

**ANALYTICAL REPORT**

Lot #: D9E280331  
Project: POWERS #1

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June 11, 2009

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## *Standard Deliverables*

### Report Contents

### Total Number of Pages

#### ***Standard Deliverables***

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## **Case Narrative**

The results included in this report have been reviewed for compliance with TestAmerica Laboratories, Inc. Quality Assurance/Quality Control (QA/QC) plan. The test results relate only to the samples in this report and meet all requirements of NELAC with any exceptions noted below.

Dilution factors and footnotes have been provided to assist in the interpretation of the results. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interferences or analytes present at concentrations above the linear calibration curve, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Laboratories, Inc. utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. A summary of quality control parameters is provided below.

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### **Quality Control Summary for Lot D9E280331**

#### **Sample Receiving**

One sample was received by TestAmerica Denver under chain of custody on May 28, 2009.

The sample was received at an elevated temperature of 7.3 °C. This is above our control limits of 6 °C; the client was notified on May 29, 2009.

All sample containers were received intact.

#### **Dissolved Methane Analysis by GC, Method RSK SOP-175**

No anomalies were observed.

#### **GC Volatiles, Method 8021B**

No anomalies were observed.

#### **Total Metals Analysis, Method SW846 6010B**

No anomalies were observed.

#### **General Chemistry**

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. Due to high constituent concentrations, the Sulfate analysis of the sample had to be performed at a dilution. The result in the analytical report has been flagged with a "Q", and the reporting limit has been adjusted relative to the dilution required.

No other anomalies were observed.

## EXECUTIVE SUMMARY - Detection Highlights

D9E280331

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
POWERS #1 (WELD) 05/27/09 15:00 001				
Barium	82	10	ug/L	SW846 6010B
Calcium	10000	200	ug/L	SW846 6010B
Iron	15000	100	ug/L	SW846 6010B
Potassium	4500	3000	ug/L	SW846 6010B
Magnesium	6000	200	ug/L	SW846 6010B
Manganese	630	10	ug/L	SW846 6010B
Sodium	110000	1000	ug/L	SW846 6010B
Bicarbonate	130	5.0	mg/L	SM18 2320 B
Alkalinity				
Chloride	32	3.0	mg/L	MCAWW 300.0A
Sulfate	100 Q	25	mg/L	MCAWW 300.0A
Fluoride	0.52	0.50	mg/L	MCAWW 300.0A
Bromide	0.23	0.20	mg/L	MCAWW 300.0A
Carbonate Alkalinity	8.9	5.0	mg/L	SM18 2320 B
Total Dissolved	350	10	mg/L	SM18 2540 C
Solids				
pH	8.8	0.10	No Units	SM18 4500-H B

# METHODS SUMMARY

D9E280331

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH (Electrometric)	SM18 4500-H B	SM18 4500-H B
Bicarbonate alkalinity	SM18 2320 B	SM20 2320B
Bromide	MCAWW 300.0A	MCAWW 300.0A
Carbonate Alkalinity	SM18 2320 B	SM20 2320B
Chloride	MCAWW 300.0A	MCAWW 300.0A
Dissolved Gasses in Water	RSK SOP-175	
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3010A
Nitrate-Nitrite	MCAWW 353.2	MCAWW 353.2
Sulfate	MCAWW 300.0A	MCAWW 300.0A
Total Dissolved Solids	SM18 2540 C	SM18 2540 C
Volatiles by GC	SW846 8021B	SW846 5030

## References:

MCAWW	"Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
RSK	Sample Prep and Calculations for Dissolved Gas Analysis in Water Samples Using a GC Headspace Equilibration Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab
SM18	"Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
SW846	"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

## METHOD / ANALYST SUMMARY

D9E280331

ANALYTICAL METHOD	ANALYST	ANALYST ID
MCAWW 300.0A	Thu L. Phan	014145
MCAWW 353.2	Brett Wolff	009878
RSK SOP-175	Brian Ream	000323
SM18 2320 B	Marcia DeRosia	002500
SM18 2540 C	Brandon Domnick	018631
SM18 4500-H B	Elizabeth Fisher	009292
SW846 6010B	Lynn-Anne Trudell	006645
SW846 6010B	Lynn-Anne Trudell	6645
SW846 8021B	Adam Pavlakovich	003128

### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.

RSK Sample Prep and Calculations for Dissolved Gas Analysis  
in Water Samples Using a GC Headspace Equilibration  
Technique, RSKSOP-175, REV. 0, 8/11/94, USEPA Research Lab

SM18 "Standard Methods for the Examination of Water and  
Wastewater", 18th Edition, 1992.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

## SAMPLE SUMMARY

D9E280331

WO #	SAMPLE#	CLIENT	SAMPLE ID	SAMPLED DATE	SAMP TIME
LDXG0	001	POWERS	#1 (WELD)	05/27/09	15:00

### NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Colorado Oil&Gas Conservation Commision

Client Sample ID: POWERS #1 (WELD)

GC Volatiles

Lot-Sample #....: D9E280331-001    Work Order #....: LDXG01AA    Matrix.....: WATER  
Date Sampled...: 05/27/09 15:00    Date Received...: 05/28/09  
Prep Date.....: 05/29/09    Analysis Date...: 05/29/09  
Prep Batch #....: 9149494    Analysis Time...: 10:34  
Dilution Factor: 1  
Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	ND	5.0	ug/L



TestAmerica

RSK-175 Dissolved Gasses in Water

Data file : \\DenSvr03\Public\chem\GCV\GC\_J.i\0529091.B\016F1601.D  
Lab Smp Id: LDXG01AA Client Smp ID: POWERS #1 (WELD)  
Inj Date : 29-MAY-2009 10:34  
Operator : TM/BR Inst ID: GC\_J.i  
Smp Info : LDXG01AA,331-1  
Misc Info : ICAL 11-MAY-2007  
Comment : SOP: DV-GC-0025  
Method : \\DenSvr03\Public\chem\GCV\GC\_J.i\0529091.B\RSK-1\_7PT.m  
Meth Date : 29-May-2009 15:24 reamb Quant Type: ESTD  
Cal Date : 01-MAY-2009 13:44 Cal File: 009F0901.D  
Als bottle: 16  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: RSK175.01.sub  
Target Version: 4.14  
Processing Host: DENPC064

Concentration Formula: Amt \* DF \* 1 \* CpndVariable  
Cpnd Variable Local Compound Variable

