Hydrogeologist/Project Manager

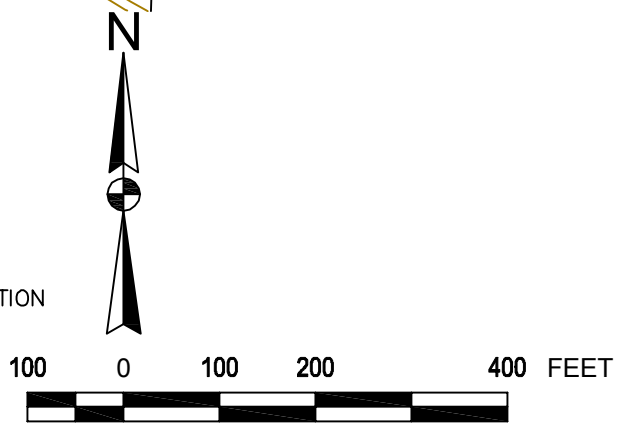
cc: Linda Spry O'Rourke - COGCC
Kathy Friesen-Encana
Pepi Langegger
Steve Thompson
Lisa Bracken

Figures



LEGEND

- = SECTION CORNERS FOUND
- = TRAIL
- = ROAD
- = FENCE
- = OLD FENCE
- = PROPERTY LINE
- = DRAINAGE
- = DIVIDE CREEK SAMPLE LOCATION
- = MONITORING WELL LOCATION
- = ABANDONED OR PLUGGED MONITORING WELL LOCATION
- = AIR SPARGE WELL LOCATION
- = NESTED AIR SPARGE WELL LOCATION
- = PIEZOMETER LOCATION



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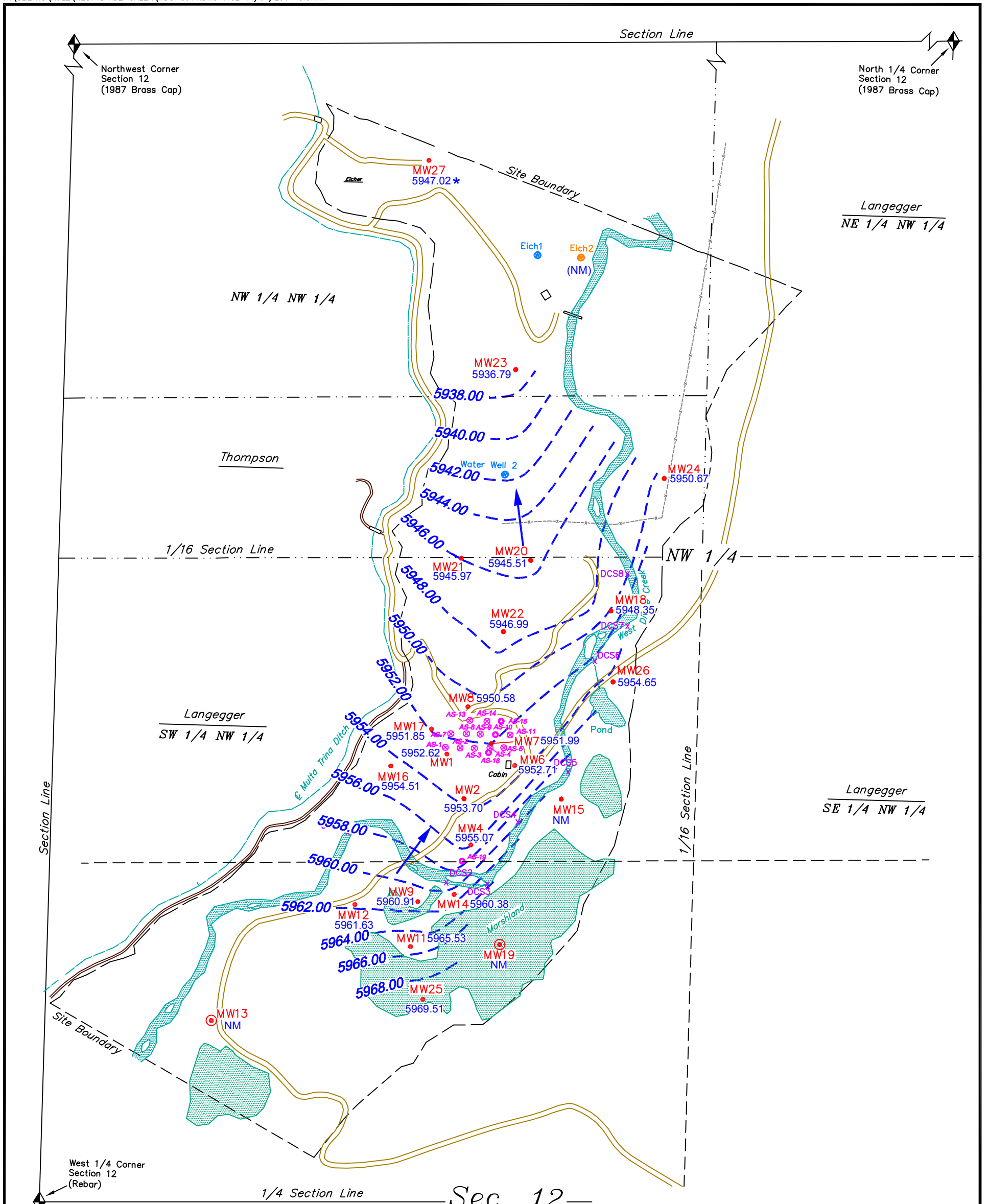
West Divide Creek Seep Area
Garfield County, Colorado

Site Location Map

DATE: 8/9/11

FILE: WDC-Base-Geo-Refd.dwg

FIGURE: 1

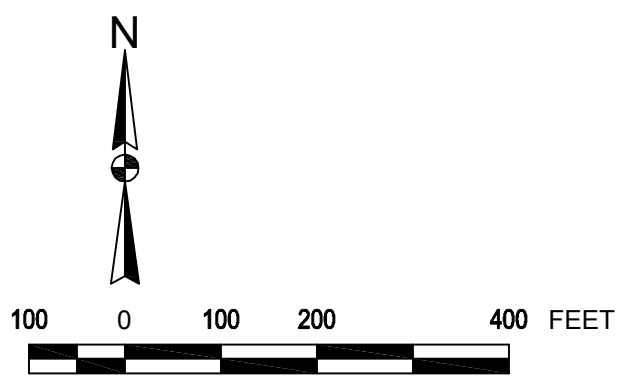


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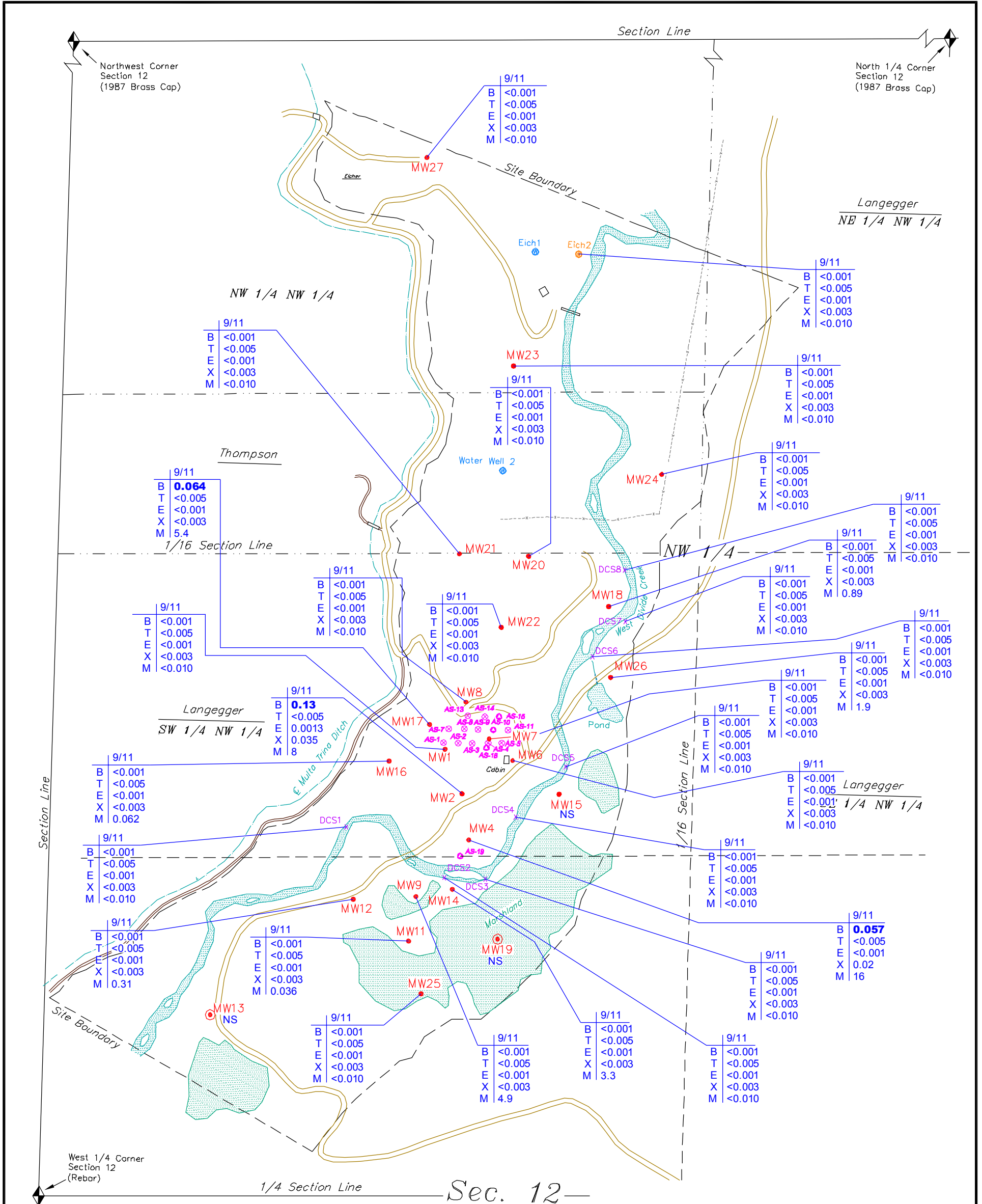
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- = ROAD
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- = PROPERTY LINE
- = DRAINAGE
- = MONITORING WELL LOCATION
- = ABANDONED OR PLUGGED MONITORING WELL LOCATION
- = AIR SPARGE WELL LOCATION
- = NESTED AIR SPARGE WELL LOCATION
- = DIVIDE CREEK SAMPLE LOCATION
- = NOT MEASURED
- = DATA NOT USED IN CONTOURING

GROUNDWATER LEGEND

- = GROUNDWATER ELEVATION CONTOUR (FEET)
- = GROUNDWATER ELEVATION (FEET)
- = GROUNDWATER FLOW DIRECTION
- = NOT MEASURED
- = DATA NOT USED IN CONTOURING



Sec. 12

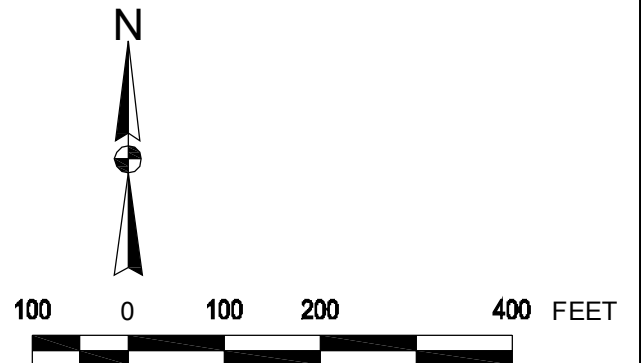


LEGEND

- ◆ = SECTION CORNERS FOUND
- = TRAIL
- = ROAD
- = FENCE
- - - x - - - = OLD FENCE
- . - . - = PROPERTY LINE
- - - - - = DRAINAGE
- X = DIVIDE CREEK SAMPLE LOCATION
- = MONITORING WELL LOCATION
- ⊙ = ABANDONED OR PLUGGED MONITORING WELL LOCATION
- ⊗ = AIR SPARGE WELL LOCATION
- ⊙ = NESTED AIR SPARGE WELL LOCATION

CHEMICAL DATA

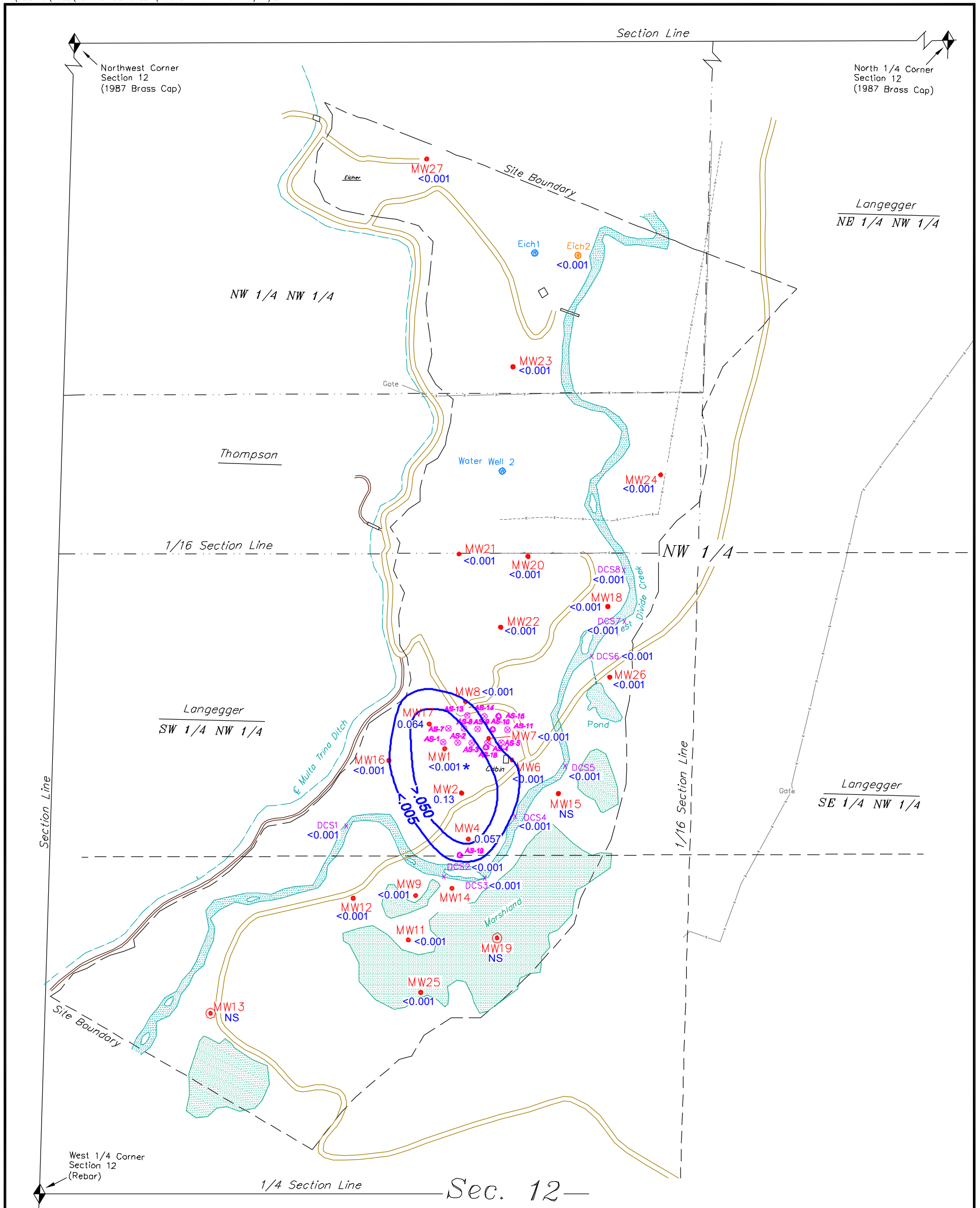
- B = BENZENE (mg/L)
- T = TOLUENE (mg/L)
- E = ETHYLBENZENE (mg/L)
- X = XYLENES (mg/L)
- M = TOTAL METHANE (mg/L)
- NS = NOT SAMPLED



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**West Divide Creek Seep Area
Garfield County, Colorado**

