

Attachment H

Water Analysis Reports

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



FOR OGCC USE ONLY

SOURCE OF PRODUCED WATER FOR DISPOSAL

This form must be completed for any new disposal site and for any change in sources of produced water for an existing disposal site.

**Complete the
Attachment Checklist**

OGCC Operator Number: _____	Contact Name and Telephone: _____
Name of Operator: _____	_____
Address: _____	No: _____
City: _____ State: _____ Zip: _____	Fax: _____

OGCC Disposal Facility Number: _____
Operator's Disposal Facility Name: _____ Operator's Disposal Facility Number: _____
Location (QtrQtr, Sec, Twp, Rng, Meridian): _____
Address: _____
City: _____ State: _____ Zip: _____ County: _____

	Oper	OGCC
Chemical Analysis of fluid		

If more space is required,
attach additional sheet.

Add Source: OGCC Lease No: _____ API No: _____ Well Name & No: _____
Operator Name: _____ Operator No: _____

Delete Source: Location: QtrQtr: _____ Section: _____ Township: _____ Range: _____ Producing Formation: _____
Analysis Attached? Yes No Transported to disposal site via: Pipeline Truck TDS: _____

Add Source: OGCC Lease No: _____ API No: _____ Well Name & No: _____
Operator Name: _____ Operator No: _____

Delete Source: Location: QtrQtr: _____ Section: _____ Township: _____ Range: _____ Producing Formation: _____
Analysis Attached? Yes No Transported to disposal site via: Pipeline Truck TDS: _____

Add Source: OGCC Lease No: _____ API No: _____ Well Name & No: _____
Operator Name: _____ Operator No: _____

Delete Source: Location: QtrQtr: _____ Section: _____ Township: _____ Range: _____ Producing Formation: _____
Analysis Attached? Yes No Transported to disposal site via: Pipeline Truck TDS: _____

Add Source: OGCC Lease No: _____ API No: _____ Well Name & No: _____
Operator Name: _____ Operator No: _____

Delete Source: Location: QtrQtr: _____ Section: _____ Township: _____ Range: _____ Producing Formation: _____
Analysis Attached? Yes No Transported to disposal site via: Pipeline Truck TDS: _____

Add Source: OGCC Lease No: _____ API No: _____ Well Name & No: _____
Operator Name: _____ Operator No: _____

Delete Source: Location: QtrQtr: _____ Section: _____ Township: _____ Range: _____ Producing Formation: _____
Analysis Attached? Yes No Transported to disposal site via: Pipeline Truck TDS: _____

Add Source: OGCC Lease No: _____ API No: _____ Well Name & No: _____
Operator Name: _____ Operator No: _____

Delete Source: Location: QtrQtr: _____ Section: _____ Township: _____ Range: _____ Producing Formation: _____
Analysis Attached? Yes No Transported to disposal site via: Pipeline Truck TDS: _____

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: _____ Signed: _____

Title: _____ Date: _____

OGCC Approved: _____ Title: _____ Date: _____

CONDITIONS OF APPROVAL, IF ANY:

WELL NAME	SAMPLE ID	API NUMBER	RESERVOIR	LOCATION						TRANSPORT METHOD	TDS (mg/L)
				Q/Q	Sec	Town.		Range.			
Federal 11-90-24 #1	410-002	05-051-06057	CAMEO	NWSE	24	11	S	90	W	Pipe	11,350.0
Jacobs 29-1	Jacobs 29-1	05-051-06042	WILLIAMS FORK-CAMEO	NWNW	29	11	S	89	W	Pipe	4,275.0
Federal 11-90-15 #1	Federal 15-1	05-051-06085	MANCOS	SESW	15	11	S	90	W	Pipe	0.0
Henderson 1-R	Henderson/ Aug0808.00 1-1	05-051-06066	CAMEO	SWNE	9	11	S	90	W	Pipe	21,955.7
Federal C-10-8-11-90R	WA- 36131/Aug0 808.001-5	05-051-06068	WILLIAMS FORK	SWNE	8	11	S	90	W	Pipe	16,410.0
Federal 1-26R	Aug0808.00 1-4/1-26R	05-029-06094	CAMEO	SESE	26	10	S	91	W	TRUCK	21,701.5
Federal 1-25-10-91R	Aug0808.00 1-3/1-25R	05-051-06067	WILLIAMS FORK	SESE	25	10	S	91	W	TRUCK	24,334.0
McIntyre 11-90-14 #1	McIntyre	05-051-06062	CAMEO	NWSW	14	11	S	90	W	PIPE	10,545.0

red values are averages

Green Analytical Laboratories, Inc.
75 Suttle Street
Durango, CO 81303

Federal 11-90-24 #1

API# 05-051-06057

Sagle & Schwab
PO Box 2677
Durango, CO 81302
Attention: Bob Sagle / Marcia Stewart

GAL I.D.: 410-002-01

Date Received: 10/01/04

Date Reported: 11/04/04

QC Batches:

PROJECT NAME:

PROJECT NUMBER:

SAMPLE I.D.: Cameo

Sample Date: 09/30/04

Sample Matrix: Water

Laboratory Report

RESULTS

PARAMETER	METHOD	REPORT		DIL	UNITS
		LIMIT	RESULT		
Alkalinity as CaCO ₃	2320B	10	2840	1	mg/L
Bicarbonate as CaCO ₃	2320B	10	2840	1	mg/L
Carbonate as CaCO ₃	2320B	10	<10	1	mg/L
Hydroxide as CaCO ₃	2320B	10	<10	1	mg/L
Calcium, dissolved	200.7	0.5	76.4	1	mg/L
Chloride	4500Cl	10	5600	1	mg/L
Conductivity	2510B	1.0	23800	1	uS/cm
Iron, total	200.7	0.05	2.62	1	mg/L
Magnesium, dissolved	200.7	0.5	12.9	1	mg/L
pH	150.1	NA	7.78	NA	SU
Potassium, dissolved	200.7	0.5	122	1	mg/L
Resistivity	Calc.	NA	42	1	ohm/cm
Sodium, dissolved	200.7	0.5	3780	1	mg/L
Specific Gravity	Hydrometer	NA	1.009	NA	
Sulfate	4500SO ₄	10	<10	1	mg/L
TDS	2540C	10	12100	1	mg/L
Hardness, as CaCO ₃	Calc.	10	244	1	mg/L
CAB	Calc.	NA	8.52		%