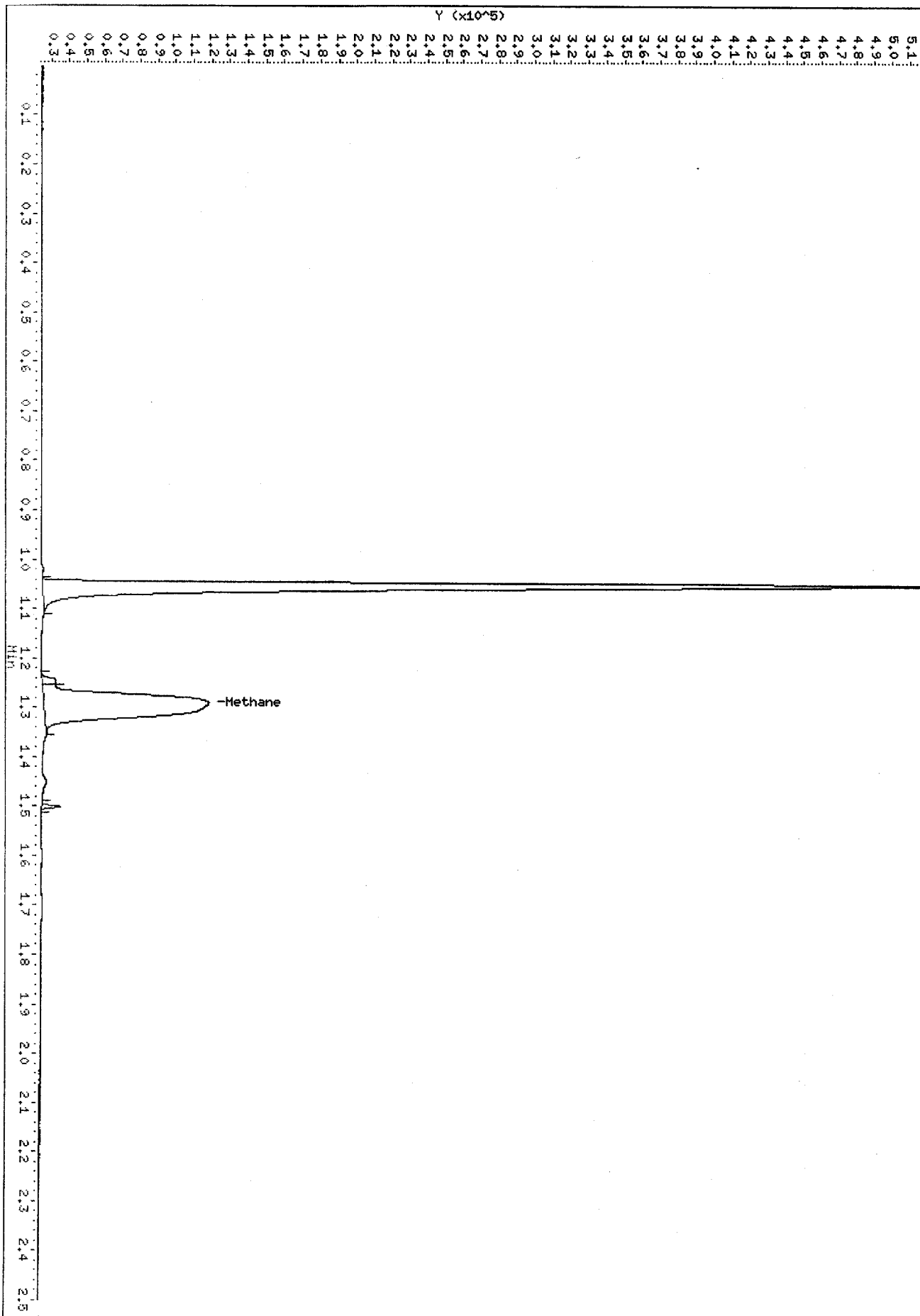
Compounds	CONCENTRATIONS					
	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN ( ug/L)	FINAL ( ug/L)
1 Methane	1.289	1.292	-0.003	273538	1.62767	1.628 (a)
2 Ethene	Compound Not Detected.					
3 Ethane	Compound Not Detected.					
4 Acetylene	Compound Not Detected.					

QC Flag Legend

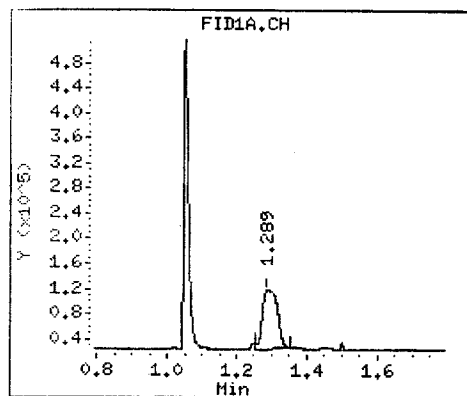
a - Target compound detected but, quantitated amount  
Below Limit Of Quantitation(BLOQ).

TM  
6/3/09

\\Densvr03\Public\chem\GC\GC\_J.1\0529091.B\016F1601.D



1 Methane



**Colorado Oil&Gas Conservation Commision**

**Client Sample ID: POWERS #1 (WELD)**

**GC Volatiles**

**Lot-Sample #...**: D9E280331-001    **Work Order #...**: LDYG01AJ    **Matrix.....**: WATER  
**Date Sampled...**: 05/27/09 15:00    **Date Received...**: 05/28/09  
**Prep Date.....**: 05/28/09    **Analysis Date...**: 05/28/09  
**Prep Batch #...**: 9149311    **Analysis Time...**: 22:50  
**Dilution Factor:** 1  
**Method.....**: SW846 8021B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.50	ug/L
Ethylbenzene	ND	0.50	ug/L
Methyl tert-butyl ether	ND	5.0	ug/L
Toluene	ND	0.50	ug/L
Xylenes (total)	ND	0.50	ug/L
<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
a,a,a-Trifluorotoluene (TFT)	101	(85 - 115)	

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VOLATILE REPORT SOW 3/90

Data file : \\DenSvr03\Public\chem\GCV\GC\_H.i\0528092.B\304B2501.D  
Lab Smp Id: LDXG01AJ Client Smp ID: POWERS #1 (WELD)  
Inj Date : 28-MAY-2009 22:50  
Operator : jmc/mpk Inst ID: GC\_H.i  
Smp Info : LDXG01AJ,331-1  
Misc Info :  
Comment : REV. OLMO1.1.1  
Method : \\DenSvr03\Public\chem\GCV\GC\_H.i\0528092.B\H2.m  
Meth Date : 29-May-2009 11:10 pavlakoa Quant Type: ISTD  
Cal Date : 06-NOV-2008 15:46 Cal File: 112B0701.D  
Als bottle: 304  
Dil Factor: 1.00000  
Integrator: Falcon Compound Sublist: Arom.A.01.sub  
Target Version: 4.14  
Processing Host: DENPC064

Concentration Formula: Amt \* DF \* Vp/Vs \* CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vp	5.000	final purge volume (ml)
Vs	5.000	vlm of sample added to purge vessel (ml)
Cpnd Variable		Local Compound Variable

Compounds						CONCENTRATIONS	
	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN	FINAL	
					( ug/l)	( ug/L)	
1 Methyl tert-butylether				Compound Not Detected.			
2 Benzene				Compound Not Detected.			
\$ 3 Trifluorotoluene	6.583	6.576	(0.664)	314065	30.1667	30.1667	
4 Toluene				Compound Not Detected.			
* 5 1-Chloro-4-fluorobenzene	9.916	9.910	(1.000)	479286	30.0000		
6 Chlorobenzene				Compound Not Detected.			
7 Ethylbenzene				Compound Not Detected.			
8 m+p-Xylene				Compound Not Detected.			
9 o-Xylene				Compound Not Detected.			
11 1,3-Dichlorobenzene				Compound Not Detected.			
12 1,4-Dichlorobenzene				Compound Not Detected.			
13 1,2-Dichlorobenzene				Compound Not Detected.			
M 16 Total Xylene				Compound Not Detected.			

*Handwritten:* 3/29/09

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INTERNAL STANDARD COMPOUNDS  
 AREA AND RT SUMMARY

Instrument ID: GC H.i	Calibration Date: 28-MAY-2009
Lab File ID: 304B2501.D	Calibration Time: 18:36
Lab Smp Id: LDXG01AJ	Client Smp ID: POWERS #1 (WELD
Analysis Type: VOA	Level: LOW
Quant Type: ISTD	Sample Type: WATER
Operator: jmc/mpk	
Method File: \\DenSvr03\Public\chem\GCV\GC_H.i\0528092.B\H2.m	
Misc Info:	

COMPOUND	STANDARD	AREA LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
5 1-Chloro-4-fluoro	493456	246728	986912	479286	-2.87

COMPOUND	STANDARD	RT LIMIT		SAMPLE	%DIFF
		LOWER	UPPER		
=====	=====	=====	=====	=====	=====
5 1-Chloro-4-fluoro	9.94	9.44	10.44	9.92	-0.20

AREA UPPER LIMIT = +100% of internal standard area.  
 AREA LOWER LIMIT = - 50% of internal standard area.  
 RT UPPER LIMIT = + 0.50 minutes of internal standard RT.  
 RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