**Groundwater Analytical Results
September 2011**

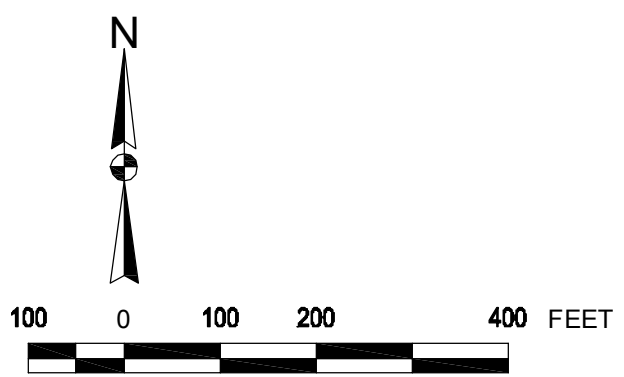


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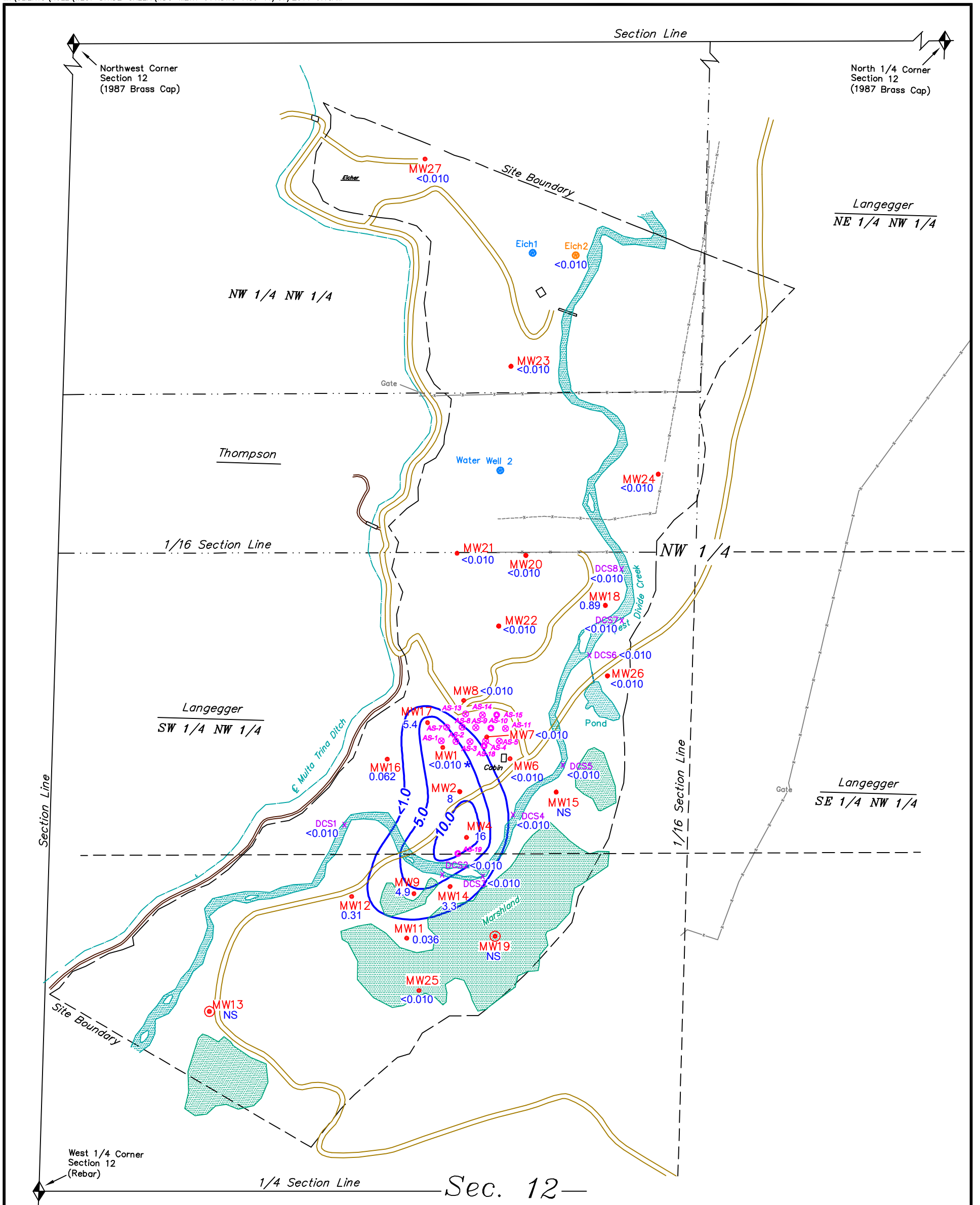
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- = DIVIDE CREEK SAMPLE LOCATION
- = MONITORING WELL LOCATION
- = ABANDONED OR PLUGGED MONITORING WELL LOCATION
- = AIR SPARGE WELL LOCATION
- = NESTED AIR SPARGE WELL LOCATION

CHEMICAL DATA

- = 0.005 = BENZENE CONCENTRATION CONTOUR (mg/L)
- 100 = BENZENE CONCENTRATION (mg/L)
- * = DATA NOT USED IN CONTOURING
- NS = NOT SAMPLED



West Divide Creek Seep Area Garfield County, Colorado		Benzene Concentrations September 2011	
DATE: 10/12/11	FILE: WDC-B911.dwg	FIGURE: 4	

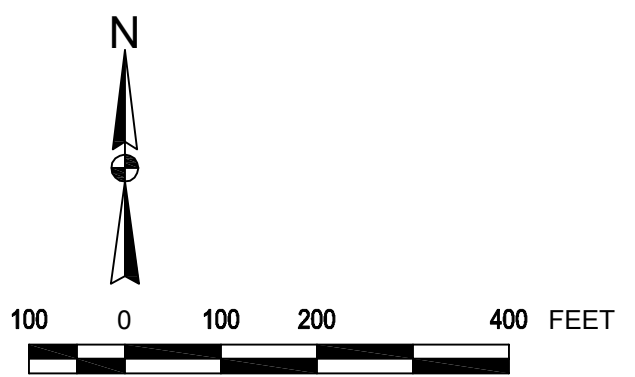


LEGEND

- = SECTION CORNERS FOUND
- = TRAIL
- = ROAD
- = FENCE
- = OLD FENCE
- = PROPERTY LINE
- = DRAINAGE
- = DIVIDE CREEK SAMPLE LOCATION
- = MONITORING WELL LOCATION
- = ABANDONED OR PLUGGED MONITORING WELL LOCATION
- = AIR SPARGE WELL LOCATION
- = NESTED AIR SPARGE WELL LOCATION

CHEMICAL DATA

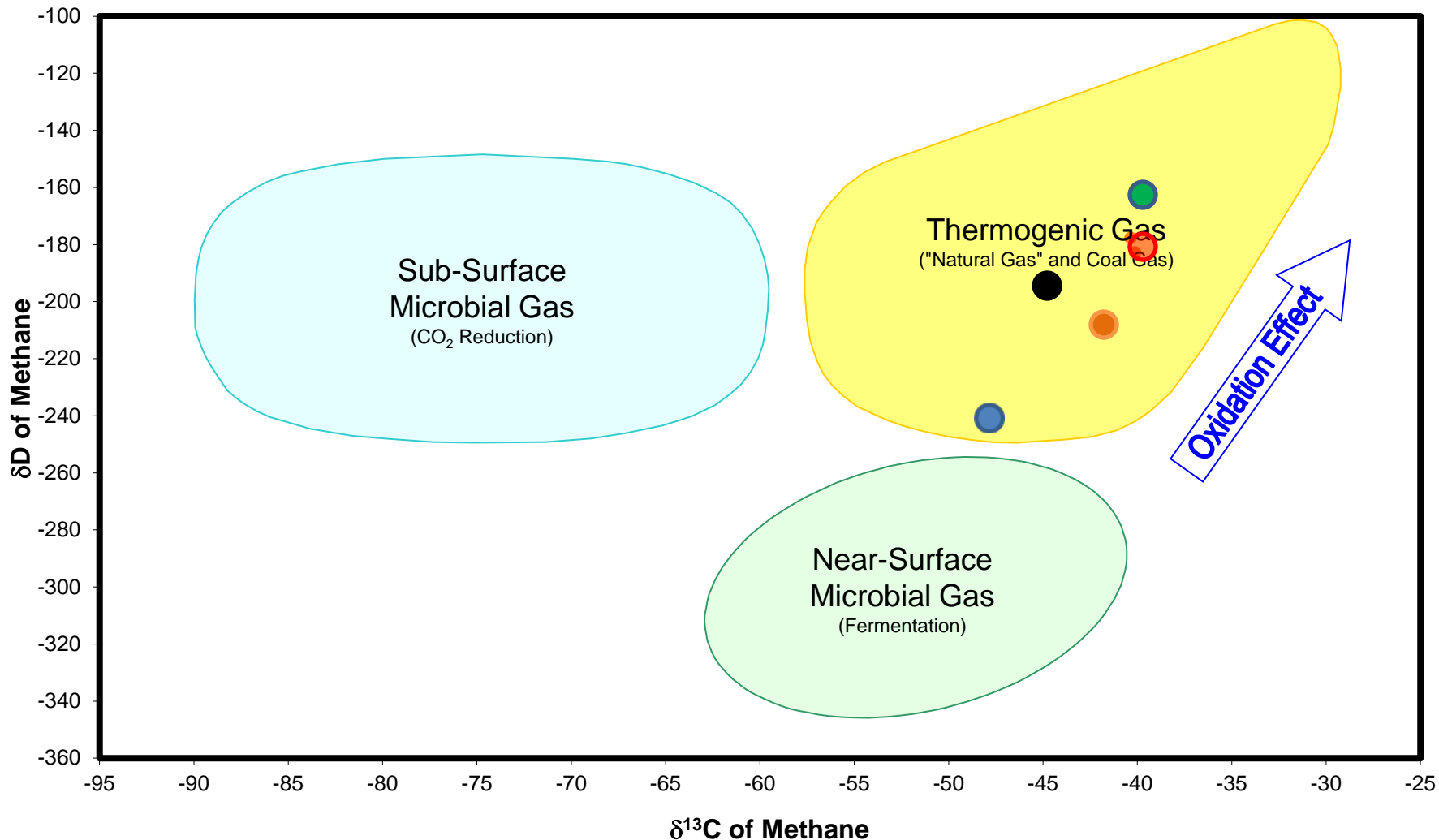
- 5.0 = THERMOGENIC & BIOGENIC METHANE CONCENTRATION CONTOUR IN GROUNDWATER (mg/L)
- 5.7 = THERMOGENIC & BIOGENIC METHANE CONCENTRATION IN GROUNDWATER (mg/L)
- NS = NOT SAMPLED
- * = DATA NOT USED IN CONTOURING



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West Divide Creek Seep Area Garfield County, Colorado		Total Dissolved Methane Concentrations September 2011	
DATE: 10/12/11	FILE: WDC-Meth-911.dwg	FIGURE: 5	

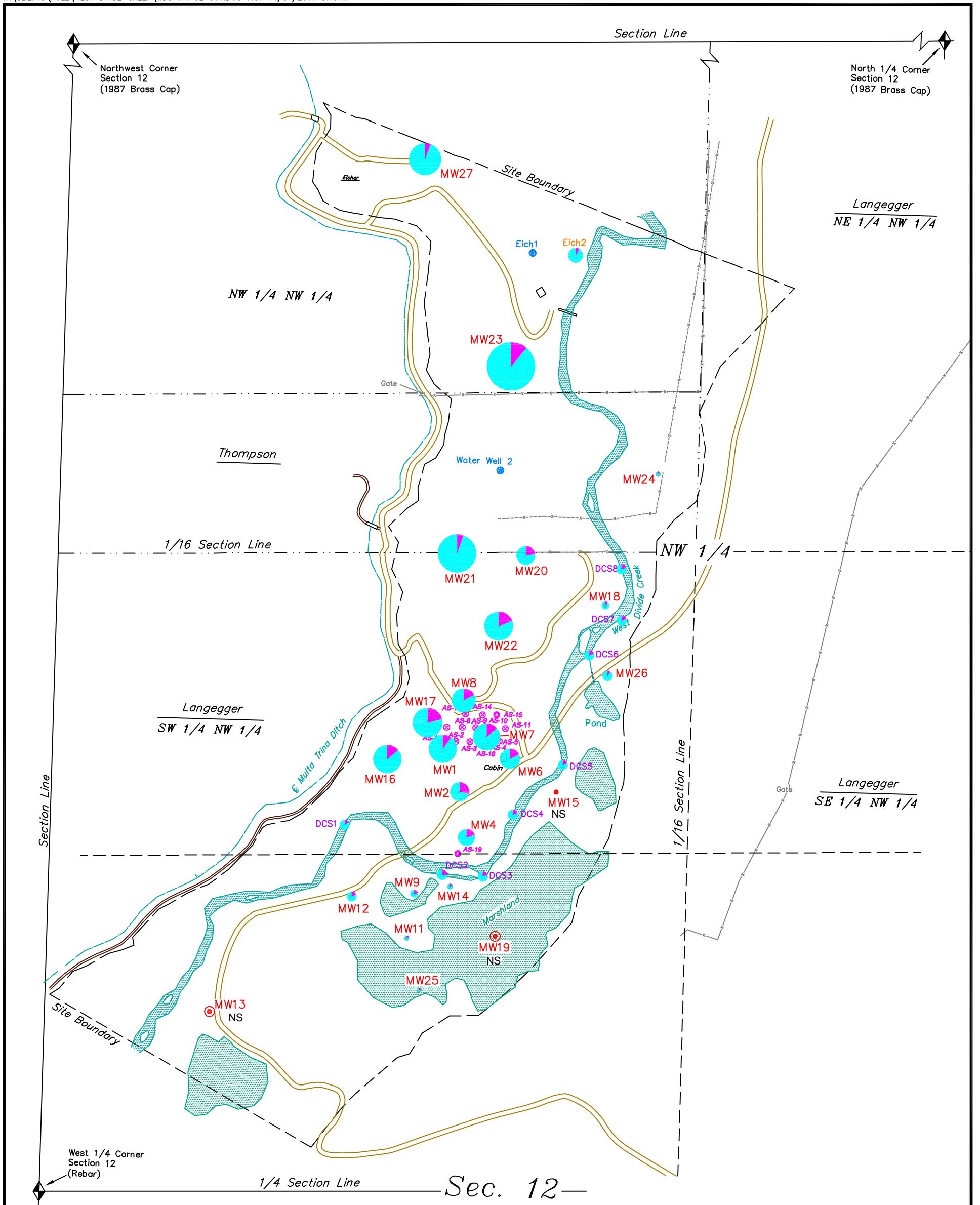
Typical Compositional Ranges of Methanes from Different Sources



- MW-4
- MW-2
- MW-17
- MW-9
- MW-14

Figure 6

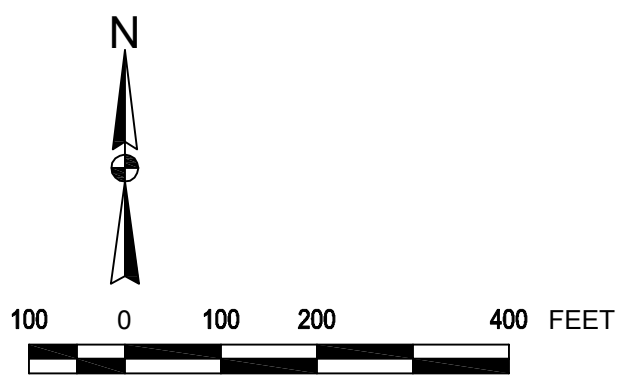
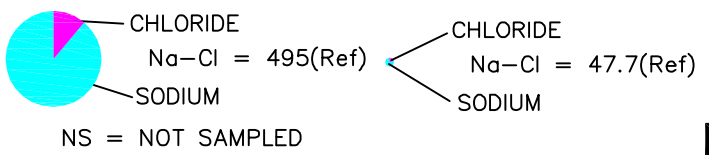
Courtesy of Isotech



LEGEND

- = SECTION CORNERS FOUND
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- = ABANDONED OR PLUGGED MONITORING WELL LOCATION
- = AIR SPARGE WELL LOCATION
- = NESTED AIR SPARGE WELL LOCATION

CHEMICAL DATA



West Divide Creek Seep Area		Relative Na-Cl Concentrations	
Garfield County, Colorado		Over Monitoring Stations	
September 2011			
DATE: 10/12/11	FILE: WDC-Na-Cl-911.dwg	FIGURE: 7	