D. Zupelt
For: John Green Laboratory Director

Green Analytical Laboratories, Inc.
75 Suttle Street
Durango, CO 81303

API # 05-051-06057

Sagle & Schwab
PO Box 2677
Durango, CO 81302
Attention: Bob Sagle / Marcia Stewart

GAL I.D.: 410-002-02

Date Received: 10/01/04

Date Reported: 11/04/04

QC Batches:

PROJECT NAME:

PROJECT NUMBER:

SAMPLE I.D.: V-Seam

Sample Date: 09/30/04

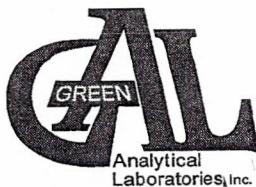
Sample Matrix: Water

Laboratory Report

RESULTS

PARAMETER	METHOD	REPORT			
		LIMIT	RESULT	DIL	UNITS
Alkalinity as CaCO ₃	2320B	10	3780	1	mg/L
Bicarbonate as CaCO ₃	2320B	10	3780	1	mg/L
Carbonate as CaCO ₃	2320B	10	<10	1	mg/L
Hydroxide as CaCO ₃	2320B	10	<10	1	mg/L
Calcium, dissolved	200.7	0.5	47.2	1	mg/L
Chloride	4500Cl	10	3930	1	mg/L
Conductivity	2510B	1.0	20100	1	uS/cm
Iron, total	200.7	0.05	2.16	1	mg/L
Magnesium, dissolved	200.7	0.5	10.0	1	mg/L
pH	150.1	NA	7.72	NA	SU
Potassium, dissolved	200.7	0.5	110	1	mg/L
Resistivity	Calc.	NA	50	1	ohm/cm
Sodium, dissolved	200.7	0.5	3490	1	mg/L
Specific Gravity	Hydrometer	NA	1.009	NA	
Sulfate	4500SO ₄	10	<10	1	mg/L
TDS	2540C	10	10600	1	mg/L
Hardness, as CaCO ₃	Calc.	10	159	1	mg/L
CAB	Calc.	NA	4.49		%

For: D. Zufelt
John Green, Laboratory Director



TIGHT HOLE

CHAIN OF CUSTODY RECORD

Page ____ of ____

Client: SG Interests.
Contact: KRIP SCHWAB
Address: Box 2677
D60, CO 81303
Phone Number: 970/259-2701
FAX Number: 970-385-1598.

NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# _____

Project Name: _____

Table 1. - Matrix Type

1 = Surface Water, 2 = Ground Water
3 = Soil/Sediment, 4 = Rinsate, 5 = Oil
6 = Waste, 7 = Other (Specify) _____

FOR GAL USE ONLY

GAL JOB #

409
410-002

Samplers Signature: _____

Lab Name: Green Analytical Laboratories, Inc. (970) 247-4220 FAX (970) 247-4227										Analyses Required										Comments
Address: 75 Suttle Street, Durango, CO 81303																				
Sample ID	Collection		Collected by: (Init.)	Miscellaneous			Preservative(s)					APL								
	Date	Time		Matrix Type From Table 1	No. of Containers	Sample Filtered ? Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH									Other (Specify)
01 1. CAMEO	9/30	AM	DD				X						X							Fax when complete
02 2. V-SEAM	9/30	PM	DD				X						X							
3.																				
4.																				
5.																				
6.																				
7.																				
8.																				
9.																				
10.																				
Relinquished by: <u>W. J. Schubert</u>			Date: <u>10/1/04</u>		Time: _____		Received by: <u>John Green</u>			Date: <u>10/01/04</u>		Time: <u>0900</u>								
Relinquished by: _____			Date: _____		Time: _____		Received by: _____			Date: _____		Time: _____								

* Sample Reject: [] Return [] Dispose [] Store (30 Days)

HALLIBURTON

Water Analysis Report

To: S & G Interests
Submitted by: Halliburton Energy Services
Attention: BOB SAGLE
Well Name: Jacobs 20-1
FX: 070-385-1698

Date: 12/2/2003
Date Rec: 12/1/2003
Report #: FLNR03856
Formation: Produced Water
2.8 hrs Flow

*Sample taken
dry Rig Release*

Specific Gravity	1.006	
pH	7.80	
Resistivity	2.43	@ 70° F
Iron (Fe)	0	Mg / L
Potassium (K)	0	Mg / L
Sodium (Na)	1356	Mg / L
Calcium (Ca)	20	Mg / L
Magnesium (Mg)	10	Mg / L
Chlorides (Cl)	1140	Mg / L
Sulfates (SO ₄)	0	Mg / L
Carbonates (CO ₃)	0.0	Mg / L
Bicarbonates (HCO ₃)	1740	Mg / L
Total Dissolved Solids	4275	Mg / L

Respectfully: Bill Loughridge

Title: Senior Scientist

Location: Farmington, NM

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.