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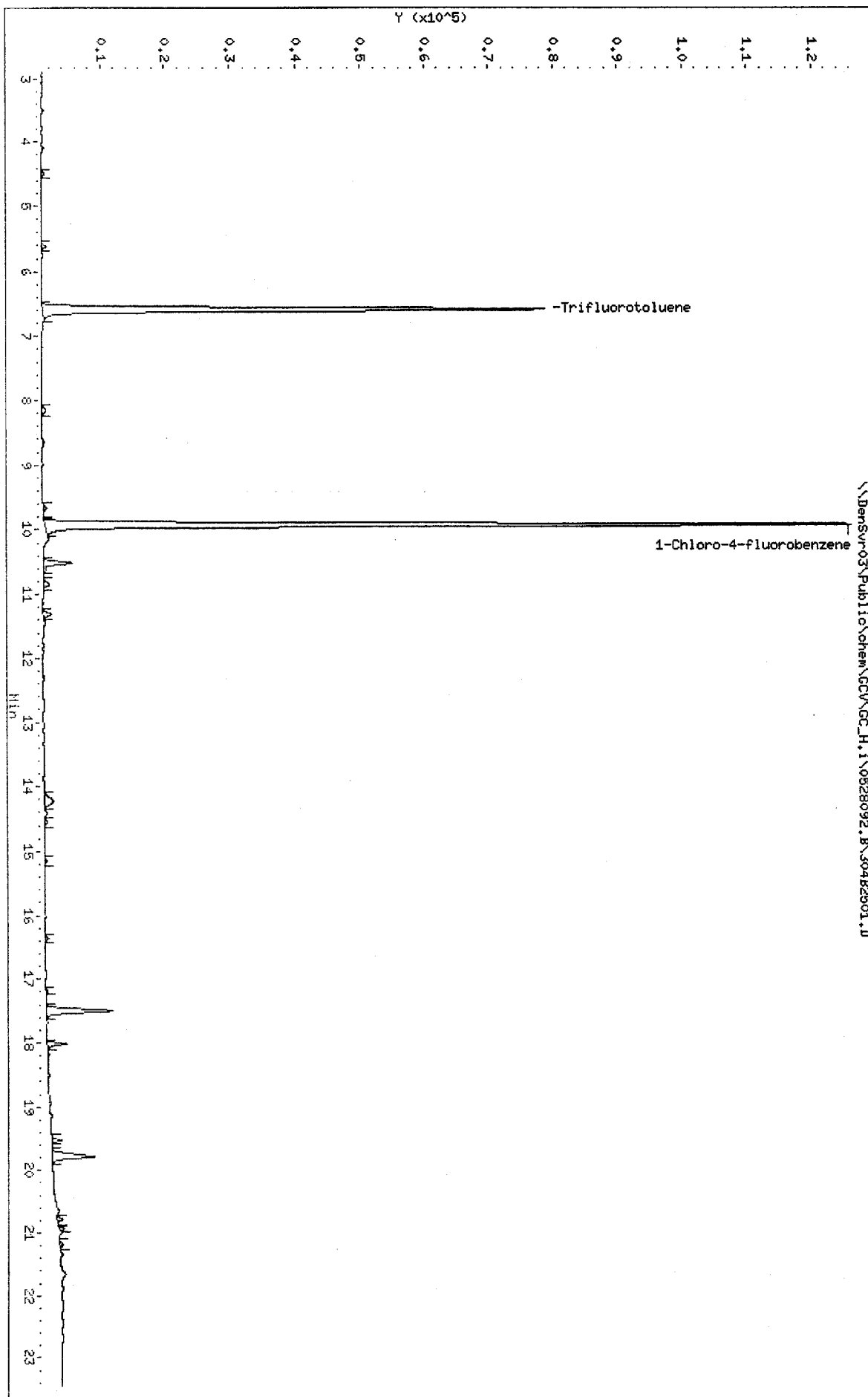
RECOVERY REPORT

Client Name: Colorado Oil&Gas Con28-MAY-2009 00:00 Client SDG: D9E2803  
Sample Matrix: LIQUID Fraction: VOA  
Lab Smp Id: LDXG01AJ Client Smp ID: POWERS #1 (WELD)  
Level: LOW Operator: jmc/mpk  
Data Type: GC DATA SampleType: SAMPLE  
SpikeList File: Arom.A.01.spk Quant Type: ISTD  
Sublist File: Arom.A.01.sub  
Method File: \\DenSvr03\Public\chem\GCV\GC\_H.i\0528092.B\H2.m  
Misc Info:

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
\$ 3 Trifluorotoluene	30.0000	30.1667	100.56	85-115

Data File: \\Densyr03\Public\chem\GC\GC\_H.I\0528092.B\30482501.D  
Date : 28-MAY-2009 22:50  
Client ID: POWERS #1 (MELD)  
Sample Info: LDC01AJ,331-1  
Column phase: RTX502.2

Instrument: GC\_H.I  
Operator: jmc/mpk  
Column diameter: 0.53





**Colorado Oil&Gas Conservation Commision**

**Client Sample ID: POWERS #1 (WELD)**

**TOTAL Metals**

**Lot-Sample #...: D9E280331-001**

**Matrix.....: WATER**

**Date Sampled...: 05/27/09 15:00    Date Received...: 05/28/09**

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>Prep Batch #...: 9149243</b>						
<b>Barium</b>	<b>82</b>	<b>10</b>	<b>ug/L</b>	<b>SW846 6010B</b>	<b>06/01-06/02/09</b>	<b>LDXG01A5</b>
		Dilution Factor: 1		Analysis Time...: 14:33		
<b>Calcium</b>	<b>10000</b>	<b>200</b>	<b>ug/L</b>	<b>SW846 6010B</b>	<b>06/01-06/02/09</b>	<b>LDXG01AU</b>
		Dilution Factor: 1		Analysis Time...: 14:33		
<b>Iron</b>	<b>15000</b>	<b>100</b>	<b>ug/L</b>	<b>SW846 6010B</b>	<b>06/01-06/02/09</b>	<b>LDXG01AV</b>
		Dilution Factor: 1		Analysis Time...: 14:33		
<b>Potassium</b>	<b>4500</b>	<b>3000</b>	<b>ug/L</b>	<b>SW846 6010B</b>	<b>06/01-06/02/09</b>	<b>LDXG01AW</b>
		Dilution Factor: 1		Analysis Time...: 14:33		
<b>Magnesium</b>	<b>6000</b>	<b>200</b>	<b>ug/L</b>	<b>SW846 6010B</b>	<b>06/01-06/02/09</b>	<b>LDXG01AX</b>
		Dilution Factor: 1		Analysis Time...: 14:33		
<b>Manganese</b>	<b>630</b>	<b>10</b>	<b>ug/L</b>	<b>SW846 6010B</b>	<b>06/01-06/02/09</b>	<b>LDXG01A0</b>
		Dilution Factor: 1		Analysis Time...: 14:33		
<b>Sodium</b>	<b>110000</b>	<b>1000</b>	<b>ug/L</b>	<b>SW846 6010B</b>	<b>06/01-06/02/09</b>	<b>LDXG01A1</b>
		Dilution Factor: 1		Analysis Time...: 14:33		

**Colorado Oil&Gas Conservation Commission**

**Client Sample ID: POWERS #1 (WELD)**

**General Chemistry**

Lot-Sample #....: D9E280331-001    Work Order #....: LDXG0    Matrix.....: WATER  
 Date Sampled....: 05/27/09 15:00    Date Received...: 05/28/09

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH	8.8	0.10	No Units	SM18 4500-H B	05/29/09	9149475
		Dilution Factor: 1		Analysis Time...: 14:51		
Bicarbonate Alkalinity	130	5.0	mg/L	SM18 2320 B	06/06/09	9159202
		Dilution Factor: 1		Analysis Time...: 15:00		
Bromide	0.23	0.20	mg/L	MCAWW 300.0A	06/03/09	9155116
		Dilution Factor: 1		Analysis Time...: 15:40		
Carbonate Alkalinity	8.9	5.0	mg/L	SM18 2320 B	06/06/09	9159205
		Dilution Factor: 1		Analysis Time...: 15:00		
Chloride	32	3.0	mg/L	MCAWW 300.0A	06/03/09	9155114
		Dilution Factor: 1		Analysis Time...: 15:40		
Fluoride	0.52	0.50	mg/L	MCAWW 300.0A	06/03/09	9155117
		Dilution Factor: 1		Analysis Time...: 15:40		
Nitrate-Nitrite	ND	0.10	mg/L	MCAWW 353.2	06/04/09	9155526
		Dilution Factor: 1		Analysis Time...: 11:30		
Sulfate	100 Q	25	mg/L	MCAWW 300.0A	06/03/09	9155115
		Dilution Factor: 5		Analysis Time...: 23:09		
Total Dissolved Solids	350	10	mg/L	SM18 2540 C	06/01/09	9152066
		Dilution Factor: 1		Analysis Time...: 12:30		