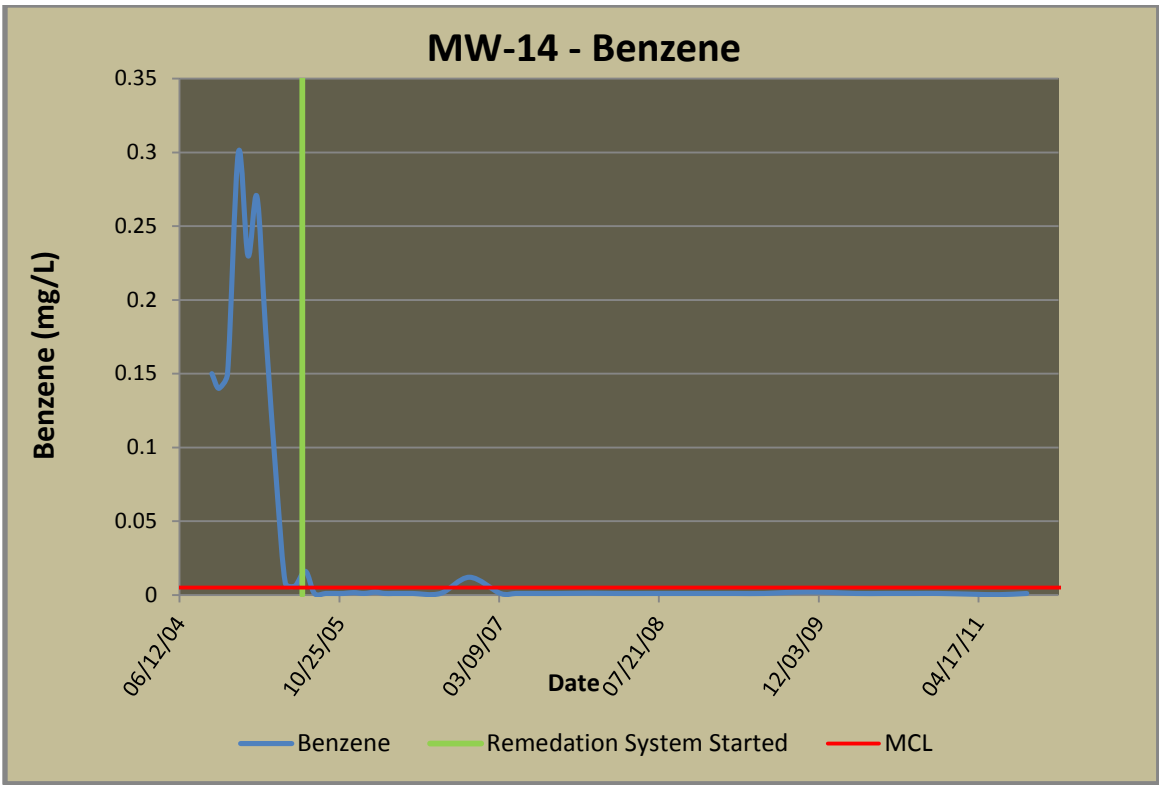


Figure 8 (MW-14 Historical Benzene Concentrations)

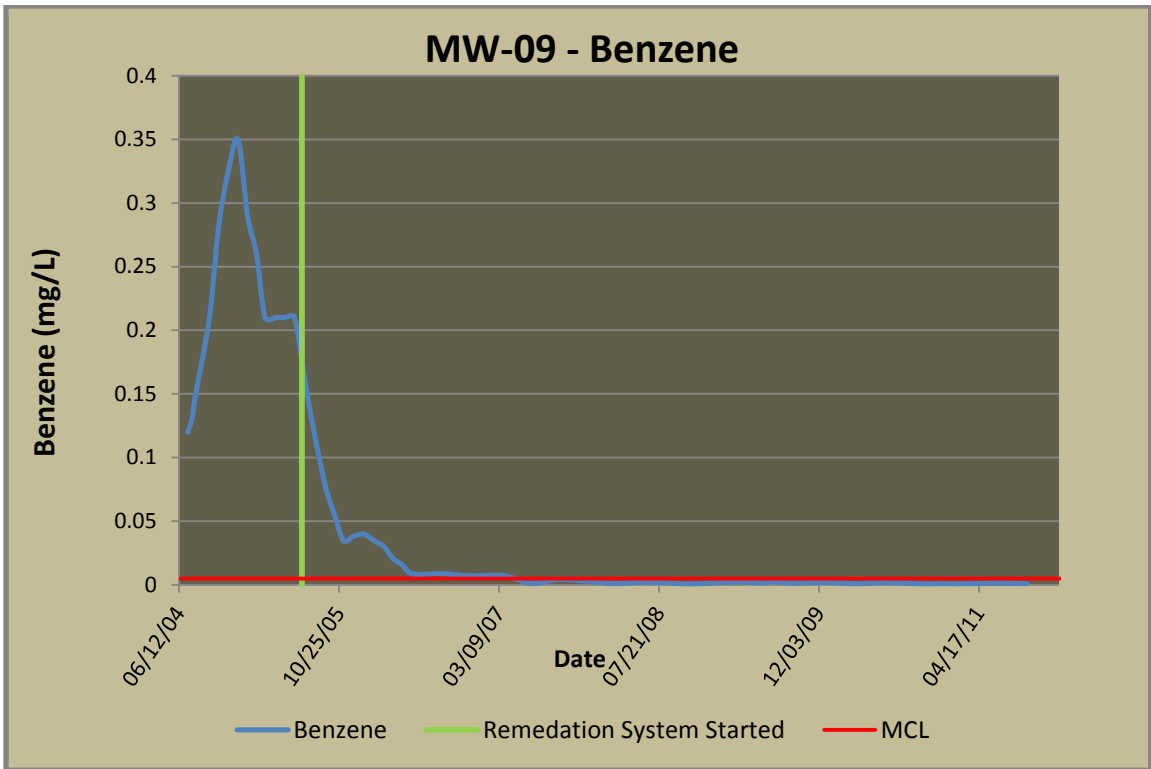


Figure 9 (MW-9 Historical Benzene Concentrations)

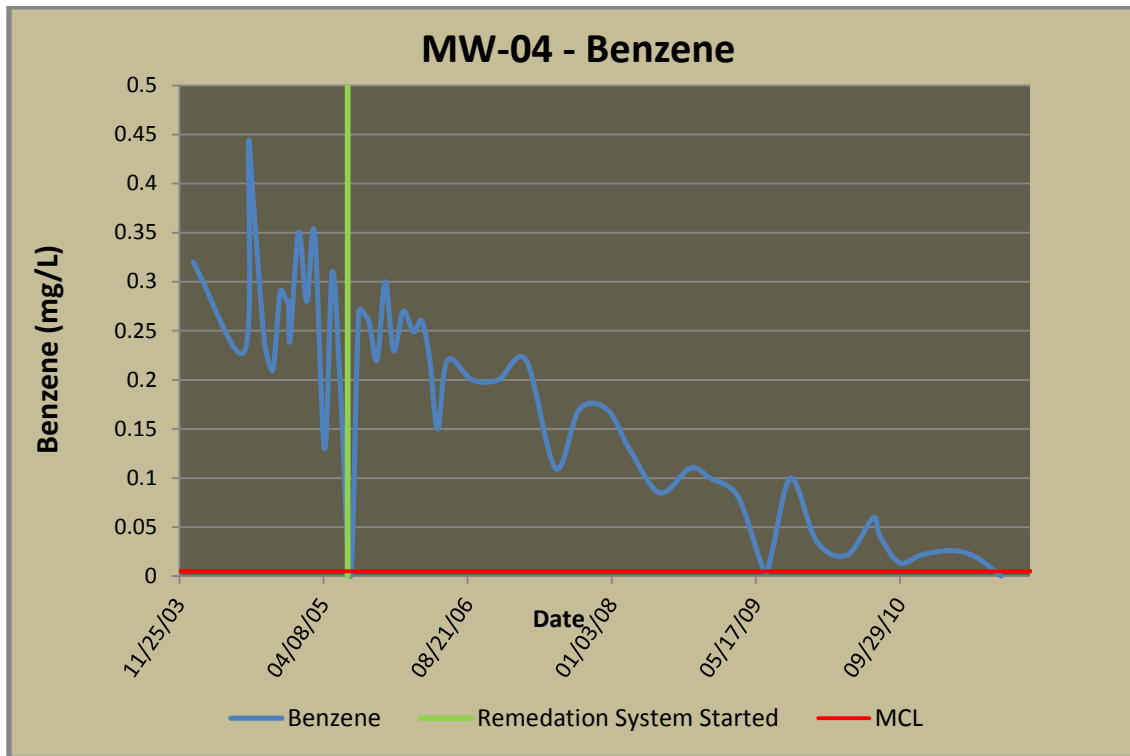


Figure 10 (MW-4 Historical Benzene Concentrations)

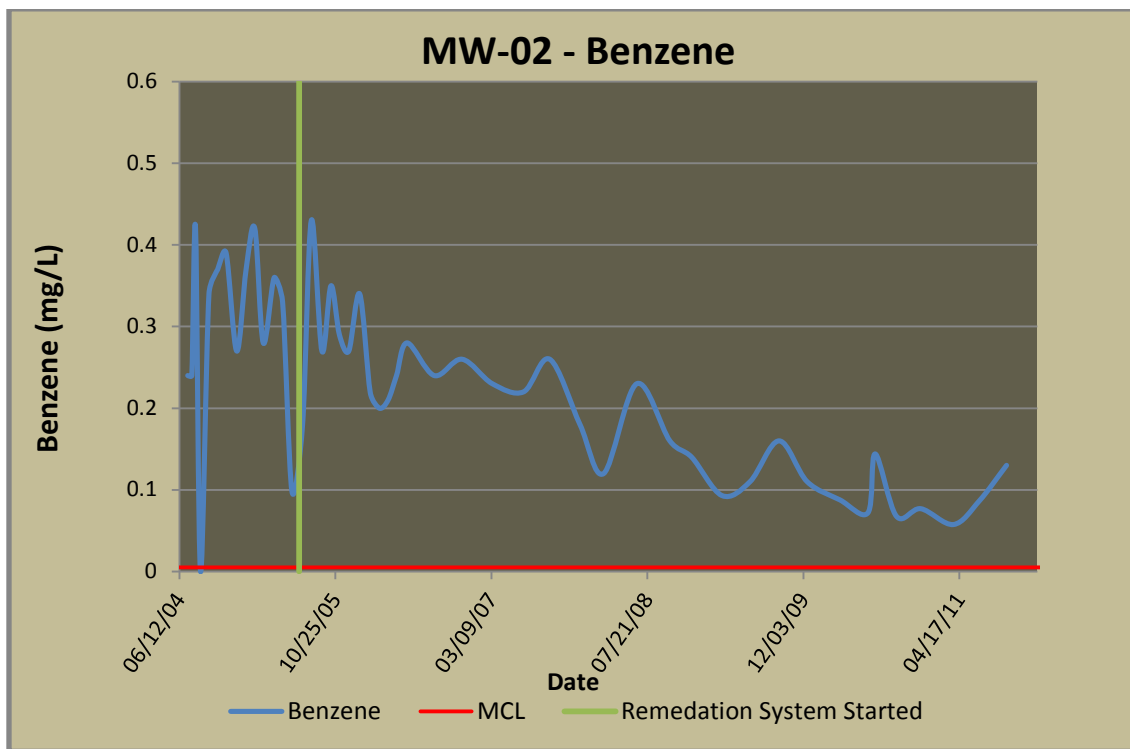


Figure 11 (MW-2 Historical Benzene Concentrations)

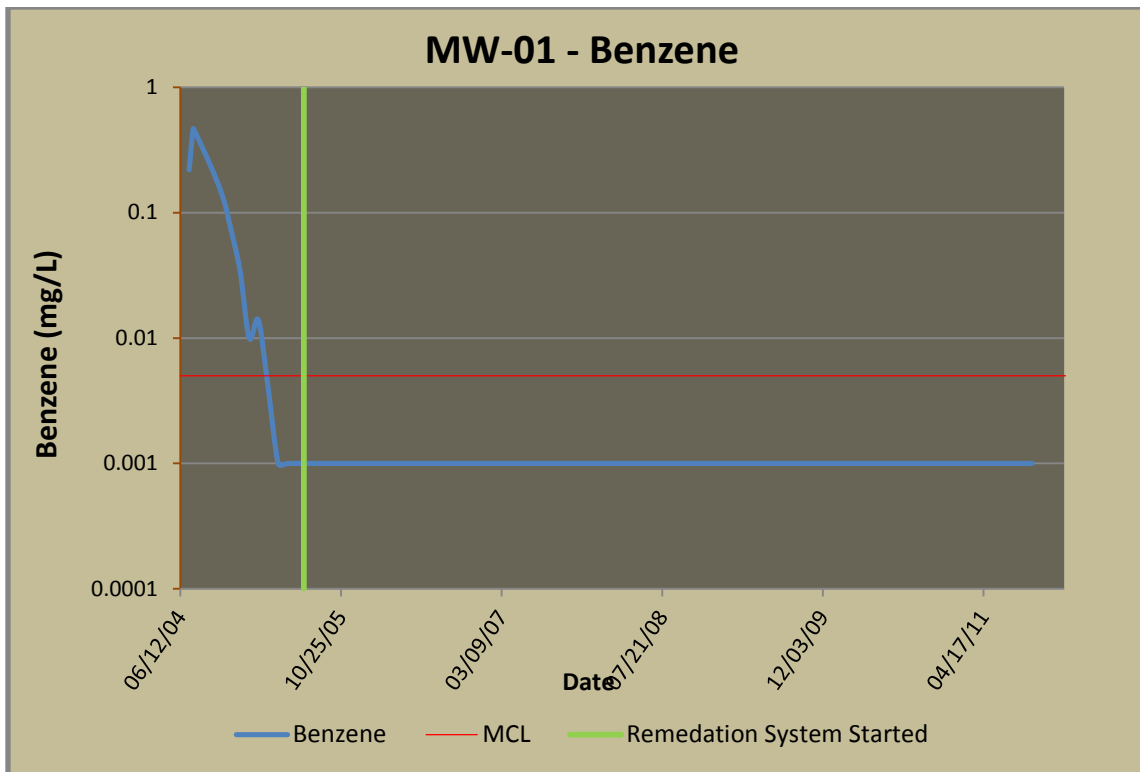


Figure 12 (MW-1 Historical Benzene Concentrations)

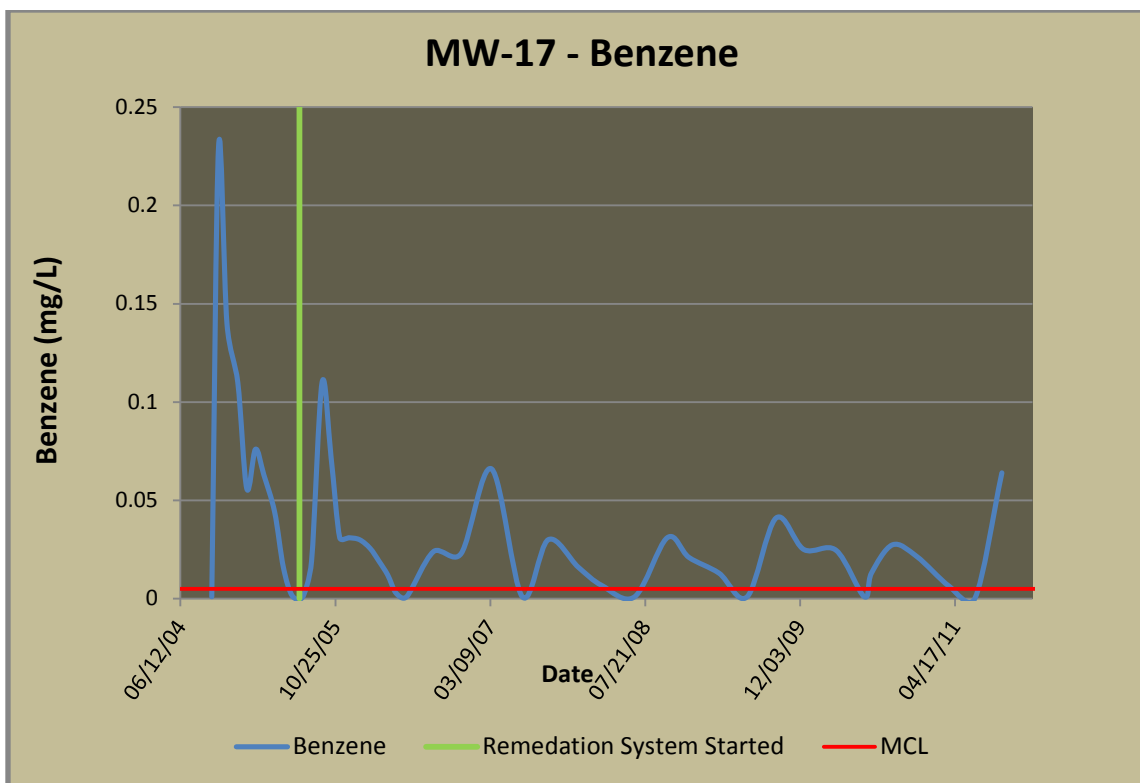


Figure 13 (MW-17 Historical Benzene Concentrations)