Schlumberger

Client: SG Interests
 Well: Federal 15-1
 Date: 1/8/2009
 Tested By: Joseph Eslinger

WATER ANALYSIS REPORT

Collection date	1/8/2009			
Temp (°F)	71			
pH	10.0			
Specific Gravity	1.014			
Chlorides (mg/l)	3550			
Iron (mg/l)	8			
Bicarbs (mg/l)	3538			
Carbonates (mg/l)	360			
Hydroxides (mg/l)	0			
Calcium (mg/l)	80			
Magnesium (mg/l)	288			
Sulfates (mg/l)	200			
Sodium (mg/l)	3313			
Potassium (mg/l)				
TDS (mg/l)	0			
Percentage Chloride	0.0			
Resistivity	0.00			

COMMENTS: Bacteria test - RLU = 29

HALLIBURTON

Halliburton Energy Services
The Rockies NWA District Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company S G Interests
Reported To astaley
Reported By Deba Shafiee

Date Received September 27, 2007
Date Tested September 27, 2007
Tested By Deba Shafiee

Sample 1 Physical Characteristics

Well Name Henderson Temperature 71 °F
Location 1 R 9/21/07 pH 7.7
Specific Gravity 1.031 Color Slight yellow
Corrected SG 1.033 at 60°F Turbidity moderate
TDS (calculated) 48966 ppm (48910 mg/L) Resistivity 0.42 Ω·m

Sample 1 Chemical Characteristics

Anions
Chloride 28000 mg/L
Sulfate 10 mg/L
Bicarbonate 940 mg/L
Carbonate 0 mg/L
Hydroxide 0 mg/L

Cations
Total Iron 15.0 mg/L
Ferrous Iron 0.3 mg/L
Potassium 8100 mg/L
Calcium 640 mg/L
Magnesium 240 mg/L
Sodium (calculated) 12539 mg/L

Water Analysis Report (cont.)

Sample 2 Physical Characteristics

Well Name	Henderson #1 <u>R</u>	Temperature	70 °F
Location	flowback tank	pH	7.9
Specific Gravity	1.024	Color	slight yellow
Corrected SG	1.026 at 60°F	Turbidity	moderate
TDS (calculated)	31111 ppm (31076 mg/L)	Resistivity	0.72 Ω·m

Sample 2 Chemical Characteristics

Anions	Chloride	16600 mg/L	Cations	Total Iron	2.2 mg/L
	Sulfate	10 mg/L		Ferrous Iron	0.5 mg/L
	Bicarbonate	680 mg/L		Potassium	8200 mg/L
	Carbonate	0 mg/L		Calcium	390 mg/L
	Hydroxide	0 mg/L		Magnesium	210 mg/L
				Sodium (calculated)	5350 mg/L

Sample 3 Physical Characteristics

Well Name	Henderson #1 <u>R</u>	Temperature	70 °F
Location	Reserve Pit	pH	7.5
Specific Gravity	1.03	Color	slight gray
Corrected SG	1.032 at 60°F	Turbidity	moderate
TDS (calculated)	16602 ppm (16602 mg/L)	Resistivity	7.1 Ω·m

Sample 3 Chemical Characteristics

Anions	Chloride	7600 mg/L	Cations	Total Iron	1.8 mg/L
	Sulfate	60 mg/L		Ferrous Iron	0.4 mg/L
	Bicarbonate	280 mg/L		Potassium	8600 mg/L
	Carbonate	0 mg/L		Calcium	170 mg/L
	Hydroxide	0 mg/L		Magnesium	150 mg/L
				Sodium (calculated)	mg/L

Water Analysis Report (cont.)

Sample 4 Physical Characteristics

Well Name	Federal 10-8 R	Temperature	70 °F
Location	Reserve pit	pH	8.2
Specific Gravity	1.019	Color	Pale yellow
Corrected SG	1.021 at 60°F	Turbidity	slight
TDS (calculated)	12210 ppm (12196 mg/L)	Resistivity	4.5 Ω·m

Sample 4 Chemical Characteristics

Anions	Chloride	3400	mg/L
	Sulfate	150	mg/L
	Bicarbonate	180	mg/L
	Carbonate	0	mg/L
	Hydroxide	0	mg/L

Cations	Total Iron	1.3	mg/L
	Ferrous Iron	0.1	mg/L
	Potassium	8400	mg/L
	Calcium	160	mg/L
	Magnesium	80	mg/L
	Sodium (calculated)		mg/L

General Comments

All Samples were filtered with 40 micron filter paper prior to the test for clarity.



Phone 505-334-0447 FAX 505-334-9530

104 Bison Trail, Aztec, NM 87410

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : S&G Interest
Lease : Henderson
Well No.: 1R
Location: Water Holding Tank
Attention: Lynn Garner

Date Sampled : 8-1-08
Date Analyzed: 8-4-08
Lab ID Number: Aug0808.001- 1
Salesperson : Joe MacLaren
Requested By : Joe Oglesby
File Name : Aug0808.001

ANALYSIS

1. Ph 7.800
2. Specific Gravity 60/60 F. 1.015
3. CACO3 Saturation Index @ 80F @140F

Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+) (Calculated)
10. Barium (Ba++)

Anions

11. Hydroxyl (OH-)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Manganese (Mn++)
19. Total Hardness as CaCO3
20. Resistivity @ 75 F. (Calculated)

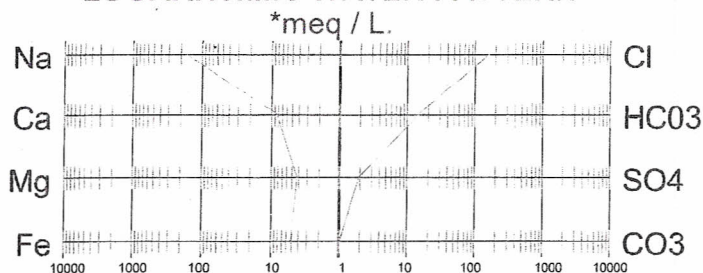
0.819 Moderate
1.659 Severe

MG/L. EQ. WT. *MEQ/L

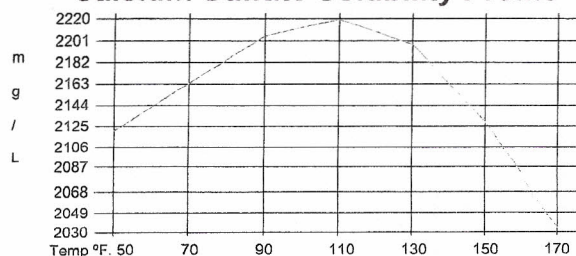
MG/L.	EQ. WT.	*MEQ/L
N.A.		
N.A.		
N.A.		
160	/ 20.1 =	7.96
49	/ 12.2 =	4.02
3,654	/ 23.0 =	158.87
0	/ 68.7 =	0.00