**NOTE(S) :**

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

## QC DATA ASSOCIATION SUMMARY

D9E280331

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	WATER	SM18 2320 B		9159202	
	WATER	MCAWW 353.2		9155526	9155281
	WATER	MCAWW 300.0A		9155114	9155308
	WATER	MCAWW 300.0A		9155115	9155309
	WATER	MCAWW 300.0A		9155117	9155311
	WATER	MCAWW 300.0A		9155116	9155310
	WATER	SM18 2320 B		9159205	
	WATER	SM18 2540 C		9152066	9152056
	WATER	SM18 4500-H B		9149475	9150050
	WATER	SW846 6010B		9149243	9149137
	WATER	SW846 8021B		9149311	9149199
	WATER	RSK SOP-175		9149494	9149333

**METHOD BLANK REPORT**

**GC Volatiles**

**Client Lot #...:** D9E280331  
**MB Lot-Sample #:** D9E290000-494  
**Analysis Date...:** 05/29/09  
**Dilution Factor:** 1

**Work Order #...:** LD2JN1AA  
**Prep Date.....:** 05/29/09  
**Prep Batch #...:** 9149494

**Matrix.....:** WATER  
**Analysis Time...:** 09:53

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Methane	ND	5.0	ug/L	RSK SOP-175

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: D9E280331      Work Order #....: LD2JN1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: D9E290000-494      LD2JN1AD-LCSD  
 Prep Date.....: 05/29/09      Analysis Date...: 05/29/09  
 Prep Batch #....: 9149494      Analysis Time...: 09:45  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
<b>Methane</b>	<b>101</b>	<b>(75 - 125)</b>			<b>RSK SOP-175</b>
	<b>96</b>	<b>(75 - 125)</b>	<b>4.9</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>
<b>Ethane</b>	<b>102</b>	<b>(75 - 125)</b>			<b>RSK SOP-175</b>
	<b>97</b>	<b>(75 - 125)</b>	<b>4.9</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>
<b>Ethene</b>	<b>101</b>	<b>(75 - 125)</b>			<b>RSK SOP-175</b>
	<b>97</b>	<b>(75 - 125)</b>	<b>4.2</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>
<b>Acetylene</b>	<b>98</b>	<b>(75 - 125)</b>			<b>RSK SOP-175</b>
	<b>96</b>	<b>(75 - 125)</b>	<b>1.7</b>	<b>(0-20)</b>	<b>RSK SOP-175</b>

### NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #...: D9E280331      Work Order #...: LD2JN1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: D9E290000-494      LD2JN1AD-LCSD  
 Prep Date.....: 05/29/09      Analysis Date...: 05/29/09  
 Prep Batch #...: 9149494      Analysis Time...: 09:45  
 Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Methane	73.0	73.6	ug/L	101		RSK SOP-175
	73.0	70.1	ug/L	96	4.9	RSK SOP-175
Ethane	137	139	ug/L	102		RSK SOP-175
	137	133	ug/L	97	4.9	RSK SOP-175
Ethene	127	128	ug/L	101		RSK SOP-175
	127	123	ug/L	97	4.2	RSK SOP-175
Acetylene	118	115	ug/L	98		RSK SOP-175
	118	113	ug/L	96	1.7	RSK SOP-175

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: D9E280331      Work Order #....: LDKA71C7-MS      Matrix.....: WATER  
 MS Lot-Sample #: D9E220164-001      LDKA71C8-MSD  
 Date Sampled....: 05/21/09 09:30      Date Received...: 05/22/09  
 Prep Date.....: 05/29/09      Analysis Date...: 05/29/09  
 Prep Batch #....: 9149494      Analysis Time...: 10:56  
 Dilution Factor: 50

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
<b>Methane</b>	119	(52 - 145)			RSK SOP-175
	101	(52 - 145)	3.9	(0-20)	RSK SOP-175
<b>Ethane</b>	101	(75 - 125)			RSK SOP-175
	96	(75 - 125)	4.5	(0-20)	RSK SOP-175
<b>Ethene</b>	101	(75 - 131)			RSK SOP-175
	98	(75 - 131)	3.3	(0-20)	RSK SOP-175
<b>Acetylene</b>	95	(52 - 142)			RSK SOP-175
	96	(52 - 142)	0.81	(0-20)	RSK SOP-175

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# MATRIX SPIKE SAMPLE DATA REPORT

## GC Volatiles

Client Lot #...: D9E280331      Work Order #...: LDKA71C7-MS      Matrix.....: WATER  
 MS Lot-Sample #: D9E220164-001      LDKA71C8-MSD  
 Date Sampled...: 05/21/09 09:30      Date Received...: 05/22/09  
 Prep Date.....: 05/29/09      Analysis Date...: 05/29/09  
 Prep Batch #...: 9149494      Analysis Time...: 10:56  
 Dilution Factor: 50

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Methane	13000	3650	17300	ug/L	119		RSK SOP-175
	13000	3650	16700	ug/L	101	3.9	RSK SOP-175
Ethane	ND	6850	6920	ug/L	101		RSK SOP-175
	ND	6850	6620	ug/L	96	4.5	RSK SOP-175
Ethene	ND	6350	6420	ug/L	101		RSK SOP-175
	ND	6350	6210	ug/L	98	3.3	RSK SOP-175
Acetylene	ND	5900	5610	ug/L	95		RSK SOP-175
	ND	5900	5660	ug/L	96	0.81	RSK SOP-175

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



# METHOD BLANK REPORT

## GC Volatiles

Client Lot #...: D9E280331  
 MB Lot-Sample #: D9E290000-311  
 Analysis Date...: 05/28/09  
 Dilution Factor: 1

Work Order #...: LD05J1AA  
 Prep Date.....: 05/28/09  
 Prep Batch #...: 9149311

Matrix.....: WATER  
 Analysis Time...: 12:29

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzene	ND	0.50	ug/L	SW846 8021B
Ethylbenzene	ND	0.50	ug/L	SW846 8021B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8021B
Toluene	ND	0.50	ug/L	SW846 8021B
Xylenes (total)	ND	0.50	ug/L	SW846 8021B
		PERCENT	RECOVERY	
		RECOVERY	LIMITS	
a,a,a-Trifluorotoluene (TFT)		97	(85 - 115)	

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: D9E280331      Work Order #....: LD05J1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: D9E290000-311      LD05J1AD-LCSD  
 Prep Date.....: 05/28/09      Analysis Date...: 05/28/09  
 Prep Batch #....: 9149311      Analysis Time...: 10:53  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	94	(81 - 115)			SW846 8021B
	94	(81 - 115)	0.21	(0-35)	SW846 8021B
Benzene	93	(75 - 117)			SW846 8021B
	93	(75 - 117)	0.88	(0-45)	SW846 8021B
1,3-Dichlorobenzene	92	(80 - 115)			SW846 8021B
	91	(80 - 115)	1.7	(0-35)	SW846 8021B
Ethylbenzene	93	(79 - 115)			SW846 8021B
	92	(79 - 115)	1.2	(0-46)	SW846 8021B
1,4-Dichlorobenzene	96	(79 - 115)			SW846 8021B
	94	(79 - 115)	1.6	(0-35)	SW846 8021B
1,2-Dichlorobenzene	94	(80 - 115)			SW846 8021B
	92	(80 - 115)	2.1	(0-35)	SW846 8021B
Methyl tert-butyl ether	95	(79 - 118)			SW846 8021B
	95	(79 - 118)	0.70	(0-27)	SW846 8021B
Toluene	92	(77 - 115)			SW846 8021B
	92	(77 - 115)	0.30	(0-45)	SW846 8021B
Xylenes (total)	94	(79 - 116)			SW846 8021B
	93	(79 - 116)	1.1	(0-46)	SW846 8021B
m-Xylene & p-Xylene	93	(79 - 116)			SW846 8021B
	92	(79 - 116)	1.2	(0-46)	SW846 8021B
o-Xylene	95	(79 - 116)			SW846 8021B
	94	(79 - 116)	0.94	(0-46)	SW846 8021B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	100	(85 - 115)
	97	(85 - 115)