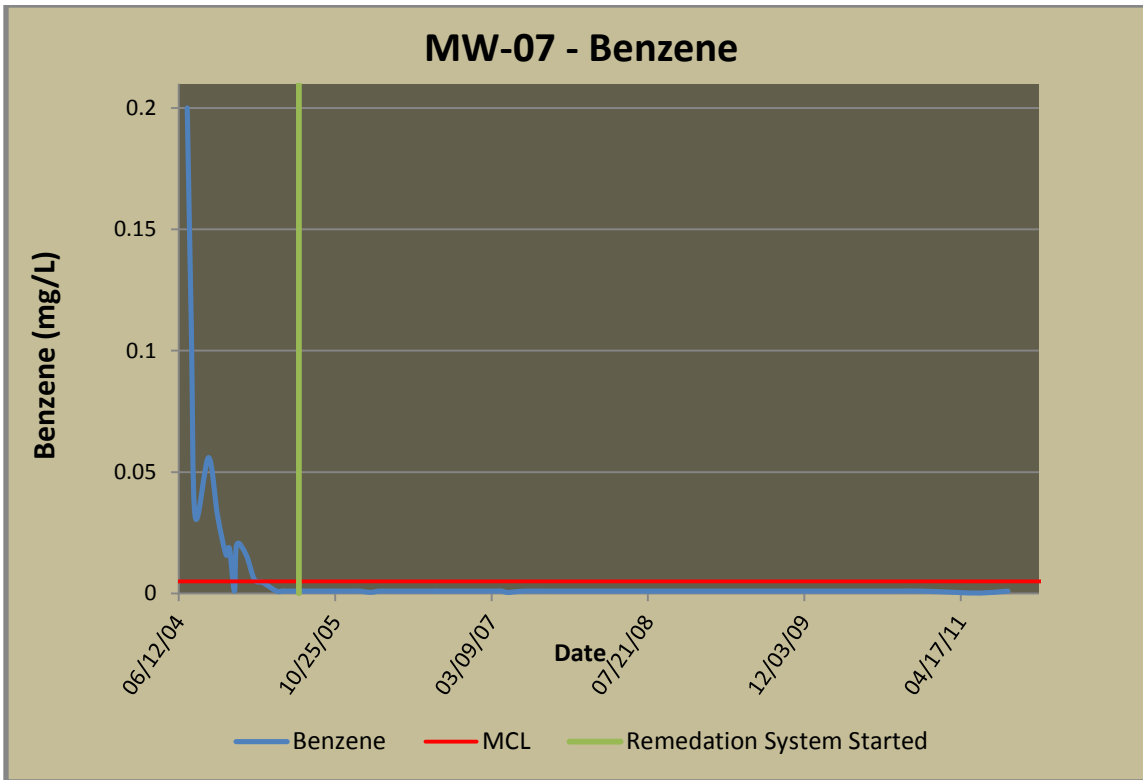


Figure 14 (MW-7 Historical Benzene Concentrations)

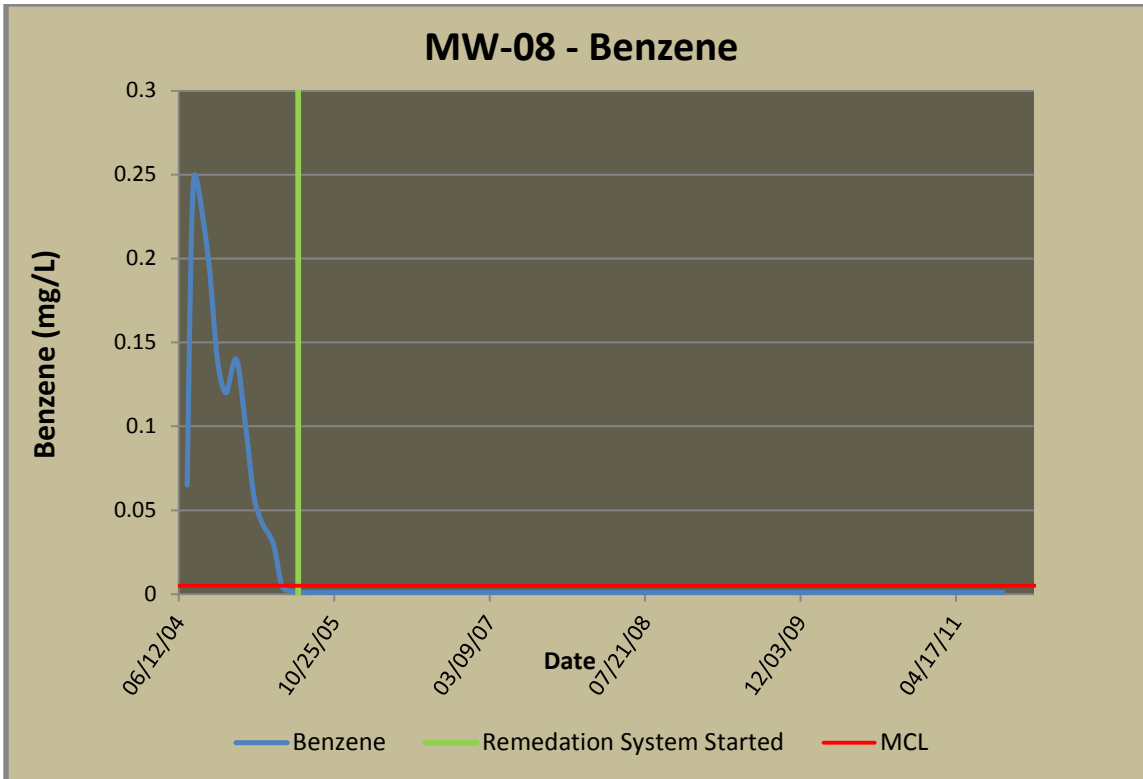


Figure 15 (MW-8 Historical Benzene Concentrations)

Tables

Table 1. Groundwater Field Parameters

Monitoring Station	DTW	Temp [°C]	SPC [mS/cm]	DO [mg/L]	pH	ORP [mV]	Water Quality Observations
MW-1	6.17	12.00	1.16	0.87	7.78	-122.60	WQ: Light brown, mildly turbid, no sheen, no odor, no effer.
MW-2	5.58	11.90	0.78	1.04	7.78	-146.90	WQ: Light brown, turbid, no sheen, strong sulfur odor, no effer. *DUP-2-091511
MW-4	8.34	14.30	0.78	1.62	8.00	-150.60	WQ: Light grey, mildly turbid, no sheen, no odor, no effer. *DUP-3-091511
MW-6	7.23	13.70	1.11	1.25	6.97	-2.70	WQ: Light brown, cloudy, no sheen, no odor, no effer.
MW-7	6.98	13.00	1.26	3.01	7.35	-10.60	WQ: Light brown, mildly turbid, no sheen, no odor, no effer.
MW-8	8.71	12.30	1.13	1.16	7.56	-182.40	WQ: Clear, no sheen, no odor, no effer.
MW-9	4.22	11.50	0.69	1.00	7.60	-145.10	WQ: Light grey, no sheen, slight sulfur odor, no effer.
MW-11	4.13	12.00	0.552	1.36	7.70	-113.50	WQ: Clear, no sheen, no odor, no effer.
MW-12	1.97	12.72	1.525	1.87	8.06	-79.40	No Observation
MW-14	4.68	12.10	0.71	0.73	7.48	-128.80	WQ: Light grey, mildly turbid, no sheen, no odor, no effer.
MW-16	5.94	12.30	0.94	1.30	8.38	-158.10	WQ: Clear, no sheen, no odor, no effer.
MW-17	6.64	12.20	1.09	1.04	7.77	-203.20	WQ: Brown, no sheen, slight rotten egg odor, no effer. *DUP-1-091511
MW-18	4.08	11.82	1.144	1.4	7.94	-31.90	No Observation
MW-20	8.37	13.10	1.23	1.37	7.57	-61.70	No Observation
MW-21	23.48	12.00	1.32	0.65	7.61	-96.10	WQ: Cloudy, no odor, no sheen, no effer.
MW-22	10.09	12.20	1.46	2.24	7.59	-47.20	WQ: Cloudy, no odor, no sheen, no effer.
MW-23	15.19	10.20	2.123	1.75	7.81	-149.50	WQ: Cloudy, light brown, earthy odor, no sheen, no effer. Well purged with 10 bailers and new one used. Raining.
MW-24	4.24	20.20	1.376	3.61	6.98	203.60	No Observation
MW-25	2.28	11.70	0.553	0.84	7.79	-102.80	WQ: Light brown, mildly turbid, no odor, no sheen, no effer.
MW-26	0.00	14.80	0.84	0.80	7.69	-107.50	WQ: Light brown, mildly turbid, no sheen, no odor, no effer.
MW-27	9.20	12.41	1.46	1.58	7.77	-71.40	WQ: Light brown, cloudy, earthy odor, no sheen, no effer. Well purged w 10 bailers, and new baler used. Raining
Eicher2	NA	14.79	1.296	1.25	7.50	-109.70	WQ: Clean, small particulates, no odor, no sheen, no effer. Took sample from opening in top of cistern. Used new bailer.

Table 2. September 2011, 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
MW1	MW-1-091511	L536627-01	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW2	MW-2-091511	L536627-02	9/15/2011	0.001	0.00018	0.13		0.005	0.00017	ND		0.001	0.00027	0.0013		0.003	0.00086	0.035	
MW4	MW-4-091511	L536627-03	9/15/2011	0.001	0.00018	0.057		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	0.02	
MW6	MW-6-091511	L536627-04	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW7	MW-7-091511	L536627-05	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW8	MW-8-091511	L536627-06	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW9	MW-9-091511	L536627-07	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW11	MW-11-091511	L536627-08	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW12	MW-12-091411	L536627-09	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW14	MW-14-091511	L536627-10	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW16	MW-16-091511	L536627-11	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW17	MW-17-091511	L536627-12	9/15/2011	0.001	0.00018	0.064		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW18	MW-18-091411	L536627-13	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW20	MW-20-091511	L536627-14	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW21	MW-21-091511	L536627-15	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW22	MW-22-091511	L536627-16	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW23	MW-23-091511	L536627-17	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW24	MW-24-091411	L536627-18	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW25	MW-25-091511	L536627-19	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW26	MW-26-091511	L536627-20	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW27	MW-27-091511	L536627-21	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
EICH2	EICH2-091511	L536627-22	9/15/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW17	DUP-1-091511	L536627-23	9/15/2011	0.001	0.00018	0.059		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
MW2	DUP-2-091511	L536627-24	9/15/2011	0.001	0.00018	0.049		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	0.03	
MW4	DUP-3-091511	L536627-25	9/15/2011	0.001	0.00018	0.036		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	0.014	

Value exceeds Table 910-1

Table 3. September 2011, 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
MW1	MW-1-091511	L536627-01	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	28		0.5	0.12	260	
MW2	MW-2-091511	L536627-02	9/15/2011	0.2	0.041	8		0.26	0.081	2.2		0.26	0.11	ND		1	0.15	56		0.5	0.12	140	
MW4	MW-4-091511	L536627-03	9/15/2011	0.4	0.082	16		0.52	0.16	3.5		0.52	0.23	ND		1	0.15	35		0.5	0.12	140	
MW6	MW-6-091511	L536627-04	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	37		0.5	0.12	170	
MW7	MW-7-091511	L536627-05	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	38		0.5	0.12	240	
MW8	MW-8-091511	L536627-06	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	36		0.5	0.12	210	
MW9	MW-9-091511	L536627-07	9/15/2011	0.08	0.016	4.9		0.1	0.032	0.64		0.1	0.046	ND		1	0.15	18		0.5	0.12	61	
MW11	MW-11-091511	L536627-08	9/15/2011	0.01	0.0021	0.036		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	13		0.5	0.12	40	
MW12	MW-12-091411	L536627-09	9/14/2011	0.01	0.0021	0.31		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	20		0.5	0.12	84	
MW14	MW-14-091511	L536627-10	9/15/2011	0.1	0.021	3.3		0.13	0.04	0.28		0.13	0.057	ND		1	0.15	9.6		0.5	0.12	51	
MW16	MW-16-091511	L536627-11	9/15/2011	0.01	0.0021	0.062		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	40		0.5	0.12	250	
MW17	MW-17-091511	L536627-12	9/15/2011	0.1	0.021	5.4		0.13	0.04	1.3		0.13	0.057	ND		1	0.15	64		0.5	0.12	240	
MW18	MW-18-091411	L536627-13	9/14/2011	0.02	0.0041	0.89		0.013	0.004	ND		0.026	0.011	ND		1	0.15	8.5		0.5	0.12	76	
MW20	MW-20-091511	L536627-14	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	44		0.5	0.12	150	
MW21	MW-21-091511	L536627-15	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	21		0.5	0.12	370	
MW22	MW-22-091511	L536627-16	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	56		0.5	0.12	240	
MW23	MW-23-091511	L536627-17	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	55		0.5	0.12	440	
MW24	MW-24-091411	L536627-18	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	4.2		0.5	0.12	46	
MW25	MW-25-091511	L536627-19	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	9.7		0.5	0.12	38	
MW26	MW-26-091511	L536627-20	9/15/2011	0.1	0.021	1.9		0.013	0.004	ND		0.13	0.057	ND		1	0.15	10		0.5	0.12	96	
MW27	MW-27-091511	L536627-21	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	19		0.5	0.12	310	
EICH2	EICH2-091511	L536627-22	9/15/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	12		0.5	0.12	140	
MW17	DUP-1-091511	L536627-23	9/15/2011	0.1	0.021	4.1		0.13	0.04	0.82		0.13	0.057	ND		1	0.15	62		0.5	0.12	250	
MW2	DUP-2-091511	L536627-24	9/15/2011	0.2	0.041	7.6		0.26	0.081	2		0.26	0.11	ND		1	0.15	54		0.5	0.12	140	
MW4	DUP-3-091511	L536627-25	9/15/2011	0.2	0.041	5.3		0.26	0.081	1.1		0.26	0.11	ND		1	0.15	40		0.5	0.12	140	

Table 4. September 2011, Isotech Data.

Isotech Lab No.	Sample Name	Sample Date	Sample Time	GC Date	He %	H ₂ %	Ar %	O ₂ %	CO ₂ %	N ₂ %	CO %	C ₁ %	C ₂ %	C ₂ H ₄ %	C ₃ %	iC ₄ %	nC ₄ %	iC ₅ %	nC ₅ %	C ₆ + %	MS Date	δ ¹³ C ₁ ‰	δDC ₁ ‰	δ ¹³ C ₂ ‰	δ ¹³ C ₃ ‰	Specific Gravity	BTU	* Helium Dilution Factor
220759	MW-2 - 091511	9/15/2011	11:00	10/14/2011	na	na	0.481	0.048	3.26	23.67	nd	61.81	7.56	2E-04	2.35	0.332	0.329	0.078	0.04	0.039	10/17/2011	-40.36	-177.7	-27.52	-25.43	0.76	849	0.55
220760	MW-4 - 091511	9/15/2011	11:15	10/14/2011	na	na	0.478	0.86	2.12	24.74	0.044	61.48	6.83	2E-04	2.47	0.385	0.396	0.093	0.054	0.047	10/18/2011	-40.12	-182.8	-28.22	-25.70	0.758	841	0.42
220761	MW-9 - 091511	9/15/2011	12:15	10/14/2011	na	na	0.992	3.44	6.2	53.54	0.023	32.8	1.99	2E-04	0.708	0.133	0.117	0.036	0.008	0.014	10/17/2011	-48.23	-241.1	-28.25	-25.46	0.884	396	0.52
220762	MW-14 - 091511	9/15/2011	12:30	10/14/2011	na	na	0.953	0.62	10.73	45.4	0.006	38.21	2.79	nd	0.916	0.141	0.152	0.037	0.025	0.022	10/15/2011	-41.95	-209.7	-28.41	-25.72	0.885	473	0.57
220763	MW-17 - 091511	9/15/2011	10:00	10/14/2011	na	na	1.27	0.019	4.83	66.06	nd	25.29	2.52	3E-04	0.008	nd	nd	nd	nd	0.001	10/15/2011	-44.84	-194.0	-27.74		0.896	301	0.60

Notes:

Chemical analysis based on standards accurate to within 2%

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

These labs had helium added to them: 220759 through 220763

Addition of helium negates the ability to detect native helium or hydrogen.