0	/ 17.0 =	0.00
0	/ 30.0 =	0.00
854	/ 61.1 =	13.98
90	/ 48.8 =	1.84
5,499	/ 35.5 =	154.90
10,306		
90.00	/ 18.2 =	4.95
3.20	/ 27.5 =	0.12
601		
0.580 Ohm · meters		

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT. =	mg/L.
Ca(HCO3)2	7.96		81.04	645
CaSO4	0.00		68.07	0
CaCl2	0.00		55.50	0
Mg(HCO3)2	4.02		73.17	294
MgSO4	0.00		60.19	0
MgCl2	0.00		47.62	0
NaHCO3	2.00		84.00	168
NaSO4	1.84		71.03	131
NaCl	154.90		58.46	9,056

* milliequivalents per Liter

Jason Hare, Analyst



API# 05-051-06066

Phone 505-334-0447 FAX 505-334-9530

104 Bison Trail, Aztec, NM 87410

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : S&G Interest
Lease : Henderson
Well No.: Water Transfer
Location: Pump Discharge
Attention: Lynn Garner

Date Sampled : 8-1-08
Date Analyzed: 8-4-08
Lab ID Number: Aug0808.001- 2
Salesperson : Joe MacLaren
Requested By : Joe Oglesby
File Name : Aug0808.001

ANALYSIS

1. Ph 6.100
2. Specific Gravity 60/60 F. 1.019
3. CACO3 Saturation Index @ 80F @140F

Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+) (Calculated)
10. Barium (Ba++)

Anions

11. Hydroxyl (OH-)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Manganese (Mn++)
19. Total Hardness as CaCO3
20. Resistivity @ 75 F. (Calculated)

-1.081 Negligible
-0.181 Negligible

MG/L. EQ. WT. *MEQ/L

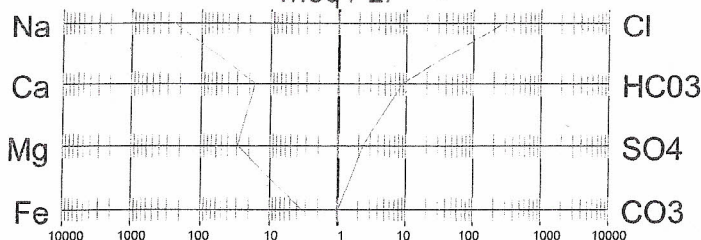
N.A.
N.A.
N.A.

321 / 20.1 = 15.97
340 / 12.2 = 27.87
5,394 / 23.0 = 234.52
0 / 68.7 = 0.00

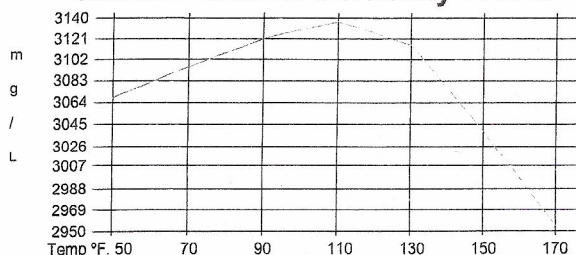
0 / 17.0 = 0.00
0 / 30.0 = 0.00
513 / 61.1 = 8.40
110 / 48.8 = 2.25
9,498 / 35.5 = 267.55
16,176
60.00 / 18.2 = 3.30
3.20 / 27.5 = 0.12
2,202
0.335 Ohm · meters

LOGARITHMIC WATER PATTERN

*meq / L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT. =	mg/L.
Ca(HCO3)2	8.40		81.04	680
CaSO4	2.25		68.07	153
CaCl2	5.32		55.50	295
Mg(HCO3)2	0.00		73.17	0
MgSO4	0.00		60.19	0
MgCl2	27.87		47.62	1,327
NaHCO3	0.00		84.00	0
NaSO4	0.00		71.03	0
NaCl	234.36		58.46	13,701

* milliequivalents per Liter

Jason Hare, Analyst

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

Water Analysis Report (cont.)

Sample 2 Physical Characteristics

Well Name	11-90-12-12-1 & 12-1A	Temperature	68 °F
Location	Falcon Seaboard	pH	7.07
Specific Gravity	1.01	Color	Slight Yellow
Corrected SG	1.012 at 60°F	Turbidity	Cloudy
TDS (calculated)	8775 ppm	Resistivity	0.58 Ω·m

Sample 2 Chemical Characteristics

Anions	Chloride	4800	mg/L	Cations	Total Iron	5.4	mg/L
	Sulfate	4	mg/L		Ferrous Iron	1.0	mg/L
	Bicarbonate	636	mg/L		Potassium	431	mg/L
	Carbonate	0	mg/L		Calcium	260	mg/L
	Hydroxide		mg/L		Magnesium	140	mg/L
					Sodium (calculated)	2531	mg/L

Sample 3 Physical Characteristics

Well Name	1R	Temperature	67 °F
Location	Henderson	pH	5.56
Specific Gravity	1.056	Color	Slight Yellow
Corrected SG	1.057 at 60°F	Turbidity	Cloudy
TDS (calculated)	18445 ppm (18424 mg/L)	Resistivity	0.54 Ω·m

Sample 3 Chemical Characteristics

Anions	Chloride	11600	mg/L	Cations	Total Iron	1.6	mg/L
	Sulfate	4	mg/L		Ferrous Iron	1.0	mg/L
	Bicarbonate	132	mg/L		Potassium	312	mg/L
	Carbonate	0	mg/L		Calcium	736	mg/L
	Hydroxide		mg/L		Magnesium	572	mg/L
					Sodium (calculated)	5462	mg/L

General Comments

McIntyre 11-90-14-1 was reserve pit water. Falcon Seaboard was production water. Henderson 1R was pit water.

