

May 2, 2009

Robert Degnegaard  
21962 WCR 22  
Hudson, Colorado 80642

RE: Water Quality Analytical Results for Your Water Well  
Section 15 – Township 2 North – Range 67 West  
Weld County, Colorado; Complaint No. 200209926

Dear Mr. Degnegaard:

On March 25, 2009 LT Environmental, Inc. (LTE), under direction of Noble Energy, sampled your water well and submitted these samples for laboratory analysis. The purpose of this water sampling was to determine if natural gas drilling and production activities in your area might have impacted your well water. The Colorado Oil & gas Conservation Commission (COGCC) has received the final set of water quality sample results for your water well. These samples were submitted to Evergreen Analytical Laboratory (Evergreen), in Wheat Ridge, Colorado for analysis of inorganic chemical constituents, organic compounds associated with petroleum hydrocarbons, methane gas, and pH. A copy of the Evergreen laboratory analytical report is enclosed

The Water Quality Control Commission (WQCC) of the Colorado Department of Public Health and Environment (CDPHE) has established drinking water standards for the protection of human health. The analytical results from the water samples from your well have been compared to applicable ground water and/or drinking water standards and are summarized below. Please keep in mind that these water standards were established for public drinking water supplies. Often people use and consume ground water from private wells that can exceed these standards.

### **COMPARISON OF INORGANIC ANALYTICAL RESULTS TO STANDARDS**

- **Total Dissolved Solids (TDS):** CDPHE has established a TDS standard for human drinking water of 500 milligrams per liter (mg/l). The standard is called the secondary maximum contaminant level (SMCL) and is based on the aesthetic quality of the water (such as taste and odor) and is intended as a guideline for public water supply systems and is not an enforceable standard. Although CDPHE does not have an agricultural standard for TDS, other agencies recommend concentrations below 2,000 mg/l for irrigation, and below 5,000 mg/l for most livestock watering. TDS concentrations are related to the presence of naturally occurring elements and chemical compounds such as chloride, sodium, potassium, calcium, magnesium, and sulfate.

**TDS was detected in the water sample from your well at concentration of 747 mg/l, which is above the CDPHE SMCL, less than the recommended maximum concentration for irrigation, and less than the recommended maximum concentration for most livestock watering.**

- Sodium (Na): Although CDPHE does not have a standard for sodium, people on salt restricted diets should be aware of the Na concentration in the water they drink. A concentration of drinking water with a concentration of sodium less than 20 mg/l is recommended by some for people on salt restricted diets or for people suffering from hypertension or heart disease. Sodium occurs naturally in the ground water in many areas at concentrations that exceed the recommended level.

**Sodium was detected in the water sample from your well at a concentration of 340 mg/l, which is greater than the recommended level for people of salt restricted diets.**

- Fluoride (F): CDPHE has established a fluoride (F) standard for human drinking water is 4.0 mg/l. Where fluoride concentrations are in the range of 0.7 mg/l to 1.2 mg/l, health benefits such as reduced dental decay have been observed. Consumption of fluoride at concentrations of greater than 2.0 mg/l can result in mottling of teeth. Consumption of fluoride at concentrations greater than 4.0 mg/l can increase the risk of skeletal fluorosis or other adverse health effects.

**Fluoride was detected in the water sample from your water well at a concentration of 3.2 mg/l, which is below the maximum human health drinking water standard.**

Chloride (Cl): The CDPHE chloride standard (SMCL) for drinking water is 250 mg/l. Chloride concentrations in excess of 250 mg/l usually produce a noticeable taste in drinking water.

**Chloride was detected in the water sample from your well at a concentration of 70.4 mg/l, which is less than the CDPHE SMCL.**

- Sulfate (SO<sub>4</sub>): The CDPHE sulfate standard for drinking water is 250 mg/l (SMCL). Although CDPHE does not have an agricultural standard for sulfate, other agencies recommend a concentration below 1,500 mg/l for livestock watering. Waters containing high concentrations of sulfate, typically caused by the leaching of natural deposits of magnesium sulfate (Epsom salts) or sodium sulfate (Glauber's salt), may be undesirable because of their laxative effects. Sulfate occurs naturally in the ground water in many areas in Colorado at concentrations that exceed the drinking water standard.

**Sulfate was not detected in the water sample from your well.**

- Total Nitrate (NO<sub>3</sub>) + Nitrite (NO<sub>2</sub>) as Nitrogen (N): The CDPHE total nitrate (NO<sub>3</sub>) + nitrite (NO<sub>2</sub>) as nitrogen (N) for standard for human drinking water is 10 mg/l. Nitrate and nitrite are common contaminants in ground water from agricultural sources, such as fertilizer

and animal, including human, wastes. They are known to cause infant cyanosis or “blue baby disease” in humans and, at concentrations greater than 100 mg/l as nitrogen (N), may be dangerous to livestock. High concentrations of nitrate and nitrite in ground water are known to occur in agricultural areas in Colorado.

**Total nitrate/nitrite, as N was not detected in the water sample from your well.**

- Iron (Fe): The CDPHE standard for human drinking water for iron is 0.3 mg/l (SMCL). Small amounts of iron are common in ground water. Iron may produce a brownish-red color in laundered clothing, can leave reddish stains on fixtures, and impart a metallic taste to beverages and food made with it. After a period of time iron deposits can build up in pressure tanks, water heaters, and pipelines, reducing the effective flow rate and efficiency of the water supply.

**Iron was not detected in the water sample from your well.**

- Selenium (Se): The CDPHE selenium standard for human drinking water is 0.05 mg/l and the agricultural standard is 0.02 mg/l. Excessive selenium (Se) (concentrations greater than 0.05 mg/l) can cause loss of hair and/or fingernails as well as adverse effects on the central nervous system. Selenium (Se) occurs naturally in the ground water in many areas of Colorado at concentrations that exceed the drinking water standard.

**Selenium was not detected in the sample from your water well.**

- Calcium (Ca), Potassium (K), and Magnesium (Mg) were also tested for in your water. There are no standards from CDPHE for these parameters. In addition, the COGCC also collected samples for metals and the Table 1 (attached) presents the analytical laboratory results. Please note that Primary standard (P) is the CDPHE Human Health Standard and the Secondary standard (S) is the CDPHE secondary maximum contaminant level (SMCL).