Additional Remarks:

nd = not detected, na = not analyzed

Table 5. Surface Water Field Parameters

	Temp [°C]	SPC [mS/cm]	DO [mg/L]	pH	ORP [mV]	Water Quality Observations
DCS-1	15.36	1.461	7.91	7.73	122.50	WQ: Clear, no sheen or odor.
DCS-2	15.48	1.432	7.86	7.76	132.70	WQ: Clear, no sheen or odor.
DCS-3	15.52	1.464	8.10	7.81	134.30	WQ: Clear, no sheen or odor.
DCS-4	15.42	1.455	7.67	7.92	137.30	WQ: Clear, no sheen or odor.
DCS-5	15.21	1.253	8.59	7.91	140.10	WQ: Clear, no sheen or odor.
DCS-6	15.33	1.461	7.85	7.74	151.00	WQ: Clear, no sheen or odor.
DCS-7	15.37	1.468	7.80	7.61	154.20	WQ: Clear, no sheen or odor.
DCS-8	15.29	1.36	7.91	7.40	157.60	WQ: Clear, no sheen or odor.

Table 6. September 2011 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	DCS-1-091411	L536293-01	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
DCS2	DCS-2-091411	L536293-02	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
DCS3	DCS-3-091411	L536293-03	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
DCS4	DCS-4-091411	L536293-04	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
DCS5	DCS-5-091412	L536293-05	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
DCS6	DCS-6-091412	L536293-06	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
DCS7	DCS-7-091414	L536293-07	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	
DCS8	DCS-8-091415	L536293-08	9/14/2011	0.001	0.00018	ND		0.005	0.00017	ND		0.001	0.00027	ND		0.003	0.00086	ND	

Table 7. September 2011 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	DCS-1-091411	L536293-01	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	17		0.5	0.12	88	
DCS2	DCS-2-091411	L536293-02	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	22	J3	0.5	0.12	89	
DCS3	DCS-3-091411	L536293-03	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	22		0.5	0.12	85	
DCS4	DCS-4-091411	L536293-04	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	21		0.5	0.12	84	
DCS5	DCS-5-091412	L536293-05	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	17		0.5	0.12	85	
DCS6	DCS-6-091412	L536293-06	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	21		0.5	0.12	86	
DCS7	DCS-7-091414	L536293-07	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	21		0.5	0.12	84	
DCS8	DCS-8-091415	L536293-08	9/14/2011	0.01	0.0021	ND		0.013	0.004	ND		0.013	0.0057	ND		1	0.15	21		0.5	0.12	83	

Qualifiers:
J3

The associated batch QC was outside the established quality control range for precision.

Table 8. September 2011, 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	MW-2-091511	L536627-02	9/15/11	0.13	ND	0.0013	0.035	8	56	140
MW2	DUP-2-091511	L536627-24	9/15/11	0.049	ND	ND	0.03	7.6	54	140
RPD				90.50	NA	NA	15.38	5.13	3.64	0
MW4	MW-4-091511	L536627-03	9/15/11	0.057	ND	ND	0.02	16	35	140
MW4	DUP-3-091511	L536627-25	9/15/11	0.036	ND	ND	0.014	5.3	40	140
RPD				45.16	NA	NA	35.29	100.47	13.33	0
MW17	MW-17-091511	L536627-12	9/15/11	0.064	ND	ND	ND	5.4	64	240
MW17	DUP-1-091511	L536627-23	9/15/11	0.059	ND	ND	ND	4.1	62	250
RPD				8.13	NA	NA	NA	27.37	3.17	4.08

Appendix A



12065 Lebanon Rd.
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Tax I.D. 62-0814289

Est. 1970

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

Report Summary

Tuesday November 08, 2011

Report Number: L536293


Samples Received: 09/15/11

Client Project:

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 - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915, PA - 68-02979

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YOUR LAB OF CHOICE

12065 Lebanon Rd.
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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

November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-1-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 09:20

ESC Sample # : L536293-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	17.	1.0	mg/l	9056	09/16/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	88.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/20/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/20/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	107.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	104.		% Rec.	8260B	09/17/11	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: 09/22/11 16:59 Revised: 11/08/11 13:44



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Est. 1970

REPORT OF ANALYSIS

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

November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-2-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 09:40

ESC Sample # : L536293-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	22.	1.0	mg/l	9056	09/19/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	89.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/19/11	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	107.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	102.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	104.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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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

November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-3-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 10:00

ESC Sample # : L536293-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	22.	1.0	mg/l	9056	09/19/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	85.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	108.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	101.		% Rec.	8260B	09/17/11	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

November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-4-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 10:30

ESC Sample # : L536293-04

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	21.	1.0	mg/l	9056	09/19/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	84.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	108.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	101.		% Rec.	8260B	09/17/11	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

November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-5-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 10:50

ESC Sample # : L536293-05

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	17.	1.0	mg/l	9056	09/19/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	85.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	109.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	104.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
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 Parachute, CO 81635

November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-6-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 11:10

ESC Sample # : L536293-06

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	21.	1.0	mg/l	9056	09/19/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	86.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	110.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	94.4		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
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 Parachute, CO 81635

November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-7-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 11:30

ESC Sample # : L536293-07

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	21.	1.0	mg/l	9056	09/19/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	84.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	108.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	99.0		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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November 08, 2011

Date Received : September 15, 2011
 Description : West Divide Creek - 02E
 Sample ID : DCS-8-091411
 Collected By : Tracy Loftus
 Collection Date : 09/14/11 12:00

ESC Sample # : L536293-08

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	21.	1.0	mg/l	9056	09/19/11	1
Methane	BDL	0.010	mg/l	RSK175	09/21/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/21/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/21/11	1
Sodium	83.	0.50	mg/l	6010B	09/17/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	110.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L536293-02	WG555923	SAMP	Chloride	R1866072	J3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.

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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 Level II

L536293

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Est. 1970

November 08, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG555523	09/16/11 07:39
Sodium	< .5	mg/l			WG555522	09/17/11 15:04
Benzene	< .001	mg/l			WG555431	09/16/11 23:24
Ethylbenzene	< .001	mg/l			WG555431	09/16/11 23:24
Methyl tert-butyl ether	< .001	mg/l			WG555431	09/16/11 23:24
Toluene	< .005	mg/l			WG555431	09/16/11 23:24
Total Xylenes	< .003	mg/l			WG555431	09/16/11 23:24
4-Bromofluorobenzene		% Rec.	96.50	82-120	WG555431	09/16/11 23:24
Dibromofluoromethane		% Rec.	114.1	82-126	WG555431	09/16/11 23:24
Toluene-d8		% Rec.	106.1	92-112	WG555431	09/16/11 23:24
a,a,a-Trifluorotoluene		% Rec.	103.5	90-116	WG555431	09/16/11 23:24
Total Xylenes	< .003	mg/l			WG556037	09/19/11 17:29
4-Bromofluorobenzene		% Rec.	100.4	82-120	WG556037	09/19/11 17:29
Dibromofluoromethane		% Rec.	106.6	82-126	WG556037	09/19/11 17:29
Toluene-d8		% Rec.	101.8	92-112	WG556037	09/19/11 17:29
a,a,a-Trifluorotoluene		% Rec.	104.2	90-116	WG556037	09/19/11 17:29
Chloride	< 1	mg/l			WG555923	09/19/11 10:41
Ethane	< .013	mg/l			WG556487	09/21/11 15:39
Ethene	< .013	mg/l			WG556487	09/21/11 15:39
Methane	< .01	mg/l			WG556487	09/21/11 15:39
Toluene	< .005	mg/l			WG556184	09/20/11 15:14
Total Xylenes	< .003	mg/l			WG556184	09/20/11 15:14
4-Bromofluorobenzene		% Rec.	94.77	82-120	WG556184	09/20/11 15:14
Dibromofluoromethane		% Rec.	105.7	82-126	WG556184	09/20/11 15:14
Toluene-d8		% Rec.	103.4	92-112	WG556184	09/20/11 15:14
a,a,a-Trifluorotoluene		% Rec.	106.5	90-116	WG556184	09/20/11 15:14

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Chloride	mg/l	220.	210.		2.35	20	L536482-02	WG555523
Sodium	mg/l	20.0	19.3		2.56	20	L536311-02	WG555522
Chloride	mg/l	18.0	22.0		22.8*	20	L536293-02	WG555923

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chloride	mg/l	40	39.8	99.5	90-110	WG555523
Sodium	mg/l	11.3	11.3	100.	85-115	WG555522

* 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	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/l	.025	0.0264	106.	72-119	WG555431
Ethylbenzene	mg/l	.025	0.0242	96.6	77-124	WG555431
Methyl tert-butyl ether	mg/l	.025	0.0249	99.5	67-127	WG555431
Toluene	mg/l	.025	0.0235	93.8	75-114	WG555431
Total Xylenes	mg/l	.075	0.0717	95.7	77-123	WG555431
4-Bromofluorobenzene				102.3	82-120	WG555431
Dibromofluoromethane				111.2	82-126	WG555431
Toluene-d8				106.5	92-112	WG555431
a,a,a-Trifluorotoluene				100.9	90-116	WG555431
Total Xylenes	mg/l	.075	0.0783	104.	77-123	WG556037
4-Bromofluorobenzene				100.1	82-120	WG556037
Dibromofluoromethane				102.8	82-126	WG556037
Toluene-d8				99.04	92-112	WG556037
a,a,a-Trifluorotoluene				100.5	90-116	WG556037
Chloride	mg/l	40	39.9	99.8	90-110	WG555923
Ethane	mg/l	.645	0.678	105.	70-130	WG556487
Ethene	mg/l	.635	0.660	104.	70-130	WG556487
Methane	mg/l	.339	0.333	98.1	70-130	WG556487
Toluene	mg/l	.025	0.0254	102.	75-114	WG556184
Total Xylenes	mg/l	.075	0.0824	110.	77-123	WG556184
4-Bromofluorobenzene				100.0	82-120	WG556184
Dibromofluoromethane				102.9	82-126	WG556184
Toluene-d8				100.6	92-112	WG556184
a,a,a-Trifluorotoluene				100.9	90-116	WG556184

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	39.8	39.8	100.	90-110	0	20	WG555523
Benzene	mg/l	0.0247	0.0264	99.0	72-119	6.79	20	WG555431
Ethylbenzene	mg/l	0.0241	0.0242	96.0	77-124	0.190	20	WG555431
Methyl tert-butyl ether	mg/l	0.0231	0.0249	92.0	67-127	7.44	20	WG555431
Toluene	mg/l	0.0231	0.0235	92.0	75-114	1.66	20	WG555431
Total Xylenes	mg/l	0.0723	0.0717	96.0	77-123	0.740	20	WG555431
4-Bromofluorobenzene				104.6	82-120			WG555431
Dibromofluoromethane				108.7	82-126			WG555431
Toluene-d8				107.4	92-112			WG555431
a,a,a-Trifluorotoluene				104.4	90-116			WG555431
Total Xylenes	mg/l	0.0769	0.0783	102.	77-123	1.74	20	WG556037
4-Bromofluorobenzene				99.25	82-120			WG556037
Dibromofluoromethane				98.48	82-126			WG556037
Toluene-d8				99.77	92-112			WG556037
a,a,a-Trifluorotoluene				100.7	90-116			WG556037
Chloride	mg/l	40.0	39.9	100.	90-110	0.250	20	WG555923

* 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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November 08, 2011

Analyte	Units	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref	%Rec					
Ethane	mg/l	0.698	0.678	108.		70-130	2.90	25	WG556487
Ethene	mg/l	0.682	0.660	107.		70-130	3.16	25	WG556487
Methane	mg/l	0.334	0.333	99.0		70-130	0.550	25	WG556487
Toluene	mg/l	0.0255	0.0254	102.		75-114	0.280	20	WG556184
Total Xylenes	mg/l	0.0800	0.0824	107.		77-123	2.96	20	WG556184
4-Bromofluorobenzene				95.90		82-120			WG556184
Dibromofluoromethane				104.0		82-126			WG556184
Toluene-d8				101.0		92-112			WG556184
a,a,a-Trifluorotoluene				103.7		90-116			WG556184

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Sodium	mg/l	31.0	19.3	11.3	104.	75-125	L536311-02	WG555522
Benzene	mg/l	0.0289	0	.025	116.	51-134	L536221-01	WG555431
Ethylbenzene	mg/l	0.0250	0	.025	100.	64-135	L536221-01	WG555431
Methyl tert-butyl ether	mg/l	0.0298	0.00320	.025	106.	55-136	L536221-01	WG555431
Toluene	mg/l	0.0249	0	.025	99.5	61-126	L536221-01	WG555431
Total Xylenes	mg/l	0.0746	0	.075	99.4	64-133	L536221-01	WG555431
4-Bromofluorobenzene					97.37	82-120		WG555431
Dibromofluoromethane					109.6	82-126		WG555431
Toluene-d8					105.3	92-112		WG555431
a,a,a-Trifluorotoluene					100.5	90-116		WG555431
Total Xylenes	mg/l	0.0795	0	.075	106.	64-133	L536207-02	WG556037
4-Bromofluorobenzene					97.00	82-120		WG556037
Dibromofluoromethane					106.4	82-126		WG556037
Toluene-d8					103.5	92-112		WG556037
a,a,a-Trifluorotoluene					105.4	90-116		WG556037
Chloride	mg/l	114.	65.0	50	98.0	80-120	L536033-01	WG555923
Toluene	mg/l	0.0237	0	.025	94.9	61-126	L536932-01	WG556184
Total Xylenes	mg/l	0.0696	0	.075	92.8	64-133	L536932-01	WG556184
4-Bromofluorobenzene					94.07	82-120		WG556184
Dibromofluoromethane					112.5	82-126		WG556184
Toluene-d8					102.8	92-112		WG556184
a,a,a-Trifluorotoluene					104.6	90-116		WG556184

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Sodium	mg/l	31.5	31.0	108.	75-125	1.60	20	L536311-02	WG555522
Benzene	mg/l	0.0296	0.0289	118.	51-134	2.30	20	L536221-01	WG555431
Ethylbenzene	mg/l	0.0272	0.0250	109.	64-135	8.29	20	L536221-01	WG555431
Methyl tert-butyl ether	mg/l	0.0299	0.0298	107.	55-136	0.630	20	L536221-01	WG555431
Toluene	mg/l	0.0261	0.0249	104.	61-126	4.95	20	L536221-01	WG555431
Total Xylenes	mg/l	0.0803	0.0746	107.	64-133	7.45	20	L536221-01	WG555431
4-Bromofluorobenzene				102.0	82-120				WG555431

* 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

L536293

12065 Lebanon Rd.
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 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 08, 2011

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit Ref	Samp	Batch
			Ref	%Rec					
Dibromofluoromethane				109.8	82-126				
Toluene-d8				104.3	92-112				
a,a,a-Trifluorotoluene				99.17	90-116				
Total Xylenes	mg/l	0.0867	0.0795	116.	64-133	8.63	20	L536207-02	WG556037
4-Bromofluorobenzene				99.04	82-120				WG556037
Dibromofluoromethane				103.0	82-126				WG556037
Toluene-d8				101.7	92-112				WG556037
a,a,a-Trifluorotoluene				106.8	90-116				WG556037
Chloride	mg/l	113.	114.	96.0	80-120	0.881	20	L536033-01	WG555923
Toluene	mg/l	0.0201	0.0237	80.3	61-126	16.7	20	L536932-01	WG556184
Total Xylenes	mg/l	0.0590	0.0696	78.7	64-133	16.4	20	L536932-01	WG556184
4-Bromofluorobenzene				96.73	82-120				WG556184
Dibromofluoromethane				106.7	82-126				WG556184
Toluene-d8				102.1	92-112				WG556184
a,a,a-Trifluorotoluene				103.3	90-116				WG556184

Batch number /Run number / Sample number cross reference

WG555523: R1861752: L536293-01
 WG555522: R1862836: L536293-01 02 03 04 05 06 07 08
 WG555431: R1863812: L536293-01 02 03 04 05 06 07 08
 WG556037: R1864352: L536293-02
 WG555923: R1866072: L536293-02 03 04 05 06 07 08
 WG556487: R1867252: L536293-01 02 03 04 05 06 07 08
 WG556184: R1867993: L536293-01

* * Calculations are performed prior to rounding of reported values.
 * 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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November 08, 2011

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.