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company SG Interests
Reported To Ann Staley
Reported By Joel Snoke

Date Received March 21, 2008
Date Tested March 21, 2008
Tested By Ann Ekx, Joel Snoke

Sample Physical Characteristics

Well Name	<u>Fed</u>	Temperature	<u>73</u> °F
Location	<u>10-8R</u>	pH	<u>6.4</u>
Specific Gravity	<u>0.981</u>	Color	<u>Clear</u>
Corrected SG	<u>0.984</u> at 60°F	Turbidity	<u>None</u>
TDS (calculated)	<u>15909</u> ppm (<u>15890 mg/L</u>)	Resistivity	<u>5.85</u> Ω·m

Sample Chemical Characteristics

Anions	Chloride	<u>10400</u>	mg/L
	Sulfate	<u>0</u>	mg/L
	Bicarbonate	<u>508</u>	mg/L
	Carbonate	<u>0</u>	mg/L
	Hydroxide		mg/L

Cations	Total Iron	<u>0.4</u>	mg/L
	Ferrous Iron	<u>0.0</u>	mg/L
	Potassium	<u>40</u>	mg/L
	Calcium	<u>2000</u>	mg/L
	Magnesium	<u>2200</u>	mg/L
	Sodium (calculated)	<u>458</u>	mg/L

General Comments

W051

NOTICE: This report is for information only, and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage, regardless of cause, resulting from the use hereof.

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : S&G Interest
Lease : Federal
Well No.: 10 # 8
Location: Water Holding Tank
Attention: Lynn Garner

Date Sampled : 8-1-08
Date Analyzed: 8-4-08
Lab ID Number: Aug0808.001- 5
Salesperson : Joe MacLaren
Requested By : Joe Oglesby
File Name : Aug0808.001

ANALYSIS

1. Ph 7.300
2. Specific Gravity 60/60 F. 1.022
3. CACO3 Saturation Index @ 80F
@140F

Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+) (Calculated)
10. Barium (Ba++)

Anions

11. Hydroxyl (OH-)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Manganese (Mn++)
19. Total Hardness as CaCO3
20. Resistivity @ 75 F. (Calculated)

0.325 Mild
1.115 Moderate

MG/L. EQ. WT. *MEQ/L

N.A.
N.A.
N.A.

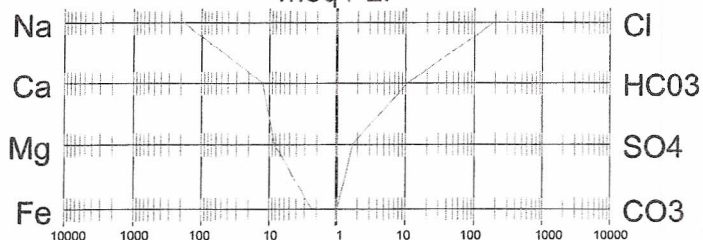
240 / 20.1 = 11.94
97 / 12.2 = 7.95
4,033 / 23.0 = 175.35
0 / 68.7 = 0.00

0 / 17.0 = 0.00
0 / 30.0 = 0.00
635 / 61.1 = 10.39
80 / 48.8 = 1.64
6,499 / 35.5 = 183.07
11,584
40.00 / 18.2 = 2.20
1.40 / 27.5 = 0.05
1,001

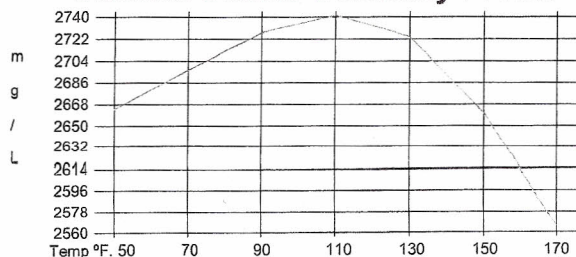
0.383 Ohm · meters

LOGARITHMIC WATER PATTERN

*meq / L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT. =	mg/L.
Ca(HCO3)2	10.39		81.04	842
CaSO4	1.55		68.07	105
CaCl2	0.00		55.50	0
Mg(HCO3)2	0.00		73.17	0
MgSO4	0.09		60.19	6
MgCl2	7.86		47.62	374
NaHCO3	0.00		84.00	0
NaSO4	0.00		71.03	0
NaCl	175.21		58.46	10,243

* milliequivalents per Liter

Jason Hare, Analyst

Multi-Chem Group, LLC

Multi-Chem Analytical Laborator

1553 East Highway 40

Vernal, UT 84078

**Water Analysis Report**Production Company: **SG INTERESTS**Sample ID: **WA-36131**Well Name: **FEDERAL 10-8-11-90R TANK B**Sample Point: **Prod. Tank**Sample Date: **1 /15/2010**Sales Rep: **Ron Gates**Lab Tech: **John Keel****Sample Specifics**

Test Date:	1/29/2010
Temperature (°F):	63
Sample Pressure (psig):	0
Specific Gravity (g/cm³):	1.0110
pH:	6.5
Turbidity (NTU):	-
Calculated T.D.S. (mg/L):	20805
Molar Conductivity (µS/cm):	31522
Resitivity (Mohm):	0.3172

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	240.00	Chloride (Cl):	12000.00
Magnesium (Mg):	48.80	Sulfate (SO ₄):	87.00
Barium (Ba):	69.00	Dissolved CO ₂ :	221.76
Strontium (Sr):	-	Bicarbonate (HCO ₃):	561.20
Sodium (Na):	7509.00	Carbonate (CO ₃):	-
Potassium (K):	-	H ₂ S:	1.00
Iron (Fe):	62.13	Phosphate (PO ₄):	-
Manganese (Mn):	4.94	Silica (SiO ₂):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO ₃):	-
Ammonia NH ₃ :	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl										
		Calcium Carbonate CaCO ₃		Gypsum CaSO ₄ · 2H ₂ O		Calcium Sulfate CaSO ₄		Strontium Sulfate SrSO ₄		Barium Sulfate BaSO ₄		Calculated CO ₂
		Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
Temp °F	Gauge Press. psi											
63	0	0.15	-0.96	0.01	-2569.70	0.01	-3097.90	-	-	173.43	115.22	3.52
80	0	0.23	-0.77	0.01	-4.49	0.01	-3046.00	-	-	117.43	114.20	1.43
100	0	0.32	-0.59	0.01	-3.23	0.01	-2860.60	-	-	75.92	112.48	1.82
120	0	0.42	-0.45	0.01	-2.38	0.01	-2579.80	-	-	50.18	110.07	2.07
140	0	0.54	-0.33	0.01	-1.78	0.01	-2245.10	-	-	33.83	106.87	2.36
160	0	0.67	-0.22	0.01	-1.37	0.01	-1892.10	-	-	23.23	102.80	2.70
180	0	0.80	-0.13	0.01	-1.07	0.02	-1548.00	-	-	16.21	97.84	3.00
200	0	0.92	-0.05	0.02	-0.86	0.02	-1230.70	-	-	11.47	91.97	3.08
220	2.51	1.03	0.02	0.02	-0.72	0.04	-966.24	-	-	8.06	84.85	3.15
240	10.3	1.14	0.08	0.02	-0.62	0.05	-725.22	-	-	5.83	76.92	3.23
260	20.76	1.22	0.13	0.02	-0.54	0.08	-524.78	-	-	4.26	67.87	3.32
280	34.54	1.29	0.17	0.02	-0.50	0.13	-362.44	-	-	3.14	57.52	3.42
300	52.34	1.34	0.20	0.02	-0.48	0.20	-234.31	-	-	2.33	45.67	3.52