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

# LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #....: D9E280331      Work Order #....: LD05J1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: D9E290000-311      LD05J1AD-LCSD  
 Prep Date.....: 05/28/09      Analysis Date...: 05/28/09  
 Prep Batch #....: 9149311      Analysis Time...: 10:53  
 Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Chlorobenzene	20.0	18.7	ug/L	94		SW846 8021B
	20.0	18.8	ug/L	94	0.21	SW846 8021B
Benzene	20.0	18.7	ug/L	93		SW846 8021B
	20.0	18.5	ug/L	93	0.88	SW846 8021B
1,3-Dichlorobenzene	20.0	18.5	ug/L	92		SW846 8021B
	20.0	18.2	ug/L	91	1.7	SW846 8021B
Ethylbenzene	20.0	18.6	ug/L	93		SW846 8021B
	20.0	18.4	ug/L	92	1.2	SW846 8021B
1,4-Dichlorobenzene	20.0	19.2	ug/L	96		SW846 8021B
	20.0	18.9	ug/L	94	1.6	SW846 8021B
1,2-Dichlorobenzene	20.0	18.9	ug/L	94		SW846 8021B
	20.0	18.5	ug/L	92	2.1	SW846 8021B
Methyl tert-butyl ether	20.0	18.9	ug/L	95		SW846 8021B
	20.0	19.1	ug/L	95	0.70	SW846 8021B
Toluene	20.0	18.5	ug/L	92		SW846 8021B
	20.0	18.4	ug/L	92	0.30	SW846 8021B
Xylenes (total)	60.0	56.4	ug/L	94		SW846 8021B
	60.0	55.8	ug/L	93	1.1	SW846 8021B
m-Xylene & p-Xylene	40.0	37.4	ug/L	93		SW846 8021B
	40.0	36.9	ug/L	92	1.2	SW846 8021B
o-Xylene	20.0	19.1	ug/L	95		SW846 8021B
	20.0	18.9	ug/L	94	0.94	SW846 8021B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	100	(85 - 115)
	97	(85 - 115)

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: D9E280331      Work Order #....: LDP9D1AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: D9E260132-001      LDP9D1AD-MSD  
 Date Sampled....: 05/22/09 17:00      Date Received...: 05/26/09  
 Prep Date.....: 05/28/09      Analysis Date...: 05/28/09  
 Prep Batch #....: 9149311      Analysis Time...: 13:50  
 Dilution Factor: 5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Chlorobenzene	100	(81 - 115)			SW846 8021B
	99	(81 - 115)	1.7	(0-35)	SW846 8021B
Benzene	98	(75 - 117)			SW846 8021B
	98	(75 - 117)	0.66	(0-45)	SW846 8021B
1,3-Dichlorobenzene	99	(80 - 115)			SW846 8021B
	96	(80 - 115)	2.2	(0-35)	SW846 8021B
Ethylbenzene	100	(79 - 115)			SW846 8021B
	98	(79 - 115)	1.7	(0-46)	SW846 8021B
1,4-Dichlorobenzene	102	(79 - 115)			SW846 8021B
	101	(79 - 115)	1.7	(0-35)	SW846 8021B
1,2-Dichlorobenzene	99	(80 - 115)			SW846 8021B
	96	(80 - 115)	2.7	(0-35)	SW846 8021B
Methyl tert-butyl ether	102	(79 - 118)			SW846 8021B
	106	(79 - 118)	1.2	(0-27)	SW846 8021B
Toluene	98	(77 - 115)			SW846 8021B
	96	(77 - 115)	1.4	(0-45)	SW846 8021B
Xylenes (total)	100	(79 - 116)			SW846 8021B
	98	(79 - 116)	1.8	(0-46)	SW846 8021B
m-Xylene & p-Xylene	99	(79 - 116)			SW846 8021B
	97	(79 - 116)	1.7	(0-46)	SW846 8021B
o-Xylene	103	(79 - 116)			SW846 8021B
	101	(79 - 116)	2.1	(0-46)	SW846 8021B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	99	(85 - 115)
	100	(85 - 115)

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

# MATRIX SPIKE SAMPLE DATA REPORT

## GC Volatiles

Client Lot #....: D9E280331      Work Order #....: LDP9D1AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: D9E260132-001      LDP9D1AD-MSD  
 Date Sampled....: 05/22/09 17:00      Date Received...: 05/26/09  
 Prep Date.....: 05/28/09      Analysis Date...: 05/28/09  
 Prep Batch #....: 9149311      Analysis Time...: 13:50  
 Dilution Factor: 5

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Chlorobenzene	ND	100	100	ug/L	100		SW846 8021B
	ND	100	98.6	ug/L	99	1.7	SW846 8021B
Benzene	17	100	116	ug/L	98		SW846 8021B
	17	100	115	ug/L	98	0.66	SW846 8021B
1,3-Dichlorobenzene	ND	100	98.5	ug/L	99		SW846 8021B
	ND	100	96.4	ug/L	96	2.2	SW846 8021B
Ethylbenzene	ND	100	99.9	ug/L	100		SW846 8021B
	ND	100	98.1	ug/L	98	1.7	SW846 8021B
1,4-Dichlorobenzene	ND	100	102	ug/L	102		SW846 8021B
	ND	100	101	ug/L	101	1.7	SW846 8021B
1,2-Dichlorobenzene	ND	100	99.1	ug/L	99		SW846 8021B
	ND	100	96.4	ug/L	96	2.7	SW846 8021B
Methyl tert-butyl ether	200	100	298	ug/L	102		SW846 8021B
	200	100	301	ug/L	106	1.2	SW846 8021B
Toluene	3.2	100	101	ug/L	98		SW846 8021B
	3.2	100	99.6	ug/L	96	1.4	SW846 8021B
Xylenes (total)	4.9	300	305	ug/L	100		SW846 8021B
	4.9	300	299	ug/L	98	1.8	SW846 8021B
m-Xylene & p-Xylene	3.8	200	202	ug/L	99		SW846 8021B
	3.8	200	199	ug/L	97	1.7	SW846 8021B
o-Xylene	ND	100	103	ug/L	103		SW846 8021B
	ND	100	101	ug/L	101	2.1	SW846 8021B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	99	(85 - 115)
	100	(85 - 115)

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

# METHOD BLANK REPORT

## TOTAL Metals

Client Lot #...: D9E280331

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: D9E290000-243 Prep Batch #...: 9149243						
Barium	ND	10	ug/L	SW846 6010B	06/01-06/02/09	LD0L01AC
		Dilution Factor: 1				
		Analysis Time...: 13:36				
Calcium	ND	200	ug/L	SW846 6010B	06/01-06/02/09	LD0L01AF
		Dilution Factor: 1				
		Analysis Time...: 13:36				
Iron	ND	100	ug/L	SW846 6010B	06/01-06/02/09	LD0L01AJ
		Dilution Factor: 1				
		Analysis Time...: 13:36				
Magnesium	ND	200	ug/L	SW846 6010B	06/01-06/02/09	LD0L01AK
		Dilution Factor: 1				
		Analysis Time...: 13:36				
Manganese	ND	10	ug/L	SW846 6010B	06/01-06/02/09	LD0L01AL
		Dilution Factor: 1				
		Analysis Time...: 13:36				
Potassium	ND	3000	ug/L	SW846 6010B	06/01-06/02/09	LD0L01AN
		Dilution Factor: 1				
		Analysis Time...: 13:36				
Sodium	ND	1000	ug/L	SW846 6010B	06/01-06/02/09	LD0L01AQ
		Dilution Factor: 1				
		Analysis Time...: 13:36				