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 ___ of ___

ESC
 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

C020

Report to: **Brett Middleton**

Email: **brett.middleton@encana.com**

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

City/State Collected: **Silt, CO**

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

Client Project #:

Lab Project #
ENCRCO-WESTDIVIDE

Collected by (print): **Tracy Loftus**

Site/Facility ID#:

P.O.#:

Collected by (signature): *Tracy Loftus*
 Immediately Packed on Ice N Y

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

CHLORIDE 125mlHDPE-NoPres
 NAICP 500mlHDPE-HNO3 CR
 RSK175 40mlAmb-NoPres
 V8260BTEX 40mlAmb-HCl

Acctnum: **ENCRCO** (lab use only)
 Template/Prelogin: **T73093 P364395**
 Cooler #: *8/4/11 MMB*
 Shipped Via: **FedEx Ground**

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CHLORIDE 125mlHDPE-NoPres	NAICP 500mlHDPE-HNO3 CR	RSK175 40mlAmb-NoPres	V8260BTEX 40mlAmb-HCl
DCS-1-091411	Grab	GW	N/A	9/14/11	920	7	X	X	X	X
DCS-2-091411		GW			940	7	X	X	X	X
DCS-3-091411					1000	7	X	X	X	X
DCS-4-091411					1030	7	X	X	X	X
DCS-5-091411					1050	7	X	X	X	X
DCS-6-091411					1110	7	X	X	X	X
DCS-7-091411					1130	7	X	X	X	X
DCS-8-091411					1200	7	X	X	X	X

Remarks/Contaminant Sample # (lab only)
L536293 -01
-02
-03
-04
-05
-06
-07
-08

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

pH _____ Temp _____

Remarks:

Flow _____ Other _____

please cc: smann@ruleengineering.com

4341 9923 3855

Relinquished by: (Signature) <i>Tracy Loftus</i>	Date: <i>9/14/11</i>	Time: <i>1430</i>	Received by: (Signature) _____	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only) OK
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Temp: <i>3.4"</i> Bottles Received: <i>56+TB</i>	COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) _____	Date: <i>9-15-11</i> Time: <i>09:00</i>	pH Checked: <i>CR</i> NCF: _____



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

Report Summary

Monday November 21, 2011

Report Number: L536627


Samples Received: 09/16/11

Client Project:

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 - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915, PA - 68-02979

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

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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-1-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 10:45

ESC Sample # : L536627-01

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	28.	1.0	mg/l	9056	09/21/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	260	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	105.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	100.		% Rec.	8260B	09/17/11	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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REPORT OF ANALYSIS

November 21, 2011

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

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-2-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 11:00

ESC Sample # : L536627-02

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	56.	1.0	mg/l	9056	09/21/11	1
Sulfate	BDL	5.0	mg/l	9056	10/04/11	1
Alkalinity, Bicarbonate	340	20.	mg/l	2320B	10/03/11	1
Methane	8.0	0.20	mg/l	RSK175	09/22/11	20
Ethane	2.2	0.26	mg/l	RSK175	09/22/11	20
Ethene	BDL	0.26	mg/l	RSK175	09/22/11	20
Calcium	97.	0.50	mg/l	6010B	09/20/11	1
Magnesium	16.	0.10	mg/l	6010B	09/20/11	1
Potassium	4.3	0.50	mg/l	6010B	09/20/11	1
Sodium	140	0.50	mg/l	6010B	09/20/11	1
Benzene	0.13	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	0.0013	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	0.035	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	99.9		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	102.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	102.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	102.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

November 21, 2011

Charlie Jensen
 Encana
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 Parachute, CO 81635

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-4-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 11:15

ESC Sample # : L536627-03

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	35.	1.0	mg/l	9056	09/22/11	1
Sulfate	BDL	5.0	mg/l	9056	09/28/11	1
Alkalinity, Bicarbonate	360	20.	mg/l	2320B	09/28/11	1
Methane	16.	0.40	mg/l	RSK175	09/22/11	40
Ethane	3.5	0.52	mg/l	RSK175	09/22/11	40
Ethene	BDL	0.52	mg/l	RSK175	09/22/11	40
Calcium	63.	0.50	mg/l	6010B	09/20/11	1
Magnesium	9.7	0.10	mg/l	6010B	09/20/11	1
Potassium	1.6	0.50	mg/l	6010B	09/20/11	1
Sodium	140	0.50	mg/l	6010B	09/20/11	1
Benzene	0.057	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	0.020	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	103.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	95.8		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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REPORT OF ANALYSIS

Charlie Jensen
 Encana
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 Parachute, CO 81635

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-6-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 09:00

ESC Sample # : L536627-04

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	37.	1.0	mg/l	9056	09/22/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	170	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	98.2		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	109.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	99.4		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-7-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 09:30

ESC Sample # : L536627-05

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	38.	1.0	mg/l	9056	09/22/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	240	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/19/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/19/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/19/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/19/11	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/19/11	1
Dibromofluoromethane	90.3		% Rec.	8260B	09/19/11	1
a,a,a-Trifluorotoluene	107.		% Rec.	8260B	09/19/11	1
4-Bromofluorobenzene	100.		% Rec.	8260B	09/19/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-8-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 09:45

ESC Sample # : L536627-06

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	36.	1.0	mg/l	9056	09/22/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	210	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	106.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	107.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	111.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-9-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 12:15

ESC Sample # : L536627-07

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	18.	1.0	mg/l	9056	09/22/11	1
Methane	4.9	0.080	mg/l	RSK175	09/22/11	8
Ethane	0.64	0.10	mg/l	RSK175	09/22/11	8
Ethene	BDL	0.10	mg/l	RSK175	09/22/11	8
Sodium	61.	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	103.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	107.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-11-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 12:00

ESC Sample # : L536627-08

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	13.	1.0	mg/l	9056	09/22/11	1
Methane	0.036	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	40.	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	106.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	107.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-12-091411
 Collected By : Scotty Mann
 Collection Date : 09/14/11 16:15

ESC Sample # : L536627-09

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	20.	1.0	mg/l	9056	09/22/11	1
Methane	0.31	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	84.	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	104.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	106.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-14-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 12:30

ESC Sample # : L536627-10

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	9.6	1.0	mg/l	9056	09/22/11	1
Methane	3.3	0.10	mg/l	RSK175	09/22/11	10
Ethane	0.28	0.13	mg/l	RSK175	09/22/11	10
Ethene	BDL	0.13	mg/l	RSK175	09/22/11	10
Sodium	51.	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	106.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	109.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-16-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 10:30

ESC Sample # : L536627-11

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	40.	1.0	mg/l	9056	09/23/11	1
Methane	0.062	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	250	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	108.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	106.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	109.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-17-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 10:00

ESC Sample # : L536627-12

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	64.	1.0	mg/l	9056	09/22/11	1
Methane	5.4	0.10	mg/l	RSK175	09/22/11	10
Ethane	1.3	0.13	mg/l	RSK175	09/22/11	10
Ethene	BDL	0.13	mg/l	RSK175	09/22/11	10
Sodium	240	0.50	mg/l	6010B	09/20/11	1
Benzene	0.064	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	102.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	107.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	109.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-18-091411
 Collected By : Scotty Mann
 Collection Date : 09/14/11 17:40

ESC Sample # : L536627-13

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	8.5	1.0	mg/l	9056	09/24/11	1
Methane	0.89	0.020	mg/l	RSK175	09/22/11	2
Ethane	BDL	0.026	mg/l	RSK175	09/22/11	2
Ethene	BDL	0.026	mg/l	RSK175	09/22/11	2
Sodium	76.	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	109.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	106.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	108.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-20-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 13:30

ESC Sample # : L536627-14

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	44.	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	150	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	110.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	109.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-21-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 13:45

ESC Sample # : L536627-15

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	21.	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	370	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	110.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	114.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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Est. 1970

REPORT OF ANALYSIS

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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-22-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 13:15

ESC Sample # : L536627-16

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	56.	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	240	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	109.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	107.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-23-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 09:50

ESC Sample # : L536627-17

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	55.	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	440	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	109.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	107.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	106.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-24-091411
 Collected By : Scotty Mann
 Collection Date : 09/14/11 16:30

ESC Sample # : L536627-18

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	4.2	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	46.	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	110.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	107.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	104.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-25-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 11:45

ESC Sample # : L536627-19

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	9.7	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	38.	0.50	mg/l	6010B	09/20/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	113.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	110.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-26-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 13:00

ESC Sample # : L536627-20

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	10.	1.0	mg/l	9056	09/28/11	1
Methane	1.9	0.10	mg/l	RSK175	09/22/11	10
Ethane	BDL	0.13	mg/l	RSK175	09/22/11	10
Ethene	BDL	0.13	mg/l	RSK175	09/22/11	10
Sodium	96.	0.50	mg/l	6010B	09/23/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	109.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	111.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	107.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : MW-27-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 09:20

ESC Sample # : L536627-21

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	19.	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	310	0.50	mg/l	6010B	09/23/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	113.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	108.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	107.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : EICH2-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 10:15

ESC Sample # : L536627-22

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	12.	1.0	mg/l	9056	09/28/11	1
Methane	BDL	0.010	mg/l	RSK175	09/22/11	1
Ethane	BDL	0.013	mg/l	RSK175	09/22/11	1
Ethene	BDL	0.013	mg/l	RSK175	09/22/11	1
Sodium	140	0.50	mg/l	6010B	09/23/11	1
Benzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	109.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	109.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	108.		% Rec.	8260B	09/17/11	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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : DUP-1-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 00:00

ESC Sample # : L536627-23

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	62.	1.0	mg/l	9056	09/21/11	1
Methane	4.1	0.10	mg/l	RSK175	09/22/11	10
Ethane	0.82	0.13	mg/l	RSK175	09/22/11	10
Ethene	BDL	0.13	mg/l	RSK175	09/22/11	10
Sodium	250	0.50	mg/l	6010B	09/23/11	1
Benzene	0.059	0.0010	mg/l	8260B	09/17/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/17/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/17/11	1
Total Xylenes	BDL	0.0030	mg/l	8260B	09/17/11	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	09/17/11	1
Dibromofluoromethane	104.		% Rec.	8260B	09/17/11	1
a,a,a-Trifluorotoluene	106.		% Rec.	8260B	09/17/11	1
4-Bromofluorobenzene	107.		% Rec.	8260B	09/17/11	1

BDL - Below Detection Limit

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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : DUP-2-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 00:00

ESC Sample # : L536627-24

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	54.	1.0	mg/l	9056	09/21/11	1
Methane	7.6	0.20	mg/l	RSK175	09/22/11	20
Ethane	2.0	0.26	mg/l	RSK175	09/22/11	20
Ethene	BDL	0.26	mg/l	RSK175	09/22/11	20
Sodium	140	0.50	mg/l	6010B	09/23/11	1
Benzene	0.049	0.0010	mg/l	8260B	09/23/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/11	1
Total Xylenes	0.030	0.0030	mg/l	8260B	09/23/11	1
Surrogate Recovery						
Toluene-d8	93.4		% Rec.	8260B	09/23/11	1
Dibromofluoromethane	90.8		% Rec.	8260B	09/23/11	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/23/11	1
4-Bromofluorobenzene	109.		% Rec.	8260B	09/23/11	1

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REPORT OF ANALYSIS

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

November 21, 2011

Date Received : September 16, 2011
 Description : West Divide Creek - 02E
 Sample ID : DUP-3-091511
 Collected By : Scotty Mann
 Collection Date : 09/15/11 00:00

ESC Sample # : L536627-25

Site ID :

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	40.	1.0	mg/l	9056	09/22/11	1
Methane	5.3	0.20	mg/l	RSK175	09/22/11	20
Ethane	1.1	0.26	mg/l	RSK175	09/22/11	20
Ethene	BDL	0.26	mg/l	RSK175	09/22/11	20
Sodium	140	0.50	mg/l	6010B	09/23/11	1
Benzene	0.036	0.0010	mg/l	8260B	09/23/11	1
Toluene	BDL	0.0050	mg/l	8260B	09/23/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	09/23/11	1
Total Xylenes	0.014	0.0030	mg/l	8260B	09/23/11	1
Surrogate Recovery						
Toluene-d8	92.4		% Rec.	8260B	09/23/11	1
Dibromofluoromethane	90.1		% Rec.	8260B	09/23/11	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	09/23/11	1
4-Bromofluorobenzene	105.		% Rec.	8260B	09/23/11	1

BDL - Below Detection Limit

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 Level II

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November 21, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .001	mg/l			WG555650	09/17/11 07:57
Ethylbenzene	< .001	mg/l			WG555650	09/17/11 07:57
Methyl tert-butyl ether	< .001	mg/l			WG555650	09/17/11 07:57
Toluene	< .005	mg/l			WG555650	09/17/11 07:57
Total Xylenes	< .003	mg/l			WG555650	09/17/11 07:57
4-Bromofluorobenzene		% Rec.	99.29	82-120	WG555650	09/17/11 07:57
Dibromofluoromethane		% Rec.	104.1	82-126	WG555650	09/17/11 07:57
Toluene-d8		% Rec.	99.09	92-112	WG555650	09/17/11 07:57
a,a,a-Trifluorotoluene		% Rec.	102.1	90-116	WG555650	09/17/11 07:57
Chloride	< 1	mg/l			WG556272	09/20/11 21:52
Calcium	< .5	mg/l			WG555969	09/20/11 16:11
Magnesium	< .1	mg/l			WG555969	09/20/11 16:11
Potassium	< .5	mg/l			WG555969	09/20/11 16:11
Sodium	< .5	mg/l			WG555969	09/20/11 16:11
Benzene	< .001	mg/l			WG556058	09/19/11 17:12
Ethylbenzene	< .001	mg/l			WG556058	09/19/11 17:12
Methyl tert-butyl ether	< .001	mg/l			WG556058	09/19/11 17:12
Toluene	< .005	mg/l			WG556058	09/19/11 17:12
Total Xylenes	< .003	mg/l			WG556058	09/19/11 17:12
4-Bromofluorobenzene		% Rec.	96.37	82-120	WG556058	09/19/11 17:12
Dibromofluoromethane		% Rec.	102.1	82-126	WG556058	09/19/11 17:12
Toluene-d8		% Rec.	105.4	92-112	WG556058	09/19/11 17:12
a,a,a-Trifluorotoluene		% Rec.	105.5	90-116	WG556058	09/19/11 17:12
Ethane	< .013	mg/l			WG556655	09/22/11 12:54
Ethene	< .013	mg/l			WG556655	09/22/11 12:54
Methane	< .01	mg/l			WG556655	09/22/11 12:54
Ethane	< .013	mg/l			WG556718	09/22/11 14:53
Ethene	< .013	mg/l			WG556718	09/22/11 14:53
Methane	< .01	mg/l			WG556718	09/22/11 14:53
Benzene	< .001	mg/l			WG555651	09/17/11 08:51
Ethylbenzene	< .001	mg/l			WG555651	09/17/11 08:51
Methyl tert-butyl ether	< .001	mg/l			WG555651	09/17/11 08:51
Toluene	< .005	mg/l			WG555651	09/17/11 08:51
Total Xylenes	< .003	mg/l			WG555651	09/17/11 08:51
4-Bromofluorobenzene		% Rec.	113.8	82-120	WG555651	09/17/11 08:51
Dibromofluoromethane		% Rec.	105.0	82-126	WG555651	09/17/11 08:51
Toluene-d8		% Rec.	102.1	92-112	WG555651	09/17/11 08:51
a,a,a-Trifluorotoluene		% Rec.	106.7	90-116	WG555651	09/17/11 08:51
Chloride	< 1	mg/l			WG556533	09/21/11 19:04
Benzene	< .001	mg/l			WG556788	09/22/11 23:12
Ethylbenzene	< .001	mg/l			WG556788	09/22/11 23:12
Methyl tert-butyl ether	< .001	mg/l			WG556788	09/22/11 23:12
Toluene	< .005	mg/l			WG556788	09/22/11 23:12

* 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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Est. 1970