**Table 1  
 DEGNEGAARD WATER WELL**

METAL/INORGANIC	March 24, 2009 Sample Concentration (in Milligrams per liter [mg/l])	CDPHE Water Quality Standard (P – Primary S-Secondary) (in Milligrams per liter [mg/l])
Arsenic (As)	ND	0.05 (P)
Barium (Ba)	0.071	2.0 (P)
Calcium (Ca)	2.3	NS
Cadmium (Cd)	ND	0.005 (P)
Chromium (Cr)	ND	0.1 (P)
Potassium (K)	1.8	NS
Manganese (Mn)	ND	0.05 (S)
Magnesium (Mg)	0.68	NS
Lead (Pb)	ND	0.05 (P)
pH	8.54	NS

NS – no standard  
 ND – not detected in the sample

**ORGANIC COMPOUNDS ASSOCIATED WITH PETROLEUM HYDROCARBONS**

- Benzene: CDPHE's basic ground water standard for benzene is 5 micrograms per liter ( $\mu\text{g/l}$ ). **Benzene was not detected in the sample from your water well.**
- Toluene: CDPHE's basic ground water standard for toluene is 1,000  $\mu\text{g/l}$ . **Toluene was not detected in the sample from your water well.**
- Ethylbenzene: CDPHE's basic ground water standard for ethylbenzene is 680  $\mu\text{g/l}$ . **Ethylbenzene was not detected in the sample from your water well.**
- Total Xylenes (sum of m,p, and o-xylene): CDPHE's basic ground water standard for total xylenes is 10,000  $\mu\text{g/l}$ . **Total xylenes were not detected in the sample from your water well**

**METHANE GAS CONCENTRATION**

- **Methane was detected in the sample from your water well at a concentration of 10 mg/l.**

Methane gas alone is physiologically inert and non-toxic to humans. Normal breath exhalation contains 1 to 99 ppm of methane (parts per million [ppm] is the same units as mg/l). The presence of methane in drinking water does not present a known health hazard to humans or other animals

via ingestion; however, methane in domestic water supplies can be associated with undesirable and potentially serious side effects. Methane gas dissolved in water “exsolves” when exposed to the atmosphere and dissipates rapidly because it is lighter than air. This is often responsible for the “fizzing” observed in water wells that may contain methane gas. If the methane occurs at a high enough concentration and if it is allowed to accumulate in a confined space, such as a well pit, crawl space, closet, etc., an explosion hazard can be established. In addition, if methane concentrations in well water are high, then pockets of free gas form within the water and cause the well pump to cavitate and no longer bring water to the surface.

Methane gas is common in water wells in Colorado. It occurs naturally and the source of the methane is commonly from one or more of the sources listed below.

1. Methane is commonly found as a gas in coal or black shale seams in the subsurface.
2. Methane is commonly found as a byproduct of the decay of organic matter and the presence of bacteria in water wells can provide the conditions favorable for the production of methane either from the activity or decay of bacteria.

**As the result of extensive testing for methane gas in water wells throughout Colorado, concentrations of methane gas below 1 mg/l are considered harmless, with concern for possible hazards from the methane increasing at concentration levels in well water at 7 mg/l and higher. You should be aware that the methane gas in your water well is at a high enough concentration that precautions should be taken to adequately vent your water system to avoid potential gas accumulations. I have included some information on the mitigation of nuisance methane gas in water wells.**

## CONCLUSION

Because your water exceeded the CDPHE drinking water (SMCL) standard for total dissolved solids (TDS) and the health advisory for sodium (Na), and because you or your livestock and/or pets drink your water, you may wish to discuss the possible health effects of continued consumption with your physician and/or veterinarian. There are no indications of any oil & gas related impacts to your water well. Under an earlier cover letter the gas and stable isotopic analysis results were sent to your attention. The methane gas in your water well is from natural biological activity (biogenic gas). I have included some information on the mitigation of nuisance methane gas in water wells.

The Colorado Oil & Gas Conservation Commission has participated in the publication of a general information pamphlet on water supply wells. Although the pamphlet was written for water well owners in Southwest Colorado, much of the information presented is applicable to any water well within the state. I have enclosed a copy of this publication.

If you have any questions or would like to discuss these matters further, please contact me at the COGCC in Denver via e-mail ([robert.chesson@state.co.us](mailto:robert.chesson@state.co.us)) or by phone at 303-894-2100, extension 5112.

Respectfully,

A handwritten signature in black ink, appearing to read 'Robert H. Chesson', written over a large, loopy flourish.

Robert H. Chesson, C.P.G., P.G.  
Environmental Protection Specialist

Enclosures

cc: Dave Neslin – COGCC w/o enclosures  
Debbie Baldwin – COGCC w/o enclosures  
Mikel Cox – Noble Energy w/o pamphlet  
Paul Schneider – Anadarko/KerrMcGee w/o pamphlet

# WORK ORDER Summary

# Evergreen Analytical, Inc.

09-1996

Rpt To: Brian Dodek  
 LJT Environmental  
 4600 W 60th Ave  
 Arvada, CO 80003  
 (303) 433-9788

Email To: bdodek@ltenv.com

3/27/2009 10:07:26 AM

Client Project ID: Ellsworth Sampling  
 QC Level: LEVEL I

Comments EDD Newfields format per client requested. TP

Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Test Code	Test Name	Hold	MS	Date Due	Hold Time
09-1996-01A	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	8021_W *	8021: BTEX, MBE	<input type="checkbox"/>	<input type="checkbox"/>	3/30/09	4/07/09
09-1996-01B	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	MEEP_W *	RSK175M: Methane	<input type="checkbox"/>	<input type="checkbox"/>	4/01/09	4/07/09
09-1996-01C	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	6010_D *	6010: Dissolved Metals	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	9/20/09
09-1996-01C	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	6020_D *	6020: Dissolved Metals	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	9/20/09
09-1996-01D	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	CARB/BICARB_W	Carbonate and Bicarbonate	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	4/07/09
09-1996-01D	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	COND_W	Specific Conductance @ 25°C	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	4/21/09
09-1996-01D	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	F_W	Fluoride	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	4/21/09
09-1996-01D	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	PH_DW	E150.1 pH	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	3/25/09
09-1996-01D	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	TDS_W	Total Dissolved Solids (TDS)	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	3/31/09
09-1996-01E	Robert Degregard	Groundwater	3/24/09 1500	3/25/09	ANIONS_NonDW *	300.0: Anions by IC	<input type="checkbox"/>	<input type="checkbox"/>	4/08/09	3/26/09

Definitions: \* - Test Code has a Select List



**Evergreen Analytical, Inc.**

Date: 07-Apr-09

Lab Order: 09-1996  
Client Project ID Ellsworth Sampling

**CASE NARRATIVE**

**SAMPLE RECEIVING**

Custody seals were present and intact.  
The temperature of the sample(s) upon arrival was 4.0°C.  
Sample(s) were received in good condition, in the proper container, and within holding times.  
VOC sample(s) were marked as preserved on the bottle labels.  
VOC sample(s) were received with no headspace present. JD

**QUALITY ASSURANCE (QA)**

Analyses performed on samples in this work order by EAL meet the requirements of the EAL Quality Assurance Program unless otherwise explained. Analyses of RCRA samples meet the requirements of NELAC and Utah Rule R444-14 unless otherwise explained. JE

**CLIENT SERVICES**

There are no anomalies to report. TP

**GENERAL CHEMISTRY**

Method E300.0: Sample Robert Degregard (09-1996-01E) has a high Chloride level, which required dilution of the sample to separate the Chloride peak from the Nitrite peak. This raised the reporting limit for Nitrite-N. There are no anomalies to report. BNP/MM/JE

**METALS ANALYSIS**

There are no anomalies to report. MB

**GAS CHROMATOGRAPHY**

Method 8021\_W: The MtBE recoveries for the matrix spike and matrix sample duplicate (MS/MSD) are above the QC limits. Since the bias is high and the MtBE in the sample is non detect there is no further action required. There are no other anomalies to report. JCC/JM/JE

Method RSK-175: A sample duplicate (DUP) was prepared and analyzed instead of a matrix spike duplicate (MSD) due to limited sample. There are no other anomalies to report. VM