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: D9E280331

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>LCS Lot-Sample#:</b> D9E290000-243 <b>Prep Batch #...</b> : 9149243					
Barium	101	(90 - 112)	SW846 6010B	06/01-06/02/09	LD0L01AX
		Dilution Factor: 1	Analysis Time...: 13:38		
Calcium	97	(90 - 111)	SW846 6010B	06/01-06/02/09	LD0L01A2
		Dilution Factor: 1	Analysis Time...: 13:38		
Iron	99	(89 - 115)	SW846 6010B	06/01-06/02/09	LD0L01A5
		Dilution Factor: 1	Analysis Time...: 13:38		
Magnesium	97	(90 - 113)	SW846 6010B	06/01-06/02/09	LD0L01A6
		Dilution Factor: 1	Analysis Time...: 13:38		
Manganese	98	(90 - 110)	SW846 6010B	06/01-06/02/09	LD0L01A7
		Dilution Factor: 1	Analysis Time...: 13:38		
Potassium	102	(89 - 114)	SW846 6010B	06/01-06/02/09	LD0L01A9
		Dilution Factor: 1	Analysis Time...: 13:38		
Sodium	104	(90 - 115)	SW846 6010B	06/01-06/02/09	LD0L01CC
		Dilution Factor: 1	Analysis Time...: 13:38		

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #...: D9E280331

Matrix.....: WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: D9E290000-243 Prep Batch #...: 9149243							
Barium	2000	2020	ug/L	101	SW846 6010B	06/01-06/02/09	LD0L01AX
			Dilution Factor: 1		Analysis Time...: 13:38		
Calcium	50000	48400	ug/L	97	SW846 6010B	06/01-06/02/09	LD0L01A2
			Dilution Factor: 1		Analysis Time...: 13:38		
Iron	1000	991	ug/L	99	SW846 6010B	06/01-06/02/09	LD0L01A5
			Dilution Factor: 1		Analysis Time...: 13:38		
Magnesium	50000	48500	ug/L	97	SW846 6010B	06/01-06/02/09	LD0L01A6
			Dilution Factor: 1		Analysis Time...: 13:38		
Manganese	500	492	ug/L	98	SW846 6010B	06/01-06/02/09	LD0L01A7
			Dilution Factor: 1		Analysis Time...: 13:38		
Potassium	50000	50800	ug/L	102	SW846 6010B	06/01-06/02/09	LD0L01A9
			Dilution Factor: 1		Analysis Time...: 13:38		
Sodium	50000	51800	ug/L	104	SW846 6010B	06/01-06/02/09	LD0L01CC
			Dilution Factor: 1		Analysis Time...: 13:38		

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: D9E280331

Matrix.....: WATER

Date Sampled....: 05/27/09 10:15 Date Received...: 05/28/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #: D9E280283-001 Prep Batch #...: 9149243</b>						
Barium	99	(85 - 120)		SW846 6010B	06/01-06/02/09	LDWVK1CD
	100	(85 - 120)	0.36 (0-25)	SW846 6010B	06/01-06/02/09	LDWVK1CE
			Dilution Factor: 1			
			Analysis Time...: 13:45			
Calcium	92	(48 - 153)		SW846 6010B	06/01-06/02/09	LDWVK1CK
	94	(48 - 153)	1.4 (0-25)	SW846 6010B	06/01-06/02/09	LDWVK1CL
			Dilution Factor: 1			
			Analysis Time...: 13:45			
Iron	98	(52 - 155)		SW846 6010B	06/01-06/02/09	LDWVK1CR
	100	(52 - 155)	1.3 (0-25)	SW846 6010B	06/01-06/02/09	LDWVK1CT
			Dilution Factor: 1			
			Analysis Time...: 13:45			
Magnesium	93	(62 - 146)		SW846 6010B	06/01-06/02/09	LDWVK1CU
	96	(62 - 146)	1.9 (0-25)	SW846 6010B	06/01-06/02/09	LDWVK1CV
			Dilution Factor: 1			
			Analysis Time...: 13:45			
Manganese	97	(79 - 121)		SW846 6010B	06/01-06/02/09	LDWVK1CW
	98	(79 - 121)	0.83 (0-25)	SW846 6010B	06/01-06/02/09	LDWVK1CX
			Dilution Factor: 1			
			Analysis Time...: 13:45			
Potassium	101	(76 - 132)		SW846 6010B	06/01-06/02/09	LDWVK1C2
	102	(76 - 132)	0.77 (0-25)	SW846 6010B	06/01-06/02/09	LDWVK1C3
			Dilution Factor: 1			
			Analysis Time...: 13:45			
Sodium	99	(70 - 203)		SW846 6010B	06/01-06/02/09	LDWVK1C6
	100	(70 - 203)	0.73 (0-40)	SW846 6010B	06/01-06/02/09	LDWVK1C7
			Dilution Factor: 1			
			Analysis Time...: 13:45			

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #....: D9E280331

Matrix.....: WATER

Date Sampled....: 05/27/09 10:15 Date Received...: 05/28/09

PARAMETER	AMOUNT	SAMPLE SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: D9E280283-001 Prep Batch #....: 9149243									
Barium									
	160	2000	2150	ug/L	99		SW846 6010B	06/01-06/02/09	LDWVK1CD
	160	2000	2150	ug/L	100	0.36	SW846 6010B	06/01-06/02/09	LDWVK1CE
Dilution Factor: 1									
Analysis Time...: 13:45									
Calcium									
	39000	50000	85200	ug/L	92		SW846 6010B	06/01-06/02/09	LDWVK1CK
	39000	50000	86400	ug/L	94	1.4	SW846 6010B	06/01-06/02/09	LDWVK1CL
Dilution Factor: 1									
Analysis Time...: 13:45									
Iron									
	ND	1000	1050	ug/L	98		SW846 6010B	06/01-06/02/09	LDWVK1CR
	ND	1000	1060	ug/L	100	1.3	SW846 6010B	06/01-06/02/09	LDWVK1CT
Dilution Factor: 1									
Analysis Time...: 13:45									
Magnesium									
	30000	50000	77200	ug/L	93		SW846 6010B	06/01-06/02/09	LDWVK1CU
	30000	50000	78700	ug/L	96	1.9	SW846 6010B	06/01-06/02/09	LDWVK1CV
Dilution Factor: 1									
Analysis Time...: 13:45									
Manganese									
	ND	500	486	ug/L	97		SW846 6010B	06/01-06/02/09	LDWVK1CW
	ND	500	490	ug/L	98	0.83	SW846 6010B	06/01-06/02/09	LDWVK1CX
Dilution Factor: 1									
Analysis Time...: 13:45									
Potassium									
	ND	50000	52200	ug/L	101		SW846 6010B	06/01-06/02/09	LDWVK1C2
	ND	50000	52600	ug/L	102	0.77	SW846 6010B	06/01-06/02/09	LDWVK1C3
Dilution Factor: 1									
Analysis Time...: 13:45									
Sodium									
	36000	50000	85200	ug/L	99		SW846 6010B	06/01-06/02/09	LDWVK1C6
	36000	50000	85800	ug/L	100	0.73	SW846 6010B	06/01-06/02/09	LDWVK1C7
Dilution Factor: 1									
Analysis Time...: 13:45									

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

# METHOD BLANK REPORT

## General Chemistry

Client Lot #...: D9E280331

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	5.0	mg/L	SM18 2320 B	06/06/09	9159202
		Work Order #: LEJEJ1AA MB Lot-Sample #: D9F080000-202				
		Dilution Factor: 1				
		Analysis Time...: 15:00				
Bromide	ND	0.20	mg/L	MCAWW 300.0A	06/03/09	9155116
		Work Order #: LEDD91AA MB Lot-Sample #: D9F040000-116				
		Dilution Factor: 1				
		Analysis Time...: 14:59				
Carbonate Alkalinity	ND	5.0	mg/L	SM18 2320 B	06/06/09	9159205
		Work Order #: LEJEM1AA MB Lot-Sample #: D9F080000-205				
		Dilution Factor: 1				
		Analysis Time...: 15:00				
Chloride	ND	3.0	mg/L	MCAWW 300.0A	06/03/09	9155114
		Work Order #: LEDD71AA MB Lot-Sample #: D9F040000-114				
		Dilution Factor: 1				
		Analysis Time...: 14:59				
Fluoride	ND	0.50	mg/L	MCAWW 300.0A	06/03/09	9155117
		Work Order #: LEDEA1AA MB Lot-Sample #: D9F040000-117				
		Dilution Factor: 1				
		Analysis Time...: 14:59				
Nitrate-Nitrite	ND	0.10	mg/L	MCAWW 353.2	06/04/09	9155526
		Work Order #: LEC8D1AA MB Lot-Sample #: D9F040000-526				
		Dilution Factor: 1				
		Analysis Time...: 11:30				
Sulfate	ND	5.0	mg/L	MCAWW 300.0A	06/03/09	9155115
		Work Order #: LEDD81AA MB Lot-Sample #: D9F040000-115				
		Dilution Factor: 1				
		Analysis Time...: 14:59				
Total Dissolved Solids	ND	10	mg/L	SM18 2540 C	06/01/09	9152066
		Work Order #: LD4E01AA MB Lot-Sample #: D9F010000-066				
		Dilution Factor: 1				
		Analysis Time...: 12:30				