November 21, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Total Xylenes	< .003	mg/l			WG556788	09/22/11 23:12
4-Bromofluorobenzene		% Rec.	104.0	82-120	WG556788	09/22/11 23:12
Dibromofluoromethane		% Rec.	98.39	82-126	WG556788	09/22/11 23:12
Toluene-d8		% Rec.	95.37	92-112	WG556788	09/22/11 23:12
a,a,a-Trifluorotoluene		% Rec.	106.1	90-116	WG556788	09/22/11 23:12
Chloride	< 1	mg/l			WG556532	09/22/11 14:32
Chloride	< 1	mg/l			WG556858	09/23/11 07:15
Sodium	< .5	mg/l			WG555996	09/23/11 20:20
Chloride	< 1	mg/l			WG556904	09/24/11 07:44
Sulfate	< 5	mg/l			WG557688	09/28/11 07:08
Chloride	< 1	mg/l			WG557687	09/28/11 07:10
Chloride	< 1	mg/l			WG557685	09/28/11 07:11
Sulfate	< 5	mg/l			WG558758	10/04/11 09:08

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Chloride	mg/l	650.	650.	0.154	20	L536033-02	WG556272
Calcium	mg/l	66.0	0	NA	20	L536627-19	WG555969
Magnesium	mg/l	30.0	0	NA	20	L536627-19	WG555969
Potassium	mg/l	4.80	0	NA	20	L536627-19	WG555969
Sodium	mg/l	39.0	38.0	2.34	20	L536627-19	WG555969
Chloride	mg/l	62.0	62.0	0	20	L536627-23	WG556533
Chloride	mg/l	36.0	40.0	9.15	20	L536627-25	WG556533
Chloride	mg/l	64.0	64.0	0.627	20	L536627-12	WG556532
Chloride	mg/l	8.40	8.40	0.238	20	L536374-02	WG556532
Chloride	mg/l	39.0	40.0	1.51	20	L536627-11	WG556858
Sodium	mg/l	2400	0	NA	20	L536677-01	WG555996
Sulfate	mg/l	86.0	86.0	0.232	20	L538564-05	WG557688

* Performance of this Analyte is outside of established criteria.
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Est. 1970

November 21, 2011

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Chloride	mg/l	90.0	91.0		0.551	20	L538563-01	WG557687
Chloride	mg/l	44.0	44.0		0.228	20	L536627-14	WG557687
Sulfate	mg/l	31.0	31.0		0.972	20	L537839-06	WG558758

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Benzene	mg/l	.025	0.0274	110.	72-119	WG555650
Ethylbenzene	mg/l	.025	0.0290	116.	77-124	WG555650
Methyl tert-butyl ether	mg/l	.025	0.0275	110.	67-127	WG555650
Toluene	mg/l	.025	0.0276	110.	75-114	WG555650
Total Xylenes	mg/l	.075	0.0849	113.	77-123	WG555650
4-Bromofluorobenzene				100.1	82-120	WG555650
Dibromofluoromethane				98.87	82-126	WG555650
Toluene-d8				102.2	92-112	WG555650
a,a,a-Trifluorotoluene				103.2	90-116	WG555650
Chloride	mg/l	40	39.8	99.5	90-110	WG556272
Calcium	mg/l	11.3	11.2	99.1	85-115	WG555969
Magnesium	mg/l	11.3	11.6	103.	85-115	WG555969
Potassium	mg/l	11.3	12.1	107.	85-115	WG555969
Sodium	mg/l	11.3	12.9	114.	85-115	WG555969
Benzene	mg/l	.025	0.0225	89.8	72-119	WG556058
Ethylbenzene	mg/l	.025	0.0236	94.4	77-124	WG556058
Methyl tert-butyl ether	mg/l	.025	0.0242	96.6	67-127	WG556058
Toluene	mg/l	.025	0.0223	89.0	75-114	WG556058
Total Xylenes	mg/l	.075	0.0696	92.8	77-123	WG556058
4-Bromofluorobenzene				98.37	82-120	WG556058
Dibromofluoromethane				100.6	82-126	WG556058
Toluene-d8				104.1	92-112	WG556058
a,a,a-Trifluorotoluene				101.5	90-116	WG556058
Ethane	mg/l	.645	0.647	100.	70-130	WG556655
Ethene	mg/l	.635	0.628	98.9	70-130	WG556655
Methane	mg/l	.339	0.315	92.9	70-130	WG556655
Ethane	mg/l	.645	0.686	106.	70-130	WG556718
Ethene	mg/l	.635	0.667	105.	70-130	WG556718
Methane	mg/l	.339	0.334	98.6	70-130	WG556718
Benzene	mg/l	.025	0.0217	86.7	72-119	WG555651
Ethylbenzene	mg/l	.025	0.0236	94.3	77-124	WG555651
Methyl tert-butyl ether	mg/l	.025	0.0260	104.	67-127	WG555651
Toluene	mg/l	.025	0.0220	87.8	75-114	WG555651
Total Xylenes	mg/l	.075	0.0709	94.5	77-123	WG555651
4-Bromofluorobenzene				109.1	82-120	WG555651
Dibromofluoromethane				107.3	82-126	WG555651
Toluene-d8				105.4	92-112	WG555651
a,a,a-Trifluorotoluene				105.5	90-116	WG555651

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Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chloride	mg/l	40	40.0	100.	90-110	WG556533
Benzene	mg/l	.025	0.0223	89.3	72-119	WG556788
Ethylbenzene	mg/l	.025	0.0264	106.	77-124	WG556788
Methyl tert-butyl ether	mg/l	.025	0.0226	90.3	67-127	WG556788
Toluene	mg/l	.025	0.0239	95.6	75-114	WG556788
Total Xylenes	mg/l	.075	0.0805	107.	77-123	WG556788
4-Bromofluorobenzene				100.2	82-120	WG556788
Dibromofluoromethane				89.11	82-126	WG556788
Toluene-d8				99.76	92-112	WG556788
a,a,a-Trifluorotoluene				108.2	90-116	WG556788
Chloride	mg/l	40	40.1	100.	90-110	WG556532
Chloride	mg/l	40	39.6	99.0	90-110	WG556858
Sodium	mg/l	11.3	12.3	109.	85-115	WG555996
Chloride	mg/l	40	40.3	101.	90-110	WG556904
Sulfate	mg/l	40	39.8	99.5	90-110	WG557688
Chloride	mg/l	40	39.5	98.8	90-110	WG557687
Chloride	mg/l	40	39.5	98.8	90-110	WG557685
Sulfate	mg/l	40	39.7	99.3	90-110	WG558758

Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref					
Benzene	mg/l	0.0265	0.0274	106.	72-119	3.45	20	WG555650
Ethylbenzene	mg/l	0.0278	0.0290	111.	77-124	4.13	20	WG555650
Methyl tert-butyl ether	mg/l	0.0272	0.0275	109.	67-127	0.790	20	WG555650
Toluene	mg/l	0.0259	0.0276	104.	75-114	6.12	20	WG555650
Total Xylenes	mg/l	0.0820	0.0849	109.	77-123	3.44	20	WG555650
4-Bromofluorobenzene				98.68	82-120			WG555650
Dibromofluoromethane				103.2	82-126			WG555650
Toluene-d8				102.8	92-112			WG555650
a,a,a-Trifluorotoluene				103.3	90-116			WG555650
Chloride	mg/l	39.8	39.8	100.	90-110	0	20	WG556272
Benzene	mg/l	0.0237	0.0225	95.0	72-119	5.38	20	WG556058
Ethylbenzene	mg/l	0.0242	0.0236	97.0	77-124	2.71	20	WG556058
Methyl tert-butyl ether	mg/l	0.0262	0.0242	105.	67-127	8.26	20	WG556058
Toluene	mg/l	0.0224	0.0223	90.0	75-114	0.550	20	WG556058
Total Xylenes	mg/l	0.0740	0.0696	99.0	77-123	6.10	20	WG556058

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Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
4-Bromofluorobenzene				98.31	82-120			
Dibromofluoromethane				104.1	82-126			
Toluene-d8				102.2	92-112			
a,a,a-Trifluorotoluene				104.4	90-116			
Ethane	mg/l	0.644	0.647	100.	70-130	0.440	25	WG556655
Ethene	mg/l	0.624	0.628	98.0	70-130	0.620	25	WG556655
Methane	mg/l	0.310	0.315	92.0	70-130	1.49	25	WG556655
Ethane	mg/l	0.680	0.686	105.	70-130	0.860	25	WG556718
Ethene	mg/l	0.662	0.667	104.	70-130	0.730	25	WG556718
Methane	mg/l	0.330	0.334	97.0	70-130	1.26	25	WG556718
Benzene	mg/l	0.0226	0.0217	90.0	72-119	4.15	20	WG555651
Ethylbenzene	mg/l	0.0269	0.0236	108.	77-124	13.2	20	WG555651
Methyl tert-butyl ether	mg/l	0.0252	0.0260	101.	67-127	2.88	20	WG555651
Toluene	mg/l	0.0235	0.0220	94.0	75-114	6.87	20	WG555651
Total Xylenes	mg/l	0.0822	0.0709	110.	77-123	14.8	20	WG555651
4-Bromofluorobenzene				111.3	82-120			WG555651
Dibromofluoromethane				102.8	82-126			WG555651
Toluene-d8				105.0	92-112			WG555651
a,a,a-Trifluorotoluene				109.4	90-116			WG555651
Chloride	mg/l	40.0	40.0	100.	90-110	0	20	WG556533
Benzene	mg/l	0.0234	0.0223	94.0	72-119	4.61	20	WG556788
Ethylbenzene	mg/l	0.0275	0.0264	110.	77-124	4.21	20	WG556788
Methyl tert-butyl ether	mg/l	0.0219	0.0226	87.0	67-127	3.29	20	WG556788
Toluene	mg/l	0.0236	0.0239	94.0	75-114	1.28	20	WG556788
Total Xylenes	mg/l	0.0834	0.0805	111.	77-123	3.51	20	WG556788
4-Bromofluorobenzene				100.1	82-120			WG556788
Dibromofluoromethane				90.28	82-126			WG556788
Toluene-d8				98.90	92-112			WG556788
a,a,a-Trifluorotoluene				107.3	90-116			WG556788
Chloride	mg/l	40.1	40.1	100.	90-110	0	20	WG556532
Chloride	mg/l	39.7	39.6	99.0	90-110	0.252	20	WG556858
Chloride	mg/l	40.2	40.3	100.	90-110	0.248	20	WG556904
Sulfate	mg/l	39.9	39.8	100.	90-110	0.251	20	WG557688
Chloride	mg/l	39.6	39.5	99.0	90-110	0.253	20	WG557687
Chloride	mg/l	39.5	39.5	99.0	90-110	0	20	WG557685
Sulfate	mg/l	39.8	39.7	100.	90-110	0.252	20	WG558758

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Benzene	mg/l	0.0319	0	.025	128.	51-134	L536488-04	WG555650
Ethylbenzene	mg/l	0.0323	0	.025	129.	64-135	L536488-04	WG555650
Methyl tert-butyl ether	mg/l	0.206	0.171	.025	140.*	55-136	L536488-04	WG555650
Toluene	mg/l	0.0305	0	.025	122.	61-126	L536488-04	WG555650
Total Xylenes	mg/l	0.0946	0	.075	126.	64-133	L536488-04	WG555650
4-Bromofluorobenzene					104.0	82-120		WG555650
Dibromofluoromethane					104.2	82-126		WG555650
Toluene-d8					102.8	92-112		WG555650
a,a,a-Trifluorotoluene					108.7	90-116		WG555650
Calcium	mg/l	76.9	0	11.3	680.*	75-125	L536627-19	WG555969
Magnesium	mg/l	40.7	0	11.3	360.*	75-125	L536627-19	WG555969
Potassium	mg/l	16.4	0	11.3	145.*	75-125	L536627-19	WG555969
Sodium	mg/l	50.6	38.0	11.3	112.	75-125	L536627-19	WG555969
Benzene	mg/l	0.0273	0	.025	109.	51-134	L536898-01	WG556058
Ethylbenzene	mg/l	0.0257	0	.025	103.	64-135	L536898-01	WG556058
Methyl tert-butyl ether	mg/l	0.0260	0	.025	104.	55-136	L536898-01	WG556058
Toluene	mg/l	0.0254	0	.025	102.	61-126	L536898-01	WG556058
Total Xylenes	mg/l	0.0756	0	.075	101.	64-133	L536898-01	WG556058
4-Bromofluorobenzene					95.00	82-120		WG556058
Dibromofluoromethane					106.3	82-126		WG556058
Toluene-d8					103.2	92-112		WG556058
a,a,a-Trifluorotoluene					105.1	90-116		WG556058
Benzene	mg/l	0.0214	0	.025	85.6	51-134	L536627-06	WG555651
Ethylbenzene	mg/l	0.0238	0	.025	95.2	64-135	L536627-06	WG555651
Methyl tert-butyl ether	mg/l	0.0259	0	.025	104.	55-136	L536627-06	WG555651
Toluene	mg/l	0.0219	0	.025	87.5	61-126	L536627-06	WG555651
Total Xylenes	mg/l	0.0701	0	.075	93.4	64-133	L536627-06	WG555651
4-Bromofluorobenzene					106.5	82-120		WG555651
Dibromofluoromethane					107.6	82-126		WG555651
Toluene-d8					104.4	92-112		WG555651
a,a,a-Trifluorotoluene					105.8	90-116		WG555651
Chloride	mg/l	59.2	9.20	50	100.	80-120	L536784-06	WG556533
Benzene	mg/l	0.0709	0.0490	.025	87.5	51-134	L536627-24	WG556788
Ethylbenzene	mg/l	0.0278	0	.025	111.	64-135	L536627-24	WG556788
Methyl tert-butyl ether	mg/l	0.0247	0	.025	98.6	55-136	L536627-24	WG556788
Toluene	mg/l	0.0238	0	.025	95.1	61-126	L536627-24	WG556788
Total Xylenes	mg/l	0.115	0.0300	.075	113.	64-133	L536627-24	WG556788
4-Bromofluorobenzene					101.6	82-120		WG556788
Dibromofluoromethane					92.58	82-126		WG556788
Toluene-d8					96.68	92-112		WG556788
a,a,a-Trifluorotoluene					104.4	90-116		WG556788
Chloride	mg/l	83.9	35.0	50	97.8	80-120	L536627-03	WG556532
Sodium	mg/l	2560	0	2.26	22600*	75-125	L536677-01	WG555996
Chloride	mg/l	97.3	50.0	50	94.6	80-120	L538563-02	WG557687

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Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Sulfate	mg/l	62.4	13.0	50	98.8	80-120	L537839-05	WG558758

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Benzene	mg/l	0.0277	0.0319	111.	51-134	14.2	20	L536488-04	WG555650
Ethylbenzene	mg/l	0.0280	0.0323	112.	64-135	14.1	20	L536488-04	WG555650
Methyl tert-butyl ether	mg/l	0.195	0.206	97.0	55-136	5.40	20	L536488-04	WG555650
Toluene	mg/l	0.0267	0.0305	107.	61-126	13.3	20	L536488-04	WG555650
Total Xylenes	mg/l	0.0831	0.0946	111.	64-133	12.9	20	L536488-04	WG555650
4-Bromofluorobenzene				103.3	82-120				WG555650
Dibromofluoromethane				101.9	82-126				WG555650
Toluene-d8				102.0	92-112				WG555650
a,a,a-Trifluorotoluene				102.5	90-116				WG555650
Calcium	mg/l	78.3	76.9	693.*	75-125	1.80	20	L536627-19	WG555969
Magnesium	mg/l	41.6	40.7	368.*	75-125	2.19	20	L536627-19	WG555969
Potassium	mg/l	17.1	16.4	151.*	75-125	4.18	20	L536627-19	WG555969
Sodium	mg/l	50.3	50.6	109.	75-125	0.595	20	L536627-19	WG555969
Benzene	mg/l	0.0273	0.0273	109.	51-134	0.190	20	L536898-01	WG556058
Ethylbenzene	mg/l	0.0254	0.0257	101.	64-135	1.40	20	L536898-01	WG556058
Methyl tert-butyl ether	mg/l	0.0262	0.0260	105.	55-136	0.780	20	L536898-01	WG556058
Toluene	mg/l	0.0254	0.0254	101.	61-126	0.230	20	L536898-01	WG556058
Total Xylenes	mg/l	0.0743	0.0756	99.1	64-133	1.77	20	L536898-01	WG556058
4-Bromofluorobenzene				92.88	82-120				WG556058
Dibromofluoromethane				106.1	82-126				WG556058
Toluene-d8				101.7	92-112				WG556058
a,a,a-Trifluorotoluene				102.1	90-116				WG556058
Benzene	mg/l	0.0207	0.0214	82.7	51-134	3.47	20	L536627-06	WG555651
Ethylbenzene	mg/l	0.0234	0.0238	93.7	64-135	1.64	20	L536627-06	WG555651
Methyl tert-butyl ether	mg/l	0.0242	0.0259	96.6	55-136	7.01	20	L536627-06	WG555651
Toluene	mg/l	0.0209	0.0219	83.8	61-126	4.33	20	L536627-06	WG555651
Total Xylenes	mg/l	0.0706	0.0701	94.1	64-133	0.710	20	L536627-06	WG555651
4-Bromofluorobenzene				108.0	82-120				WG555651
Dibromofluoromethane				105.4	82-126				WG555651
Toluene-d8				104.6	92-112				WG555651
a,a,a-Trifluorotoluene				105.7	90-116				WG555651
Chloride	mg/l	61.0	59.2	104.	80-120	3.00	20	L536784-06	WG556533
Benzene	mg/l	0.0728	0.0709	95.2	51-134	2.66	20	L536627-24	WG556788
Ethylbenzene	mg/l	0.0270	0.0278	108.	64-135	2.88	20	L536627-24	WG556788
Methyl tert-butyl ether	mg/l	0.0232	0.0247	92.8	55-136	6.08	20	L536627-24	WG556788
Toluene	mg/l	0.0231	0.0238	92.4	61-126	2.80	20	L536627-24	WG556788
Total Xylenes	mg/l	0.111	0.115	108.	64-133	2.73	20	L536627-24	WG556788
4-Bromofluorobenzene				98.89	82-120				WG556788
Dibromofluoromethane				91.00	82-126				WG556788
Toluene-d8				94.79	92-112				WG556788
a,a,a-Trifluorotoluene				101.8	90-116				WG556788
Chloride	mg/l	82.8	83.9	95.6	80-120	1.32	20	L536627-03	WG556532