Evergreen Analytical, Inc.  
4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
(303) 425-6021

Client Sample ID: Robert Degregoard  
Client Project ID: Ellsworth Sampling  
Date Collected: 3/24/2009  
Date Received: 3/25/2009

Lab Work Order 09-1996  
Lab Sample ID: 09-1996-01A  
Sample Matrix: Groundwater

AROMATIC VOLATILE ORGANICS

Method: SW8021B

Prep Method: SW5030B

Date Prepared: 3/27/2009

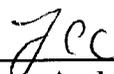
Lab File ID: 032709\TA039

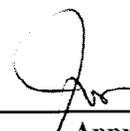
Dilution Factor: 1

Date Analyzed: 3/28/2009

Method Blank: MB2032709-2

Analytes	CAS Number	Result	LQL	Units
Methyl-t-butyl ether	1634-04-4	U	5.0	µg/L
Benzene	71-43-2	U	1.0	µg/L
Toluene	108-88-3	U	2.0	µg/L
Ethylbenzene	100-41-4	U	2.0	µg/L
m,p-Xylene	1330-20-7	U	2.0	µg/L
o-Xylene	95-47-6	U	2.0	µg/L
Surr: 1,2,4-Trichlorobenzene (S)	120-82-1	60	QC Limits: 60-140	%REC

  
\_\_\_\_\_  
Analyst

  
\_\_\_\_\_  
Approved

Notes: Total Xylenes consist of three isomers, two of which co-elute. The Xylene RL is for a single peak. Confirmation analysis was not performed.

Qualifiers: B - Analyte detected in the associated Method Blank, value not subtracted from result  
E - Extrapolated value. Value exceeds calibration range  
H - Sample analysis exceeded analytical holding time  
J - Indicates an estimated value when the compound is detected, but is below the LQL  
S - Spike Recovery outside accepted limits  
U - Compound analyzed for but not detected  
X - See case narrative  
\* - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

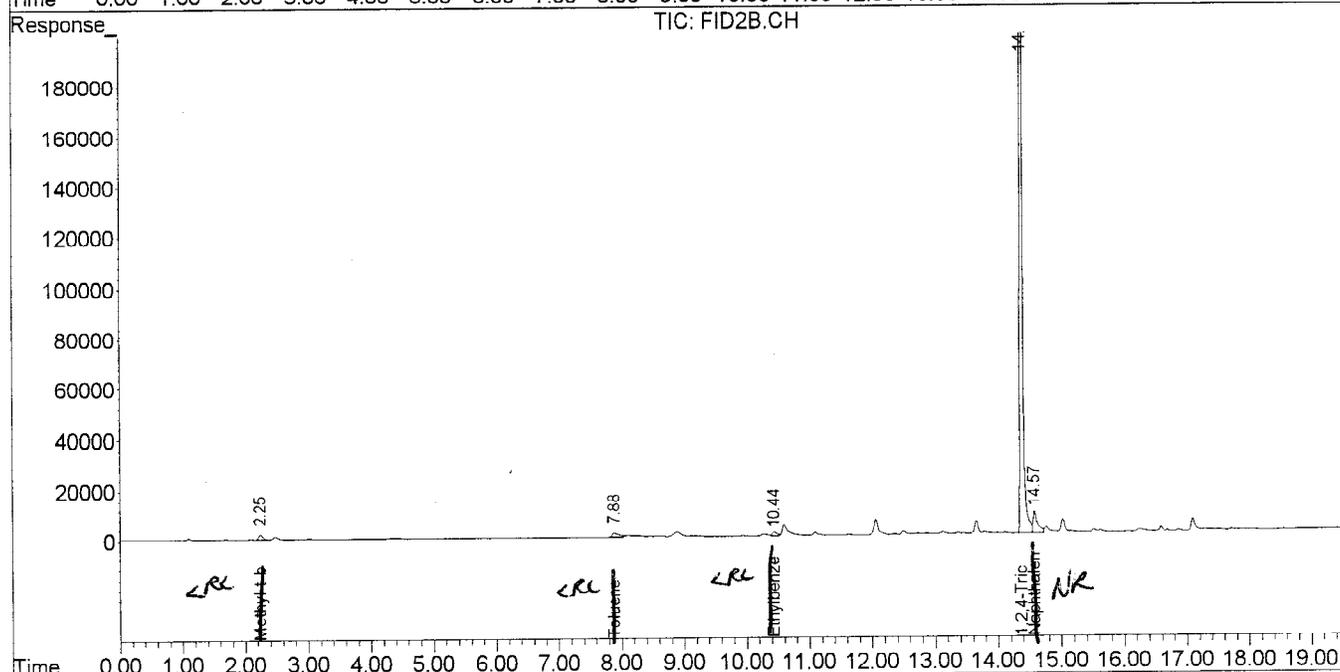
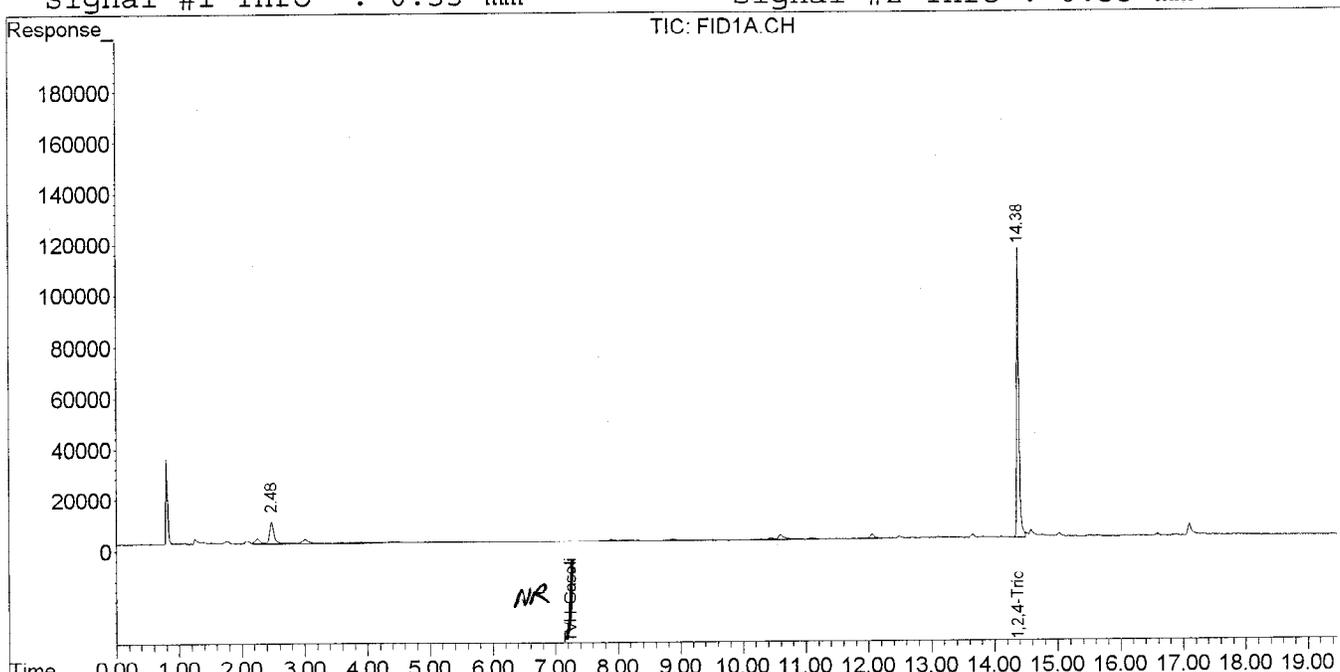
Definitions: LQL - Lower Quantitation Limit  
Surr - Surrogate