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## General Chemistry

Lot-Sample #...: D9E280331

Matrix.....: WATER

	PERCENT	RECOVERY	RPD	PREPARATION-	PREP
PARAMETER	RECOVERY	LIMITS	RPD	ANALYSIS DATE	BATCH #
pH		WO#:LD2651AA-LCS/LD2651AC-LCSD LCS Lot-Sample#: D9E290000-475			
	100 FT	(97 - 102)		SM18 4500-H B	05/29/09 9149475
	100	(97 - 102) 0.0 (0-5.0)	SM18 4500-H B	05/29/09	9149475
		Dilution Factor: 1	Analysis Time...: 14:48		
Bromide		WO#:LEDD91AC-LCS/LEDD91AD-LCSD LCS Lot-Sample#: D9F040000-116			
	101	(90 - 110)	MCAWW 300.0A	06/03/09	9155116
	101	(90 - 110) 0.06 (0-10)	MCAWW 300.0A	06/03/09	9155116
		Dilution Factor: 1	Analysis Time...: 14:25		
Chloride		WO#:LEDD71AC-LCS/LEDD71AD-LCSD LCS Lot-Sample#: D9F040000-114			
	106	(90 - 110)	MCAWW 300.0A	06/03/09	9155114
	106	(90 - 110) 0.23 (0-10)	MCAWW 300.0A	06/03/09	9155114
		Dilution Factor: 1	Analysis Time...: 14:25		
Fluoride		WO#:LEDEA1AC-LCS/LEDEA1AD-LCSD LCS Lot-Sample#: D9F040000-117			
	102	(90 - 110)	MCAWW 300.0A	06/03/09	9155117
	101	(90 - 110) 1.0 (0-10)	MCAWW 300.0A	06/03/09	9155117
		Dilution Factor: 1	Analysis Time...: 14:25		
Nitrate-Nitrite		WO#:LEC8D1AC-LCS/LEC8D1AD-LCSD LCS Lot-Sample#: D9F040000-526			
	105	(90 - 110)	MCAWW 353.2	06/04/09	9155526
	101	(90 - 110) 4.1 (0-10)	MCAWW 353.2	06/04/09	9155526
		Dilution Factor: 1	Analysis Time...: 11:30		
Sulfate		WO#:LEDD81AC-LCS/LEDD81AD-LCSD LCS Lot-Sample#: D9F040000-115			
	104	(90 - 110)	MCAWW 300.0A	06/03/09	9155115
	103	(90 - 110) 1.2 (0-10)	MCAWW 300.0A	06/03/09	9155115
		Dilution Factor: 1	Analysis Time...: 14:25		
Total Dissolved Solids		WO#:LD4E01AC-LCS/LD4E01AD-LCSD LCS Lot-Sample#: D9F010000-066			
	99	(86 - 106)	SM18 2540 C	06/01/09	9152066
	99	(86 - 106) 0.20 (0-20)	SM18 2540 C	06/01/09	9152066
		Dilution Factor: 1	Analysis Time...: 12:30		

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

FT The associated analysis is recommended to be performed in the field.

**LABORATORY CONTROL SAMPLE DATA REPORT**

**General Chemistry**

Lot-Sample #....: D9E280331

Matrix.....: WATER

	SPIKE	MEASURED		PERCENT		PREPARATION-	PREP	
PARAMETER	AMOUNT	AMOUNT	UNITS	RECVRY	RPD	METHOD	ANALYSIS DATE	BATCH #
pH			WO#:LD2651AA-LCS/LD2651AC-LCSD LCS Lot-Sample#: D9E290000-475					
	7.00	7.00	FT	No Units	100	SM18 4500-H B	05/29/09	9149475
	7.00	7.00		No Units	100	0.0 SM18 4500-H B	05/29/09	9149475
			Dilution Factor: 1		Analysis Time...: 14:48			
Bromide			WO#:LEDD91AC-LCS/LEDD91AD-LCSD LCS Lot-Sample#: D9F040000-116					
	5.00	5.04	mg/L	101		MCAWW 300.0A	06/03/09	9155116
	5.00	5.04	mg/L	101	0.06	MCAWW 300.0A	06/03/09	9155116
			Dilution Factor: 1		Analysis Time...: 14:25			
Chloride			WO#:LEDD71AC-LCS/LEDD71AD-LCSD LCS Lot-Sample#: D9F040000-114					
	25.0	26.5	mg/L	106		MCAWW 300.0A	06/03/09	9155114
	25.0	26.4	mg/L	106	0.23	MCAWW 300.0A	06/03/09	9155114
			Dilution Factor: 1		Analysis Time...: 14:25			
Fluoride			WO#:LEDEA1AC-LCS/LEDEA1AD-LCSD LCS Lot-Sample#: D9F040000-117					
	5.00	5.08	mg/L	102		MCAWW 300.0A	06/03/09	9155117
	5.00	5.03	mg/L	101	1.0	MCAWW 300.0A	06/03/09	9155117
			Dilution Factor: 1		Analysis Time...: 14:25			
Nitrate-Nitrite			WO#:LEC8D1AC-LCS/LEC8D1AD-LCSD LCS Lot-Sample#: D9F040000-526					
	5.00	5.24	mg/L	105		MCAWW 353.2	06/04/09	9155526
	5.00	5.03	mg/L	101	4.1	MCAWW 353.2	06/04/09	9155526
			Dilution Factor: 1		Analysis Time...: 11:30			
Sulfate			WO#:LEDD81AC-LCS/LEDD81AD-LCSD LCS Lot-Sample#: D9F040000-115					
	25.0	26.1	mg/L	104		MCAWW 300.0A	06/03/09	9155115
	25.0	25.8	mg/L	103	1.2	MCAWW 300.0A	06/03/09	9155115
			Dilution Factor: 1		Analysis Time...: 14:25			
Total Dissolved Solids			WO#:LD4E01AC-LCS/LD4E01AD-LCSD LCS Lot-Sample#: D9F010000-066					
	500	494	mg/L	99		SM18 2540 C	06/01/09	9152066
	500	493	mg/L	99	0.20	SM18 2540 C	06/01/09	9152066
			Dilution Factor: 1		Analysis Time...: 12:30			

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

FT The associated analysis is recommended to be performed in the field.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## General Chemistry

Client Lot #...: D9E280331

Matrix.....: WATER

Date Sampled...: 05/27/09 15:30 Date Received...: 05/29/09

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide			WO#: LDXG01CC-MS/LDXG01CD-MSD MS Lot-Sample #: D9E280331-001				
	107	(80 - 120)			MCAWW 300.0A	06/03/09	9155116
	110	(80 - 120)	2.7	(0-20)	MCAWW 300.0A	06/03/09	9155116
			Dilution Factor: 1				
			Analysis Time...: 15:57				
Chloride			WO#: LDXG01A7-MS/LDXG01A8-MSD MS Lot-Sample #: D9E280331-001				
	109 I	(80 - 120)			MCAWW 300.0A	06/03/09	9155114
	112 I	(80 - 120)	1.1	(0-20)	MCAWW 300.0A	06/03/09	9155114
			Dilution Factor: 1				
			Analysis Time...: 15:57				
Fluoride			WO#: LDXG01CE-MS/LDXG01CF-MSD MS Lot-Sample #: D9E280331-001				
	103	(80 - 120)			MCAWW 300.0A	06/03/09	9155117
	105	(80 - 120)	1.9	(0-20)	MCAWW 300.0A	06/03/09	9155117
			Dilution Factor: 1				
			Analysis Time...: 15:57				
Nitrate-Nitrite			WO#: LD2VQ1DM-MS/LD2VQ1DN-MSD MS Lot-Sample #: D9E290367-001				
	95	(72 - 113)			MCAWW 353.2	06/04/09	9155526
	90	(72 - 113)	2.9	(0-17)	MCAWW 353.2	06/04/09	9155526
			Dilution Factor: 5				
			Analysis Time...: 11:30				
Sulfate			WO#: LDXG01A9-MS/LDXG01CA-MSD MS Lot-Sample #: D9E280331-001				
	101	(80 - 120)			MCAWW 300.0A	06/03/09	9155115
	99	(80 - 120)	0.74	(0-20)	MCAWW 300.0A	06/03/09	9155115
			Dilution Factor: 1				
			Analysis Time...: 23:27				

### NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

I Estimated result. Result concentration exceeds the calibration range.