Conclusions:

Calcium Carbonate scale is indicated. See graph for appropriate temperature ranges.

Gypsum Scaling Index is negative from 80°F to 300°F

Calcium Sulfate Scaling Index is negative from 80°F to 300°F

Strontium Sulfate scaling was not evaluated

Barium Sulfate scale is indicated at all temperatures from 80°F to 300°F

Notes:

Multi-Chem Group, LLC

Multi-Chem Analytical Laborator

1553 East Highway 40

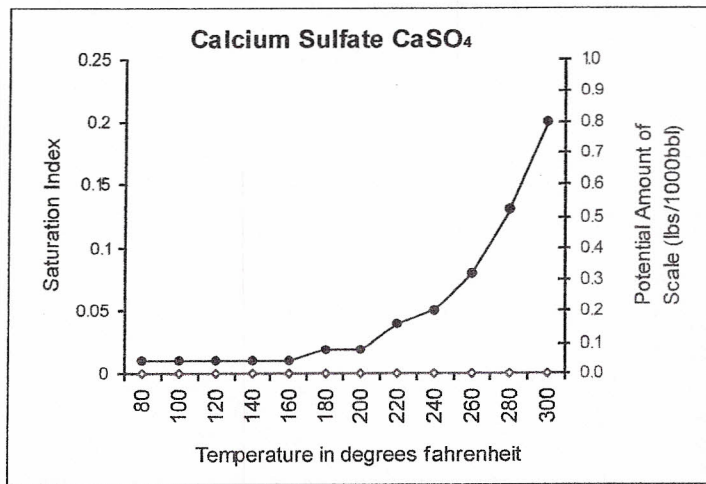
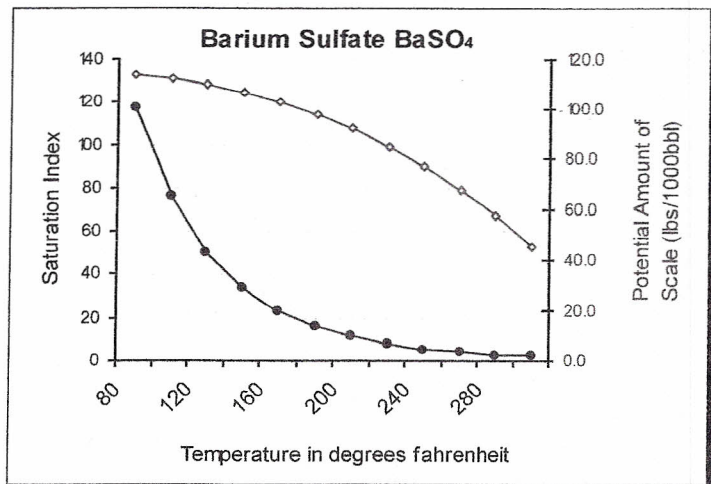
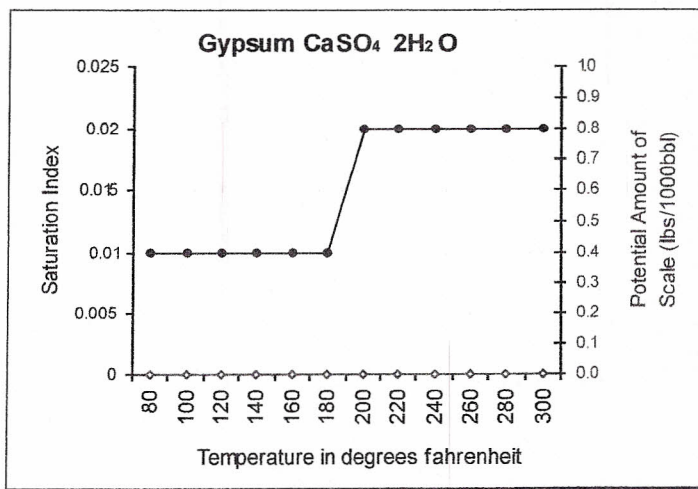
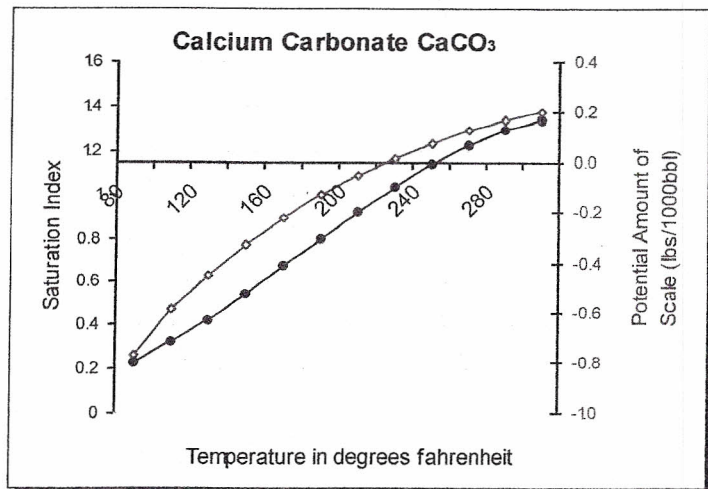
Vernal, UT 84078