Print Date: 3/30/2009

Signal #1 : E:\DATA\032709\TA039.D\FID1A.CH Vial: 39  
 Signal #2 : E:\DATA\032709\TA039.D\FID2B.CH  
 Acq On : 28 Mar 2009 9:52 am Operator: Jennifer C  
 Sample : 09-1996-01A Inst : TVHBTEX2  
 Misc : ,SAMP,8021\_W,TVH\_W,1, Multiplr: 1.00  
 IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
 Quant Time: Mar 30 14:14 2009 Quant Results File: TW20327.RES

Quant Method : C:\MSDCHEM\1\METHODS\TW20327.M (Chemstation Integrator)  
 Title : 8015B/8021B TVH/BTEX  
 Last Update : Mon Mar 30 12:42:08 2009  
 Response via : Multiple Level Calibration  
 DataAcq Meth : TVB2.M

Volume Inj. :  
 Signal #1 Phase : DB-624 Signal #2 Phase: DB-624  
 Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm



JCC 03/30/09

Evergreen Analytical, Inc.  
4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
(303) 425-6021

Client Project ID Ellsworth Sampling      Lab Order: 09-1996  
Units: mg/L

RSKSOP-175M Headspace

Method: RSKSOP175M

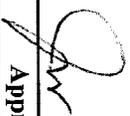
Methane

Prep Method: RSKSOP175M

Lab ID	Client ID	Matrix	Date Received	Collection Date	Date Prepared	Date Analyzed	Results	LQL	DF
09-1996-01B	Robert Degregard	Groundwater	3/25/09	3/24/09	3/30/09	3/30/09	10	0.020	25

Comments:

MM  
Analyst

  
Approved

Qualifiers: J - Indicates an estimated value when the compound is detected, but is below the LQL  
H - Sample analysis exceeded analytical holding time  
U - Compound analyzed for but not detected  
X - See case narrative

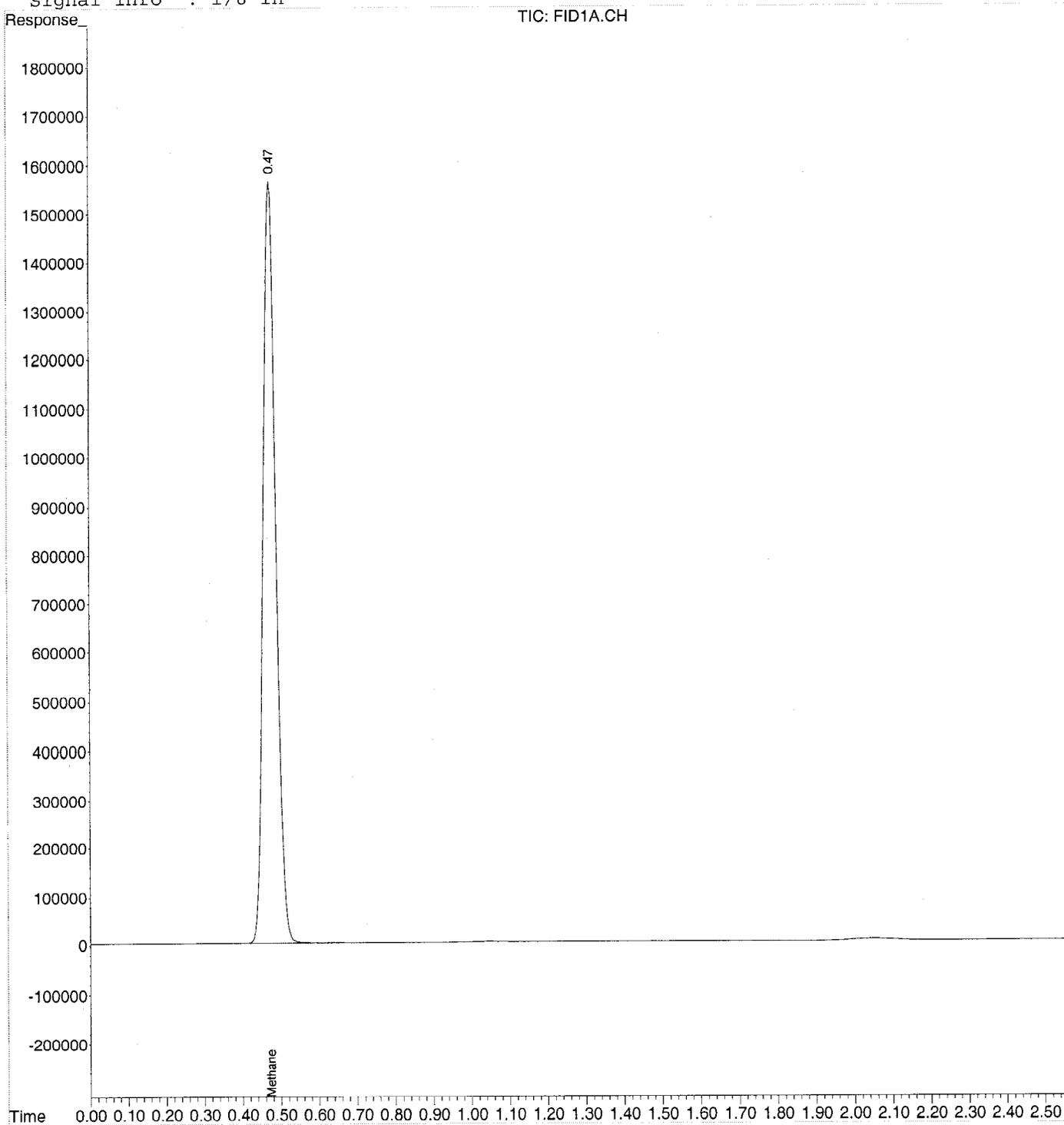
Definitions: DF - Dilution Factor  
LQL - Lower Quantitation Limit

\*-Value exceeds Maximum Contamination Level(MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Data File : F:\DATA\033009\FB018.D Vial: 18  
Acq On : 30 Mar 2009 2:02 pm Operator: Virginia Meyer  
Sample : 09-1996-01B Inst : FID4  
Misc : SAMP, MEEP\_W, 25, 20uL Multiplr: 1.00  
IntFile : autoint1.e  
Quant Time: Mar 30 15:05 2009 Quant Results File: GAS0324.RES

Quant Method : C:\MSDCHEM\2\METHODS\GAS0324.M (Chemstation Integrator)  
Title : RSK 175 Methane, Ethene, Ethane, and Propane  
Last Update : Tue Mar 24 10:10:57 2009  
Response via : Multiple Level Calibration  
DataAcq Meth : GAS.M

Volume Inj. : 100ul  
Signal Phase : Porapak Q 80/100  
Signal Info : 1/8 in



0000

**Evergreen Analytical, Inc.**  
4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
(303) 425-6021

**Client Sample ID:** Robert Degreoard  
**Client Project ID:** Ellsworth Sampling  
**Date Collected:** 3/24/09  
**Date Received:** 3/25/09