# MATRIX SPIKE SAMPLE DATA REPORT

## General Chemistry

Client Lot #....: D9E280331

Matrix.....: WATER

Date Sampled....: 05/27/09 15:30 Date Received...: 05/29/09

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Bromide									
WO#: LDXG01CC-MS/LDXG01CD-MSD MS Lot-Sample #: D9E280331-001									
	0.23	5.00	5.56	mg/L	107		MCAWW 300.0A	06/03/09	9155116
	0.23	5.00	5.71	mg/L	110	2.7	MCAWW 300.0A	06/03/09	9155116
Dilution Factor: 1									
Analysis Time...: 15:57									
Chloride									
WO#: LDXG01A7-MS/LDXG01A8-MSD MS Lot-Sample #: D9E280331-001									
	32	25.0	59.3 I	mg/L	109		MCAWW 300.0A	06/03/09	9155114
	32	25.0	60.0 I	mg/L	112	1.1	MCAWW 300.0A	06/03/09	9155114
Dilution Factor: 1									
Analysis Time...: 15:57									
Fluoride									
WO#: LDXG01CE-MS/LDXG01CF-MSD MS Lot-Sample #: D9E280331-001									
	0.52	5.00	5.65	mg/L	103		MCAWW 300.0A	06/03/09	9155117
	0.52	5.00	5.76	mg/L	105	1.9	MCAWW 300.0A	06/03/09	9155117
Dilution Factor: 1									
Analysis Time...: 15:57									
Nitrate-Nitrite									
WO#: LD2VQ1DM-MS/LD2VQ1DN-MSD MS Lot-Sample #: D9E290367-001									
	17	20.0	36.1	mg/L	95		MCAWW 353.2	06/04/09	9155526
	17	20.0	35.0	mg/L	90	2.9	MCAWW 353.2	06/04/09	9155526
Dilution Factor: 5									
Analysis Time...: 11:30									
Sulfate									
WO#: LDXG01A9-MS/LDXG01CA-MSD MS Lot-Sample #: D9E280331-001									
	100	125	226	mg/L	101		MCAWW 300.0A	06/03/09	9155115
	100	125	224	mg/L	99	0.74	MCAWW 300.0A	06/03/09	9155115
Dilution Factor: 1									
Analysis Time...: 23:27									

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

I Estimated result. Result concentration exceeds the calibration range.

# SAMPLE DUPLICATE EVALUATION REPORT

## General Chemistry

Client Lot #...: D9E280331

Work Order #...: LDXG0-SMP  
LDXG0-DUP

Matrix.....: WATER

Date Sampled...: 05/27/09 15:00

Date Received...: 05/28/09

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH	8.8	8.8	No Units	0.0	(0-5.0)	SD Lot-Sample #: D9E280331-001 SM18 4500-H B	05/29/09	9149475
				Dilution Factor: 1	Analysis Time...: 14:51			



# SAMPLE DUPLICATE EVALUATION REPORT

## General Chemistry

Client Lot #....: D9E280331

Work Order #....: LDVR5-SMP  
LDVR5-DUP

Matrix.....: WATER

Date Sampled....: 05/27/09 10:05

Date Received...: 05/28/09

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Dissolved Solids	800	800	mg/L	0.62	(0-20)	SM18 2540 C	06/01/09	9152066
Dilution Factor: 1					Analysis Time...: 12:30			
SD Lot-Sample #: D9E280164-002								

TestAmerica Denver  
Sample Receiving Checklist

Lot #: D9E280331 Date/Time Received: 5/28/09 1500  
Company Name & Sampling Site: COGCC

PM to Complete This Section: Yes  
Residual chlorine check required: ☐

No

Quarantined: ☐ Yes ☒ No

Quote #: 62399

Special Instructions:

log TDS  
Dual Metals - R

Alk - Carb & Bicarb only  
Anions - Cl, Br, F, NO<sub>2</sub> + NO<sub>3</sub>, SO<sub>4</sub>  
CH<sub>4</sub> is Methane RSK-175

(NH<sub>3</sub> + NH<sub>4</sub> = NO<sub>2</sub> + NO<sub>3</sub>)

Time Zone:

• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER

BTEX - MTBE by 8021

Unpacking Checks:

Cooler #(s): \_\_\_\_\_

Temperatures (°C): 7.3 \_\_\_\_\_

N/A Yes No

Initials

- ☒ ☐ ☐ 1. Cooler seals intact? (N/A if hand delivered) If no, document on CUR. CHC
- ☒ ☐ 2. Coolers scanned for radiation. Is the reading ≤ to background levels? Yes: \_\_\_\_\_ No: \_\_\_\_\_
- ☒ ☐ 3. Chain of custody present? If no, document on CUR.
- ☐ ☒ 4. Bottles broken and/or are leaking? If yes, document on CUR.
- ☐ ☒ 5. Multiphasic samples obvious? If yes, document on CUR.
- ☒ ☐ 6. Proper container & preservatives used? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR.
- ☐ ☒ 7. pH of all samples checked and meet requirements? If no, document on CUR.
- ☒ ☐ 8. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- ☒ ☐ 9. Did chain of custody agree with labels ID and samples received? If no, document on CUR.
- ☐ ☒ 10. Were VOA samples without headspace? If no, document on CUR.
- ☐ ☒ 11. Were VOA vials preserved? Preservative ☐ HCl ☐ 4±2°C ☐ Sodium Thiosulfate ☐ Ascorbic Acid
- ☐ ☒ 12. Did samples require preservation with sodium thiosulfate?
- ☒ ☐ 13. If yes to #11, did the samples contain residual chlorine? If yes, document on CUR.
- ☒ ☐ 14. Sediment present in dissolved/filtered bottles? If yes, document on CUR.
- ☒ ☐ 15. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- ☐ ☒ 16. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
- ☒ ☐ 17. Are analyses with short holding times requested?
- ☐ ☒ 18. Was a quick Turn Around (TAT) requested?

*TestAmerica Denver*  
**Sample Receiving Checklist**

Lot # D9E280331

**Login Checks:**

*Initials*

N/A Yes No

FM

- ☒ ☐ 19. Sufficient volume provided for all analysis requested? (ref. Attachment D of SOP# DV-QA-0003) If no, document on CUR, and contact PM before proceeding.
- ☒ ☐ 20. Is sufficient volume provided for client requested MS, MSD or matrix duplicates? If no, document on CUR, and contact PM before proceeding.
- ☒ ☐ 21. Did the chain of custody includes "received by" and "relinquished" by signatures, dates, and times?
- ☐ ☒ 22. Were special log in instructions read and followed?
- ☒ ☐ 23. Were AFCEE metals logged for refrigerated storage?
- ☒ ☐ 24. Were tests logged checked against the COC? Which samples were confirmed? 1
- ☒ ☐ 25. Was a Rush form completed for quick TAT?
- ☒ ☐ 26. Was a Short Hold form completed for any short holds?
- ☐ ☒ 27. Were special archiving instructions indicated in the General Comments? If so, what were they? "
- 

**Labeling and Storage Checks:**

*Initials*

CMC

- ☒ ☐ 28. Was the subcontract COC signed and sent with samples to bottle prep?
- ☒ ☐ 29. Were sample labels double-checked by a second person?
- ☒ ☐ 30. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
- ☒ ☐ 31. Did the sample ID, Date, and Time from label match what was logged?
- ☒ ☐ 32. Were stickers for special archiving instructions affixed to each box? See #27
- ☒ ☐ 33. Were AFCEE metals stored refrigerated?

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR).