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			Ref	%Rec					
Sodium	mg/l	2460	2560	21800*	75-125	3.98	20	L536677-01	WG555996
Chloride	mg/l	97.6	97.3	95.2	80-120	0.308	20	L538563-02	WG557687
Sulfate	mg/l	63.3	62.4	101.	80-120	1.43	20	L537839-05	WG558758

Batch number /Run number / Sample number cross reference

WG555650: R1863532: L536627-01 02 03 04
 WG556272: R1866212: L536627-01 02
 WG555969: R1866433: L536627-01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19
 WG555996: R1866732: L536627-20 21 22 23 24 25
 WG556058: R1867854: L536627-05
 WG556655: R1868458: L536627-01 02 03 04 05 06 07 08 09 10 11 12 13 14
 WG556718: R1868459: L536627-15 16 17 18 19 20 21 22 23 24 25
 WG555651: R1868717: L536627-06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
 WG556533: R1868934: L536627-23 24 25
 WG556788: R1869195: L536627-24 25
 WG556532: R1869233: L536627-03 04 05 06 07 08 09 10 12
 WG556858: R1869451: L536627-11
 WG556904: R1872613: L536627-13
 WG557439: R1873852: L536627-03 07
 WG557688: R1875592: L536627-03
 WG557687: R1875756: L536627-07 14 15 16 17 18 19
 WG557685: R1875875: L536627-20 21 22
 WG558703: R1882492: L536627-02
 WG558758: R1883468: L536627-02

* * Calculations are performed prior to rounding of reported values.
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November 21, 2011

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.

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 1 of 3



12065 Lebanon Road
Mt. Juliet, TN 37122

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

E022

Report to: **Brett Middleton**

Email: **brett.middleton@encana.com**

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

City/State Collected: **CO**

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

Client Project #:

Lab Project #
ENCRCO-WESTDIVIDE

Collected by (print): **Scotty Mann**

Site/Facility ID#:

P.O.#:

Collected by (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

CHLORIDE 125mlHDPE-NoPres
NAICP 500mlHDPE-HNO3 < 2
RSK175 40mlAmb-NoPres
V8260BTEX 40mlAmb-HCl

Acctnum: **ENCRCO** (lab use only)
Template/Prelogin: **T73093/P364395**
Cooler #: **8/4/11**
Shipped Via: **FedEX Ground**

Remarks/Contaminant Sample # (lab only)

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	CHLORIDE 125mlHDPE-NoPres	NAICP 500mlHDPE-HNO3 < 2	RSK175 40mlAmb-NoPres	V8260BTEX 40mlAmb-HCl	Remarks/Contaminant	Sample # (lab only)
MW-1-091511	NA	GW	NA	9/15/11	1045	7	X	X	X	X		L536627-01
MW-2-091511		GW			1100	7	X	X	X	X		-02
MW-4-091511		GW			1115	7	X	X	X	X		-03
MW-6-091511		GW			0900	7	X	X	X	X		-04
MW-7-091511		GW			0930	7	X	X	X	X		-05
MW-8-091511		GW			0945	7	X	X	X	X		-06
MW-9-091511		GW			1215	7	X	X	X	X		-07
MW-11-091511		GW			1200	7	X	X	X	X		-08
MW-12-091411		GW		9/14/11	1615	7	X	X	X	X		-09

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

Remarks:

PLEASE! CC: smann@ruleengineering.com

4875 5518 0600

4875 5518 0595

4875 5518 0580

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)	Date: 9/15/11	Time: 1730	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: OK (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 28c	Bottles Received: 175 + 3TB
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9-16-11	Time: 0900
				COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	pH Checked: 28
				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 2 of 3



12065 Lebanon Road
Mt. Juliet, TN 37122

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

Report to:
Brett Middleton

Email:
brett.middleton@encana.com

Project Description:
West Divide Creek - 02E

City/State Collected

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

Client Project #:

Lab Project #

ENCRCO-WESTDIVIDE

Collected by (print):
Scotty Mann

Site/Facility ID#:

P.O.#:

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)

Date Results Needed

Same Day200%
Next Day 100%
Two Day50%
Three Day25%

Email? ___No ___Yes
FAX? ___No ___Yes

No. of Cntrs

Immediately Packed on Ice N ___ Y ___

Acctnum: ENCRCO (lab use only)
Template/Prelogin: 73093 P364395
Cooler #: 8/4/11 [Signature]
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Analysis/Container/Preservative				Remarks/Contaminant	Sample # (lab only)
							CHLORIDE 125mlHDPE-NoPres	NAICP 500mlHDPE-HNO3 <0	RSK175 40mlAmb-NoPres	V8260BTEX 40mlAmb-HCl		
MW-14-091511	NA	GW	NA	9/15/11	1230	7	X	X	X	X		L536687-10
MW-16-091511		GW			1030	7	X	X	X	X		-11
MW-17-091511		GW			1000	7	X	X	X	X		-12
MW-18-091411		GW		9/14/11	1740	7	X	X	X	X		-13
MW-20-091511		GW		9/15/11	1330	7	X	X	X	X		-14
MW-21-091511		GW			1345	7	X	X	X	X		-15
MW-22-091511		GW			1315	7	X	X	X	X		-16
MW-23-091511		GW			0950	7	X	X	X	X		-17
MW-24-091411		GW		9/14/11	1630	7	X	X	X	X		-18


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

Remarks: PLEASE CC: smann@ruleengineering.com

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)	Date: 9/15/11	Time: 1730	Received by: (Signature)	Samples returned via: <input checked="" 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: 8.8°C	Bottles Received: 175 + STR
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 9/16/11	Time: 0950
				COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	pH Checked: 22

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>3</u> of <u>3</u>	
Report to: Brett Middleton		Email: brett.middleton@encana.com		CHLORIDE 125mlHDPE-NoPres NAICP 500mlHDPE-HNO3 RSK175 40mlAmb-NoPres V8260BTEX 40mlAmb-HCI				 ESC 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							
Phone: (970) 285-2739 FAX: (970) 625-4636		Client Project #:		Lab Project # ENCRCO-WESTDIVIDE					
Collected by (print): <i>Scotty Mann</i>		Site/Facility ID#:		P.O.#:					
Collected by (signature): <i>[Signature]</i>		Rush? (Lab MUST Be Notified)		Date Results Needed					
Immediately Packed on Ice N <u> </u> Y <u> </u> <input checked="" type="checkbox"/>		<input type="checkbox"/> Same Day200% <input type="checkbox"/> Next Day 100% <input type="checkbox"/> Two Day50% <input type="checkbox"/> Three Day25%		Email? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes FAX? <input type="checkbox"/> No <input type="checkbox"/> Yes		No. of Cntrs			
Sample ID		Comp/Grab	Matrix*	Depth	Date	Time			
<i>MW-25-091511</i>		<i>NA</i>	<i>GW</i>	<i>NA</i>	<i>9/15/11</i>	<i>1145</i>	<i>7</i>	<i>X</i>	<i>X</i>
<i>MW-26-091511</i>		<i>↓</i>	<i>GW</i>	<i>↓</i>	<i>↓</i>	<i>1300</i>	<i>7</i>	<i>X</i>	<i>X</i>
<i>MW 27-091511</i>		<i>↓</i>	<i>GW</i>	<i>↓</i>	<i>↓</i>	<i>0920</i>	<i>7</i>	<i>X</i>	<i>X</i>
<i>ETCH2-091511</i>		<i>↓</i>	<i>GW</i>	<i>↓</i>	<i>↓</i>	<i>1015</i>	<i>7</i>	<i>X</i>	<i>X</i>
<i>DUP-1-091511</i>		<i>↓</i>	<i>GW</i>	<i>—</i>	<i>✓</i>	<i>—</i>	<i>7</i>	<i>X</i>	<i>X</i>
<i>DUP-2-091511</i>		<i>↓</i>	<i>GW</i>	<i>—</i>	<i>✓</i>	<i>—</i>	<i>7</i>	<i>X</i>	<i>X</i>
<i>DUP-3-091511</i>		<i>↓</i>	<i>GW</i>	<i>—</i>	<i>✓</i>	<i>—</i>	<i>7</i>	<i>X</i>	<i>X</i>
			<i>GW</i>				<i>7</i>	<i>X</i>	<i>X</i>
			<i>GW</i>				<i>7</i>	<i>X</i>	<i>X</i>

Acctnum: **ENCRCO** (lab use only)
 Template/Prelogin **T73093 P364395**
 Cooler #: *8/4/11 [Signature]*
 Shipped Via: **FedEx Ground**

Remarks/Contaminant Sample # (lab only)

536627-19
-20
-21
-22
-23
-24
-25

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

pH _____ Temp _____

Remarks: *PLEASE CC: smann@rllceengineering.com*

Flow _____ Other _____

Relinquished by: (Signature) <i>[Signature]</i>	Date: <i>9/15/11</i>	Time: <i>1730</i>	Received by: (Signature) <i>[Signature]</i>	Samples returned via: <input checked="" type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: <i>OK</i> (lab use only)
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received by: (Signature) <i>[Signature]</i>	Temp: <i>28°C</i>	Bottles Received: <i>175 + 310</i>
Relinquished by: (Signature) <i>[Signature]</i>	Date:	Time:	Received for lab by: (Signature) <i>[Signature]</i>	Date: <i>9/16-11</i>	Time: <i>0900</i>
				COC Seal Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA	pH Checked: <i>22</i>
				NCF:	

Susan Peach

From: Andy Vann
Sent: Friday, September 23, 2011 2:04 PM
To: Jarred Willis; Login; Reporting
Cc: Metals Prep; Due Metals; Due WetLab
Subject: RE: L536627-03 and -07 - *ENCRCO* - add analysis

Done.
Reporting - Please scan with coc. Thanks

From: Jarred Willis
Sent: Friday, September 23, 2011 11:31 AM
To: Login
Cc: Metals Prep; Due Metals; Due WetLab
Subject: L536627-03 and -07 - *ENCRCO* - add analysis

Please add the analysis listed below to L536627-03 and -07 from *ENCRCO*. Add to existing L#s and change the due date to 9/30.

KICP, CAICP, MGICP - add to WG555969
CHLORIDE
ALKBI
SULFATE

Thanks,

Jarred Willis
Technical Service Representative (TSR)
E-mail: jwillis@esclabsciences.com
Phone: 800-767-5859 Ext. 9678
Direct: (615) 773-9678
www.esclabsciences.com

<< OLE Object: Picture (Metafile) >>

Lab #: 220759 Job #: 16274
 Sample Name/Number: MW-2 - 091511
 Company: Rule Engineering, LLC
 Date Sampled: 9/15/2011
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/19/2011 Date Reported: 10/20/2011

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	na			
Argon -----	0.481			
Oxygen -----	0.048			
Nitrogen -----	23.67			
Carbon Dioxide -----	3.26			
Methane -----	61.81	-40.36	-177.7	
Ethane -----	7.56	-27.52		
Ethylene -----	0.0002			
Propane -----	2.35	-25.43		
Iso-butane -----	0.332			
N-butane -----	0.329			
Iso-pentane -----	0.0782			
N-pentane -----	0.0400			
Hexanes + -----	0.0393			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 849

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 or hydrogen.

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

Lab #: 220760 Job #: 16274
 Sample Name/Number: MW-4 - 091511
 Company: Rule Engineering, LLC
 Date Sampled: 9/15/2011
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/19/2011 Date Reported: 10/20/2011

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	0.044			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	na			
Argon -----	0.478			
Oxygen -----	0.86			
Nitrogen -----	24.74			
Carbon Dioxide -----	2.12			
Methane -----	61.48	-40.12	-182.8	
Ethane -----	6.83	-28.22		
Ethylene -----	0.0002			
Propane -----	2.47	-25.70		
Iso-butane -----	0.385			
N-butane -----	0.396			
Iso-pentane -----	0.0932			
N-pentane -----	0.0537			
Hexanes + -----	0.0471			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 841

Specific gravity, calculated: 0.758

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.42

*Addition of helium negates the ability to detect native helium or hydrogen.

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

Lab #: 220761 Job #: 16274
 Sample Name/Number: MW-9 - 091511
 Company: Rule Engineering, LLC
 Date Sampled: 9/15/2011
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/19/2011 Date Reported: 10/20/2011

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	0.023			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	na			
Argon -----	0.992			
Oxygen -----	3.44			
Nitrogen -----	53.54			
Carbon Dioxide -----	6.20			
Methane -----	32.80	-48.23	-241.1	
Ethane -----	1.99	-28.25		
Ethylene -----	0.0002			
Propane -----	0.708	-25.46		
Iso-butane -----	0.133			
N-butane -----	0.117			
Iso-pentane -----	0.0361			
N-pentane -----	0.0075			
Hexanes + -----	0.0140			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 396 Specific gravity, calculated: 0.884

Remarks:

Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.52

*Addition of helium negates the ability to detect native helium or hydrogen.

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

Lab #: 220762 Job #: 16274
 Sample Name/Number: MW-14 - 091511
 Company: Rule Engineering, LLC
 Date Sampled: 9/15/2011
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/19/2011 Date Reported: 10/20/2011

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	0.006			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	na			
Argon -----	0.953			
Oxygen -----	0.62			
Nitrogen -----	45.40			
Carbon Dioxide -----	10.73			
Methane -----	38.21	-41.95	-209.7	
Ethane -----	2.79	-28.41		
Ethylene -----	nd			
Propane -----	0.916	-25.72		
Iso-butane -----	0.141			
N-butane -----	0.152			
Iso-pentane -----	0.0374			
N-pentane -----	0.0248			
Hexanes + -----	0.0215			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 473 Specific gravity, calculated: 0.885

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 or hydrogen.

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

Lab #: 220763 Job #: 16274
 Sample Name/Number: MW-17 - 091511
 Company: Rule Engineering, LLC
 Date Sampled: 9/15/2011
 Container: Dissolved Gas Bottle
 Field/Site Name: West Divide Creek
 Location:
 Formation/Depth:
 Sampling Point:
 Date Received: 9/19/2011 Date Reported: 10/20/2011

Component	Chemical mol. %	$\delta^{13}\text{C}$ ‰	δD ‰	$\delta^{18}\text{O}$ ‰
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	na			
Helium -----	na			
Hydrogen -----	na			
Argon -----	1.27			
Oxygen -----	0.019			
Nitrogen -----	66.06			
Carbon Dioxide -----	4.83			
Methane -----	25.29	-44.84	-194.0	
Ethane -----	2.52	-27.74		
Ethylene -----	0.0003			
Propane -----	0.0078			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	0.0010			

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 301

Specific gravity, calculated: 0.896

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 or hydrogen.

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