**Lab Work Order:** 09-1996  
**Lab Sample ID:** 09-1996-01  
**Sample Matrix:** Groundwater

**DISSOLVED METALS**

**Method:** SW6010B

**Prep Method:** E200.7/SW3010A

**Date Prepared:** 3/30/09  
**Date Analyzed:** 4/2/09

**Lab File ID:** 040109PM  
**Method Blank:** MB-18612

**Dilution Factor:** 1  
**Lab Fraction ID:** 09-1996-01C

Analytes	CAS Number	Result	LQL	Units
Calcium	7440-70-2	2.3	0.39	mg/L
Iron	7439-89-6	U	0.070	mg/L
Magnesium	7439-95-4	0.68	0.15	mg/L
Manganese	7439-96-5	U	0.0050	mg/L
Potassium	7440-09-7	1.8	0.34	mg/L
Sodium	7440-23-5	340	0.40	mg/L

**DISSOLVED METALS**

**Method:** SW6020

**Prep Method:** SW6020

**Date Prepared:** 4/2/09  
**Date Analyzed:** 4/5/09

**Lab File ID:** 090405A.B\040SMPL.D  
**Method Blank:** MB-18653

**Dilution Factor:** 1  
**Lab Fraction ID:** 09-1996-01C

Analytes	CAS Number	Result	LQL	Units
Arsenic	7440-38-2	U	0.0020	mg/L
Barium	7440-39-3	0.071	0.025	mg/L
Cadmium	7440-43-9	U	0.0010	mg/L
Chromium	7440-47-3	U	0.0050	mg/L
Lead	7439-92-1	U	0.0050	mg/L
Selenium	7782-49-2	U	0.0050	mg/L

*MB*

Analyst

*WKA*

Approved

**Qualifiers:** B - Analyte detected in the associated Method Blank, value not subtracted from result  
E - Extrapolated value. Value exceeds calibration range  
H - Sample analysis exceeded analytical holding time  
J - Indicates an estimated value when the compound is detected, but is below the LQL  
S - Spike Recovery outside accepted limits  
U - Compound analyzed for but not detected  
X - See case narrative  
\* - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

**Definitions:** NA - Not Applicable  
LQL - Lower Quantitation Limit  
Surr - Surrogate

Print Date: 4/7/2009

**Evergreen Analytical, Inc.**  
 4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
 (303) 425-6021

**Client Sample ID** Robert Degreoard  
**Client Project ID** Ellsworth Sampling  
**Date Collected:** 3/24/09 1500  
**Date Received:** 3/25/09

**Lab Work Order** 09-1996  
**Lab Sample ID:** 09-1996-01  
**Sample Matrix:** Groundwater

**CARBONATE AND BICARBONATE**

**Method: SM2320 B**

**Prep Method:**

**Date Prepared:** 3/31/09  
**Date Analyzed:** 3/31/09

**Lab File ID:** 150  
**Method Blank:** MBLK 3/31/09

**Dilution Factor:** 1  
**Lab Fraction ID:** 09-1996-01D

Analytes	CAS Number	Result	LQL	Units
Bicarbonate		661	5.0	mg/L
Carbonate		13.7	5.0	mg/L

**SPECIFIC CONDUCTANCE @ 25°C**

**Method: SM2510 B**

**Prep Method:**

**Date Prepared:** 3/31/09  
**Date Analyzed:** 3/31/09

**Lab File ID:** 66

**Dilution Factor:** 1  
**Lab Fraction ID:** 09-1996-01D

Analytes	CAS Number	Result	LQL	Units
Specific Conductance		1140	1.00	µmhos/cm

**FLUORIDE**

**Method: SM 4500-F C**

**Prep Method:**

**Date Prepared:** 3/27/09  
**Date Analyzed:** 3/27/09

**Lab File ID:** 66  
**Method Blank:** MBLK 032709

**Dilution Factor:** 1  
**Lab Fraction ID:** 09-1996-01D

Analytes	CAS Number	Result	LQL	Units
Fluoride	16984-48-8	3.2	0.20	mg/L

**E150.1 PH**

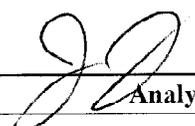
**Method: E150.1**

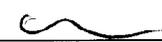
**Prep Method:**

**Date Prepared:** 3/25/09  
**Date Analyzed:** 3/25/09 1310

**Dilution Factor:** 1  
**Lab Fraction ID:** 09-1996-01D

Analytes	CAS Number	Result	LQL	Units
pH		8.54	1.00	pH Units

  
 \_\_\_\_\_  
 Analyst

  
 \_\_\_\_\_  
 Approved

**Qualifiers:** B - Analyte detected in the associated Method Blank, value not subtracted from result  
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 Surr - Surrogate

Evergreen Analytical, Inc.  
4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
(303) 425-6021

Client Sample ID Robert Degregard  
Client Project ID Ellsworth Sampling  
Date Collected: 3/24/09 1500  
Date Received: 3/25/09

Lab Work Order 09-1996  
Lab Sample ID: 09-1996-01  
Sample Matrix: Groundwater

TOTAL DISSOLVED SOLIDS (TDS)

Method: SM 2540C

Prep Method:

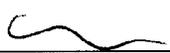
Date Prepared: 3/26/09  
Date Analyzed: 3/26/09

Lab File ID: 10  
Method Blank: MBLK 03/26/09

Dilution Factor: 1  
Lab Fraction ID: 09-1996-01D

Analytes	CAS Number	Result	LQL	Units
Total Dissolved Solids		747	10.0	mg/L

  
\_\_\_\_\_  
Analyst

  
\_\_\_\_\_  
Approved

**Qualifiers:** B - Analyte detected in the associated Method Blank, value not subtracted from result  
E - Extrapolated value. Value exceeds calibration range  
H - Sample analysis exceeded analytical holding time  
J - Indicates an estimated value when the compound is detected, but is below the LQL  
S - Spike Recovery outside accepted limits  
U - Compound analyzed for but not detected  
X - See case narrative  
\* - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

**Definitions:** NA - Not Applicable  
LQL - Lower Quantitation Limit  
Surr - Surrogate

## Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
(303) 425-6021

**Client Sample ID:** Robert Degregoard  
**Client Project ID:** Ellsworth Sampling  
**Date Collected:** 3/24/09 1500  
**Date Received:** 3/25/09

**Lab Work Order:** 09-1996  
**Lab Sample ID:** 09-1996-01  
**Sample Matrix:** Groundwater

### ANIONS BY IC

**Method:** E300.0

**Prep Method:**

**Date Prepared:** 3/26/09  
**Date Analyzed:** 3/26/09 1120

**Lab File ID:** 11  
**Method Blank:** MB 03/26/09

**Dilution Factor:** 1  
**Lab Fraction ID:** 09-1996-01E

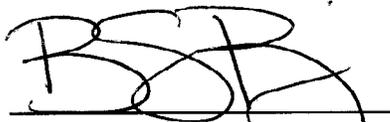
Analytes	CAS Number	Result	LQL	Units
Bromide	7647-15-6	U	0.20	mg/L
Nitrate-N		U	0.045	mg/L
Sulfate	7778-80-2	U	0.50	mg/L

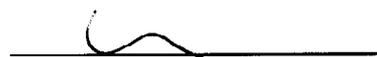
**Date Prepared:** 3/26/09  
**Date Analyzed:** 3/26/09 1339

**Lab File ID:** 16  
**Method Blank:** MB 03/26/09

**Dilution Factor:** 5  
**Lab Fraction ID:** 09-1996-01E

Analytes	CAS Number	Result	LQL	Units
Chloride	7647-14-5	70.4	2.5	mg/L
Nitrite-N		U	0.31	mg/L

  
 Analyst

  
 Approved

**Qualifiers:** B - Analyte detected in the associated Method Blank, value not subtracted from result  
 E - Extrapolated value. Value exceeds calibration range  
 H - Sample analysis exceeded analytical holding time  
 J - Indicates an estimated value when the compound is detected, but is below the LQL  
 S - Spike Recovery outside accepted limits  
 U - Compound analyzed for but not detected  
 X - See case narrative  
 \* - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

**Definitions:** NA - Not Applicable  
 LQL - Lower Quantitation Limit  
 Surr - Surrogate

Print Date: 3/27/2009

# QUALITY ASSURANCE REPORTS

METHOD BLANKS (MB)

LABORATORY CONTROL SPIKES (LCS)

MATRIX SPIKES (MS/MSD)\*

DUPLICATES (DUP)\*

\* For Metals or Wet Chemistry analyses: only included if requested.

Work Order: 09-1996

Client Project ID: Ellsworth Sampling

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021\_W

Sample ID: MB2032709-2	Samp Type: MBLK	TestCode: 8021_W	Run ID: TVHBTX2_090327A	Prep Date: 3/27/2009	Units: µg/L						
Batch ID: R46129-2	TestNo: SW8021B	FieldID: 0327091TA034	Analysis Date: 3/28/2009	SeqNo: 819397							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methyl-t-butyl ether	U	5.0									
Benzene	U	1.0									
Toluene	U	2.0									
Ethylbenzene	U	2.0									
m,p-Xylene	U	2.0									
o-Xylene	U	2.0									
Surr: 1,2,4-Trichlorobenzene (S)	60.46	0	100	0	60.5	60	140	0	0	0	

Sample ID: LCS2032709-2	Samp Type: LCS	TestCode: 8021_W	Run ID: TVHBTX2_090327A	Prep Date: 3/27/2009	Units: µg/L						
Batch ID: R46129-2	TestNo: SW8021B	FieldID: 0327091TA035	Analysis Date: 3/28/2009	SeqNo: 819398							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methyl-t-butyl ether	38.22	5.0	31.2	0	122	70	130	0	0	0	
Benzene	25.65	1.0	25.5	0	101	70	130	0	0	0	
Toluene	177.6	2.0	183.6	0	96.8	70	130	0	0	0	
Ethylbenzene	38.98	2.0	36.8	0	106	70	130	0	0	0	
m,p-Xylene	143.3	2.0	136.3	0	105	70	130	0	0	0	
o-Xylene	60.4	2.0	57.2	0	106	70	130	0	0	0	
Surr: 1,2,4-Trichlorobenzene (S)	108.7	0	100	0	109	60	140	0	0	0	

Sample ID: 09-1997-01AMS	Samp Type: MS	TestCode: 8021_W	Run ID: TVHBTX2_090327A	Prep Date: 3/27/2009	Units: µg/L						
Batch ID: R46129-2	TestNo: SW8021B	FieldID: 0327091TA037	Analysis Date: 3/28/2009	SeqNo: 819400							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl-t-butyl ether	46.21	5.0	31.2	0	148	65	132	0	0	0	S
Benzene	25.45	1.0	25.5	0	99.8	70	130	0	0	0	
Toluene	178.2	2.0	183.6	0	97	70	130	0	0	0	
Ethylbenzene	39.46	2.0	36.8	0	107	62	130	0	0	0	
m,p-Xylene	146	2.0	136.3	0	107	70	134	0	0	0	

**Qualifiers:**

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 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range

R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative

Work Order: 09-1996  
 Client Project ID: Ellsworth Sampling

**ANALYTICAL QC SUMMARY REPORT**

TestCode: 8021\_W

Sample ID: 09-1997-01AMMS	Samp Type: MS	TestCode: 8021_W	Run ID: TVHBTX2_090327A	Prep Date: 3/27/2009	Units: µg/L						
Batch ID: R46129-2	TestNo: SW8021B	FieldID: 0327091TA037	Analysis Date: 3/28/2009	SeqNo: 819400							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

o-Xylene	61.2	2.0	57.2	0	107	63	130	0	0	0	
Surr: 1,2,4-Trichlorobenzene (S)	112.6	0	100	0	113	60	140	0	0	0	

Sample ID: 09-1997-01AMMSD	Samp Type: MSD	TestCode: 8021_W	Run ID: TVHBTX2_090327A	Prep Date: 3/27/2009	Units: µg/L						
Batch ID: R46129-2	TestNo: SW8021B	FieldID: 0327091TA038	Analysis Date: 3/28/2009	SeqNo: 819401							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methyl-t-butyl ether	55.6	5.0	31.2	0	178	65	132	46.21	18.4	30	S
Benzene	24.6	1.0	25.5	0	96.5	70	130	25.45	3.43	30	
Toluene	174.5	2.0	183.6	0	95	70	130	178.2	2.07	30	
Ethylbenzene	38.78	2.0	36.8	0	105	62	130	39.46	1.75	30	
m,p-Xylene	143.4	2.0	136.3	0	105	70	134	146	1.76	30	
o-Xylene	60.88	2.0	57.2	0	106	63	130	61.2	0.516	30	
Surr: 1,2,4-Trichlorobenzene (S)	108.8	0	100	0	109	60	140	0	0	0	

**Qualifiers:**

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- E - Extrapolated value, value exceeds calibration range:
- R - RPD outside acceptance limits
- B - Analyte detected in the associated Method Blank
- H - Prep or analytical holding time exceeded
- X - See case narrative

Evergreen Analytical, Inc.

Date: 30-Mar-09

**ANALYTICAL QC SUMMARY REPORT**

Work Order: 09-1996

Client Project ID: Ellsworth Sampling

TestCode: MEEP\_W

Sample ID: <b>GB033009</b>	SampType: <b>MBLK</b>	TestCode: <b>MEEP_W</b>	Run ID: <b>FID4_090330A</b>	Prep Date: <b>3/30/2009</b>	Units: <b>mg/L</b>
Batch ID: <b>GAS033009</b>	TestNo: <b>RSKSOP175</b>	FileID: <b>FB004</b>	Analysis Date: <b>3/30/2009</b>	SeqNo: <b>819502</b>	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Methane		U	0.00080		

Sample ID: <b>LCS033009</b>	SampType: <b>LCS</b>	TestCode: <b>MEEP_W</b>	Run ID: <b>FID4_090330A</b>	Prep Date: <b>3/30/2009</b>	Units: <b>mg/L</b>
Batch ID: <b>GAS033009</b>	TestNo: <b>RSKSOP175</b>	FileID: <b>FB005</b>	Analysis Date: <b>3/30/2009</b>	SeqNo: <b>819503</b>	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Methane		0.6046	0.0080	0.5094	0 0 119 70 130 0 0 0.219 30

Sample ID: <b>LCSD033009</b>	SampType: <b>LCSD</b>	TestCode: <b>MEEP_W</b>	Run ID: <b>FID4_090330A</b>	Prep Date: <b>3/30/2009</b>	Units: <b>mg/L</b>
Batch ID: <b>GAS033009</b>	TestNo: <b>RSKSOP175</b>	FileID: <b>FB006</b>	Analysis Date: <b>3/30/2009</b>	SeqNo: <b>819504</b>	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Methane		0.606	0.0080	0.5094	0 0 119 70 130 0.6046 0.219 30

Sample ID: <b>09-2029-01BMS</b>	SampType: <b>MS</b>	TestCode: <b>MEEP_W</b>	Run ID: <b>FID4_090330A</b>	Prep Date: <b>3/30/2009</b>	Units: <b>mg/L</b>
Batch ID: <b>GAS033009</b>	TestNo: <b>RSKSOP175</b>	FileID: <b>FB031</b>	Analysis Date: <b>3/30/2009</b>	SeqNo: <b>819501</b>	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Methane		0.582	0.0080	0.5094	0.002177 114 70 130 0 0

Sample ID: <b>09-1962-01BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>MEEP_W</b>	Run ID: <b>FID4_090330A</b>	Prep Date: <b>3/30/2009</b>	Units: <b>mg/L</b>
Batch ID: <b>GAS033009</b>	TestNo: <b>RSKSOP175</b>	FileID: <b>FB032</b>	Analysis Date: <b>3/30/2009</b>	SeqNo: <b>819493</b>	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Methane		4.537	0.016	0	0 0 0 0 0 4.447 2.00 30

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- E - Extrapolated value, value exceeds calibration range.
- R - RPD outside acceptance limits
- B - Analyte detected in the associated Method Blank
- H - Prep or analytical holding time exceeded
- X - See case narrative

Evergreen Analytical, Inc.

Date: 07-Apr-09

Work Order: 09-1996  
 Client Project ID: Ellsworth Sampling

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 18612

Sample ID: MB-18612	SampType: MBLK	TestCode: 200.7_D	Run ID: ICP-OPTIMA 5300 DV_090401B	Prep Date: 3/30/2009	Units: mg/L						
Batch ID: 18612	TestNo: E200.7, Rev.	FieldID: 040109DY	Analysis Date: 4/2/2009	SeqNo: 820723							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Calcium	0	0.387									
Iron	0	0.0700									
Magnesium	0	0.150									
Manganese	U	0.00500									
Potassium	U	0.340									
Sodium	0	0.400									

Sample ID: LCS-18612	SampType: LCS	TestCode: 200.7_D	Run ID: ICP-OPTIMA 5300 DV_090401B	Prep Date: 3/30/2009	Units: mg/L						
Batch ID: 18612	TestNo: E200.7, Rev.	FieldID: 040109DY	Analysis Date: 4/2/2009	SeqNo: 820724							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Calcium	10.59	0.387	10	0	106	85	115	0	0		
Iron	5.3	0.0700	5	0	106	85	115	0	0		
Magnesium	10.54	0.150	10	0	105	85	115	0	0		
Manganese	1.984	0.00500	2	0	99.2	85	115	0	0		
Potassium	10.37	0.340	10	0.152	104	85	115	0	0		
Sodium	10.5	0.400	10	0	105	85	115	0	0		

**Qualifiers:**

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- E - Extrapolated value, value exceeds calibration range.
- R - RPD outside acceptance limits
- B - Analyte detected in the associated Method Blank
- H - Prep or analytical holding time exceeded
- X - See case narrative

Work Order: 09-1996  
 Client Project ID: Ellsworth Sampling

### ANALYTICAL QC SUMMARY REPORT

BatchID: 18653

Sample ID: MB-18653	Sample Type: MBLK	Test Code: 6020_D	Run ID: ICPMS_090405A	Prep Date: 4/2/2009	Units: mg/L						
Batch ID: 18653	Test No: SW6020	File ID: 090405A.B1026SMPL.D	Analysis Date: 4/5/2009	Seq No: 821841							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	U	0.0020									
Barium	U	0.025									
Cadmium	U	0.0010									
Chromium	U	0.0050									
Lead	U	0.0050									
Selenium	U	0.0050									

Sample ID: LCS-18653	Sample Type: LCS	Test Code: 6020_D	Run ID: ICPMS_090405A	Prep Date: 4/2/2009	Units: mg/L						
Batch ID: 18653	Test No: SW6020	File ID: 090405A.B1027SMPL.D	Analysis Date: 4/5/2009	Seq No: 821842							
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	0.2603	0.0020	0.3	0	86.8	80.4	127	0	0		
Barium	0.2802	0.025	0.3	0.00657	93.4	79.4	118	0	0		
Cadmium	0.02854	0.0010	0.03	0	95.1	80.7	120	0	0		
Chromium	0.3063	0.0050	0.3	0.001443	102	75.2	128	0	0		
Lead	0.0516	0.0050	0.06	0.00246	86	81.8	118	0	0		
Selenium	0.0555	0.0050	0.06	0	92.5	73.4	138	0	0		

- Qualifiers:**
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  - S - Spike Recovery outside acceptance limits
  - E - Extrapolated value, value exceeds calibration range.
  - R - RPD outside acceptance limits
  - B - Analyte detected in the associated Method Blank
  - H - Prep or analytical holding time exceeded
  - X - See case narrative

Evergreen Analytical, Inc.

Date: 02-Apr-09

Work Order: 09-1996  
 Client Project ID: Ellsworth Sampling

**ANALYTICAL QC SUMMARY REPORT**

TestCode: CARB/BICARB\_W

Sample ID: <b>MBLK 3/3/109</b>	SampType: <b>MBLK</b>	TestCode: <b>CARB/BICAR</b>	Run ID: <b>ALK_090331C</b>	Prep Date: <b>3/31/2009</b>	Units: <b>mg/L</b>
Batch ID: <b>R46187</b>	TestNo: <b>SM2320 B</b>	FileID: <b>145</b>	Analysis Date: <b>3/31/2009</b>	SeqNo: <b>820058</b>	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Bicarbonate U 5.0  
 Carbonate U 5.0

Sample ID: <b>LCS</b>	SampType: <b>LCS</b>	TestCode: <b>CARB/BICAR</b>	Run ID: <b>ALK_090331C</b>	Prep Date: <b>3/31/2009</b>	Units: <b>mg/L</b>
Batch ID: <b>R46187</b>	TestNo: <b>SM2320 B</b>	FileID: <b>145</b>	Analysis Date: <b>3/31/2009</b>	SeqNo: <b>820059</b>	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Bicarbonate 99.42 5.0 100 0 99.4 90 110 0 0

**Qualifiers:**  
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 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range  
 R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative

Work Order: 09-1996  
Client Project ID Ellsworth Sampling

ANALYTICAL QC SUMMARY REPORT  
TestCode: COND\_W

Sample ID: LCS	SampType: LCS	TestCode: COND_W	Run ID: COND_090331A	Prep Date: 3/31/2009	Units: jmhos/cm
Batch ID: R46175	TestNo: SM2510 B	FileID: 61	Analysis Date: 3/31/2009	SeqNo: 819917	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC Lowlimit Highlimit RPD Ref Val %RPD RPDlimit Qual

Specific Conductance	97.4	1.00	99.7	0	97.4	90	110	0	0
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- Qualifiers:**
- U - Not detected at or above the Reporting Limit
  - J - Analyte detected below quantitation limits
  - S - Spike Recovery outside acceptance limits
  - E - Extrapolated value, value exceeds calibration range.
  - R - RPD outside acceptance limits
  - B - Analyte detected in the associated Method Blank
  - H - Prep or analytical holding time exceeded
  - X - See case narrative

Work Order: 09-1996  
 Client Project ID Ellsworth Sampling

**ANALYTICAL QC SUMMARY REPORT**

TestCode: F\_W

Sample ID: MBLK 032709	Samp Type: MBLK	TestCode: F_W	Run ID: F_090327A	Prep Date: 3/27/2009	Units: mg/L
Batch ID: R46111	TestNo: SM 4500-F C	FieldID: 47	Analysis Date: 3/27/2009	SeqNo: 818858	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	U	0.20			

Sample ID: MBLK 032709	Samp Type: MBLK	TestCode: F_W	Run ID: F_090327A	Prep Date: 3/27/2009	Units: mg/L
Batch ID: R46111	TestNo: SM 4500-F C	FieldID: 47	Analysis Date: 3/27/2009	SeqNo: 818883	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	U	0.20			

Sample ID: LCS	Samp Type: LCS	TestCode: F_W	Run ID: F_090327A	Prep Date: 3/27/2009	Units: mg/L
Batch ID: R46111	TestNo: SM 4500-F C	FieldID: 48	Analysis Date: 3/27/2009	SeqNo: 818859	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	9.7	0.20	10	0	97 95 105 0 0

Sample ID: LCS	Samp Type: LCS	TestCode: F_W	Run ID: F_090327A	Prep Date: 3/27/2009	Units: mg/L
Batch ID: R46111	TestNo: SM 4500-F C	FieldID: 48	Analysis Date: 3/27/2009	SeqNo: 818884	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Fluoride	10.4	0.20	10	0	104 95 105 0 0

**Qualifiers:**  
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 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range.  
 R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative

Work Order: 09-1996  
 Client Project ID Ellsworth Sampling

**ANALYTICAL QC SUMMARY REPORT**  
 TestCode: PH\_DW

Sample ID: LCS-R46076	SampType: LCS	TestCode: PH_DW	Run ID: PH_090325C	Prep Date: 3/25/2009	Units: pH Units
Batch ID: R46076	TestNo: E150.1	FileID:	Analysis Date: 3/25/2009	SeqNo: 817341	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

pH	8	1.00	8	0	100	99.3	100.7	0	0
----	---	------	---	---	-----	------	-------	---	---

- Qualifiers:**
- U - Not detected at or above the Reporting Limit
  - J - Analyte detected below quantitation limits
  - S - Spike Recovery outside acceptance limits
  - E - Extrapolated value, value exceeds calibration range.
  - R - RPD outside acceptance limits
  - B - Analyte detected in the associated Method Blank
  - H - Prep or analytical holding time exceeded
  - X - See case narrative

Work Order: 09-1996  
 Client Project ID Ellsworth Sampling

**ANALYTICAL QC SUMMARY REPORT**  
 TestCode: TDS\_W

Sample ID: MBLK 03/26/09	SampType: MBLK	TestCode: TDS_W	Run ID: ANALYTICAL BALANCE_090327A	Prep Date: 3/26/2009	Units: mg/L
Batch ID: R46115	TestNo: SM 2540C	FileID: 1	Analysis Date: 3/26/2009	SeqNo: 818990	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Dissolved Solids					
	U	10.0			
Sample ID: LCS	SampType: LCS	TestCode: TDS_W	Run ID: ANALYTICAL BALANCE_090327A	Prep Date: 3/26/2009	Units: mg/L
Batch ID: R46115	TestNo: SM 2540C	FileID: 2	Analysis Date: 3/26/2009	SeqNo: 818991	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Total Dissolved Solids 405 10.0 400 0 101 90 110 0 0

**Qualifiers:**  
 U - Not detected at or above the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range.  
 R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative

Work Order: 09-1996  
 Client Project ID: Ellsworth Sampling

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R46117

Sample ID: MB 03/26/09	SamplType: MBLK	TestCode: anions_w	Run ID: IC-2000_090326A	Prep Date: 3/26/2009	Units: mg/L
Batch ID: R46117	TestNo: E300.0	FileID: 06	Analysis Date: 3/26/2009	SeqNo: 818977	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

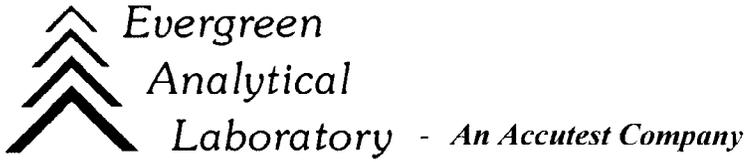
Chloride	0	0.50			
Nitrite-N	0	0.0040			
Bromide	0	0.050			
Nitrate-N	0	0.010			
Sulfate	0	0.50			

Sample ID: LCS #ALLT218076	SamplType: LCS	TestCode: anions_w	Run ID: IC-2000_090326A	Prep Date: 3/26/2009	Units: mg/L
Batch ID: R46117	TestNo: E300.0	FileID: 05	Analysis Date: 3/26/2009	SeqNo: 818976	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Chloride	18.09	2.5	20	0	90.4	90	110	0	0
Nitrite-N	6.034	0.020	6.09	0	99.1	90	110	0	0
Bromide	19.85	0.25	20	0	99.2	90	110	0	0
Nitrate-N	4.369	0.050	4.518	0	96.7	90	110	0	0
Sulfate	28.2	2.5	30	0	94	90	110	0	0

**Qualifiers:**

- U - Not detected at or above the Reporting Limit
- J - Analyte detected below quantitation limits
- S - Spike Recovery outside acceptance limits
- E - Extrapolated value, value exceeds calibration range.
- R - RPD outside acceptance limits
- B - Analyte detected in the associated Method Blank
- H - Prep or analytical holding time exceeded
- X - See case narrative



April 07, 2009

Brian Dodek  
LT Environmental  
4600 W 60th Ave  
Arvada, CO 80003

Lab Work Order: 09-1996  
Client Project ID: Ellsworth Sampling

Dear Brian Dodek:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary. The invoice is included with this report or has been mailed to another party as indicated on the chain of custody.

The enclosed data for testing performed at Evergreen Analytical Laboratory (EAL) have been reviewed for quality assurance. A case narrative is included to describe any anomalies associated with the samples or data.

EAL will dispose of all samples 44 days from the sample receipt date. If you want samples returned, please advise us by mail or fax as soon as possible.

A copy of this project report and supporting data will be retained for a period of five years unless we are otherwise advised by you. A document retrieval charge will apply.

Thank you for using the services of Evergreen Analytical. If you have any questions concerning the analytical data, please contact me. Please direct other questions to Client Services.

Sincerely,

Joseph J Egry IV/ Carl Smits  
Quality Assurance