Scale Prediction Graphs

Well Name: FEDERAL 10-8-11-90R TANK B

Sample ID: WA-36131

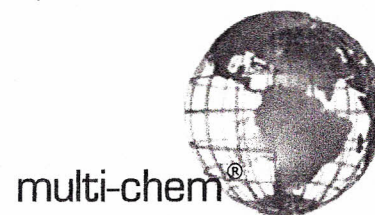


Multi-Chem Group, LLC

Multi-Chem Analytical Laborator

1553 East Highway 40

Vernal, UT 84078

**Water Analysis Report**Production Company: **SG INTERESTS**Sample ID: **WA-36133**Well Name: **FEDERAL 10-8-11-90R TANK A**Sample Point: **prod. Tank**Sample Date: **1/15/2010**Sales Rep: **Ron Gates**Lab Tech: **John Keel****Sample Specifics**

Test Date:	1/29/2010
Temperature (°F):	63
Sample Pressure (psig):	0
Specific Gravity (g/cm³):	1.0090
pH:	6.4
Turbidity (NTU):	-
Calculated T.D.S. (mg/L):	17360
Molar Conductivity (µS/cm):	26303
Resitivity (Mohm):	0.3802

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	200.00	Chloride (Cl):	10000.00
Magnesium (Mg):	-	Sulfate (SO ₄):	84.00
Barium (Ba):	24.00	Dissolved CO ₂ :	158.40
Strontium (Sr):	-	Bicarbonate (HCO ₃):	475.80
Sodium (Na):	6383.00	Carbonate (CO ₃):	-
Potassium (K):	-	H ₂ S:	0.50
Iron (Fe):	31.36	Phosphate (PO ₄):	-
Manganese (Mn):	2.72	Silica (SiO ₂):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO ₃):	-
Ammonia NH ₃ :	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Test Conditions		Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl										
		Calcium Carbonate CaCO ₃		Gypsum CaSO ₄ · 2H ₂ O		Calcium Sulfate CaSO ₄		Strontium Sulfate SrSO ₄		Barium Sulfate BaSO ₄		Calculated CO ₂
		Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
Temp °F	Gauge Press. psi											
63	0	0.08	-1.12	0.01	-2462.70	0.01	-2963.90	-	-	69.08	40.02	3.62
80	0	0.13	-0.94	0.01	-26.84	0.01	-2911.70	-	-	47.05	39.66	1.42
100	0	0.18	-0.77	0.01	-22.78	0.01	-2732.40	-	-	30.64	39.05	1.81
120	0	0.24	-0.63	0.01	-19.62	0.01	-2463.20	-	-	20.41	38.19	2.07
140	0	0.32	-0.52	0.01	-17.13	0.01	-2143.40	-	-	13.86	36.98	2.37
160	0	0.40	-0.42	0.01	-15.13	0.01	-1806.90	-	-	9.58	35.34	2.72
180	0	0.49	-0.34	0.01	-13.52	0.02	-1479.50	-	-	6.73	33.14	3.03
200	0	0.58	-0.27	0.02	-12.21	0.02	-1178.10	-	-	4.79	30.27	3.12
220	2.51	0.66	-0.21	0.02	-11.27	0.03	-926.61	-	-	3.37	26.30	3.21
240	10.3	0.75	-0.15	0.02	-10.39	0.05	-698.30	-	-	2.45	21.51	3.30
260	20.76	0.83	-0.10	0.02	-9.67	0.08	-508.47	-	-	1.79	15.56	3.40
280	34.54	0.90	-0.06	0.02	-9.07	0.12	-354.54	-	-	1.32	8.26	3.51
300	52.34	0.96	-0.02	0.02	-8.58	0.20	-232.56	-	-	0.98	-0.57	3.62

Conclusions:

Calcium Carbonate Scaling Index is negative from 80°F to 300°F

Gypsum Scaling Index is negative from 80°F to 300°F

Calcium Sulfate Scaling Index is negative from 80°F to 300°F

Strontium Sulfate scaling was not evaluated

Barium Sulfate NO CONCLUSION

Notes:

Multi-Chem Group, LLC

Multi-Chem Analytical Laborator

1553 East Highway 40

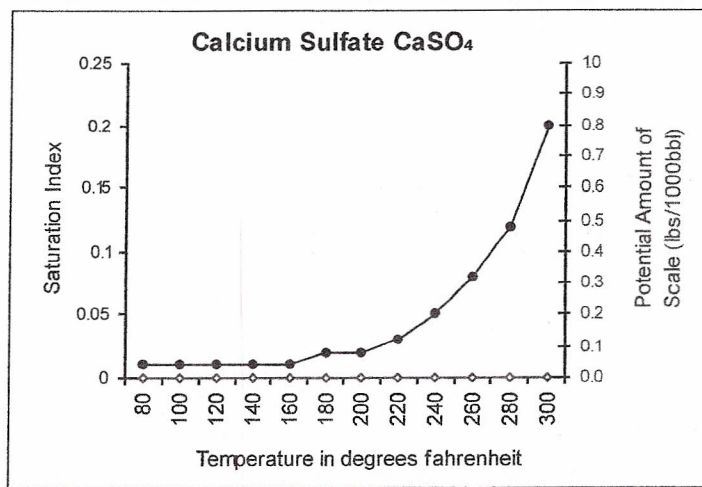
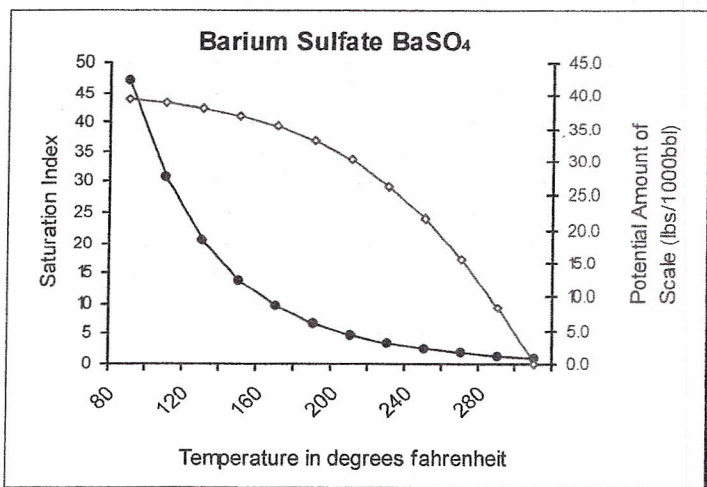
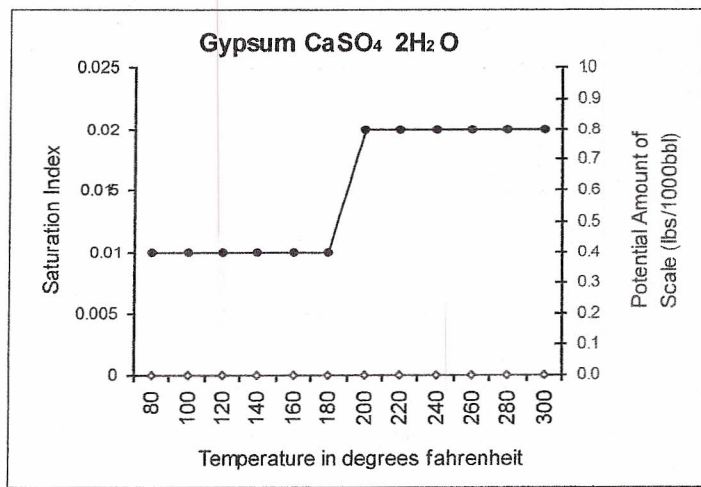
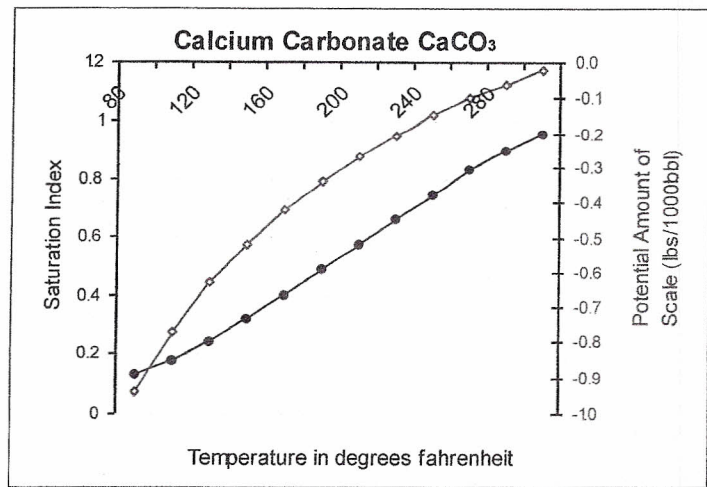
Vernal, UT 84078



Scale Prediction Graphs

Well Name: **FEDERAL 10-8-11-90R TANK A**

Sample ID: **WA-36133**



HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company	SG Interests	Date Received	March 21, 2008
Reported To	Ann Staley	Date Tested	March 21, 2008
Reported By	Joel Snoke	Tested By	Ann Ekx, Joel Snoke

Sample Physical Characteristics

Well Name	Fed	Temperature	72 °F
Location	1-26R	pH	6.2
Specific Gravity	1.009	Color	Yellow
Corrected SG	1.011 at 60°F	Turbidity	None
TDS (calculated)	28857 ppm (28824 mg/L)	Resistivity	1.90 Ω·m

Sample Chemical Characteristics

Anions	Chloride	17400 mg/L	Cations	Total Iron	0.7 mg/L
	Sulfate	0 mg/L		Ferrous Iron	0.1 mg/L
	Bicarbonate	452 mg/L		Potassium	370 mg/L
	Carbonate	0 mg/L		Calcium	2300 mg/L
	Hydroxide	mg/L		Magnesium	0 mg/L
				Sodium (calculated)	8594 mg/L

General Comments

W054

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Phone 505-334-0447 FAX 505-334-9530

104 Bison Trail, Aztec, NM 87410

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : S&G Interest
Lease : Federal
Well No.: 126R
Location: Water Holding Tank
Attention: Lynn Garner

Date Sampled : 8-1-08
Date Analyzed: 8-4-08
Lab ID Number: Aug0808.001- 4
Salesperson : Joe MacLaren
Requested By : Joe Oglesby
File Name : Aug0808.001

ANALYSIS

1. Ph 6.700
2. Specific Gravity 60/60 F. 1.023
3. CACO3 Saturation Index @ 80F @ 140F

Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+) (Calculated)
10. Barium (Ba++)

Anions

11. Hydroxyl (OH-)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Manganese (Mn++)
19. Total Hardness as CaCO3
20. Resistivity @ 75 F. (Calculated)

-0.236 Negligible
0.624 Moderate

MG/L. EQ. WT. *MEQ/L

N.A.
N.A.
N.A.

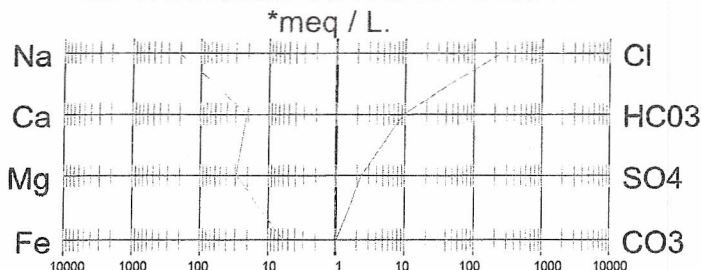
401 / 20.1 = 19.95
340 / 12.2 = 27.87
4,671 / 23.0 = 203.09
0 / 68.7 = 0.00

0 / 17.0 = 0.00
0 / 30.0 = 0.00
561 / 61.1 = 9.18
108 / 48.8 = 2.21
8,498 / 35.5 = 239.38

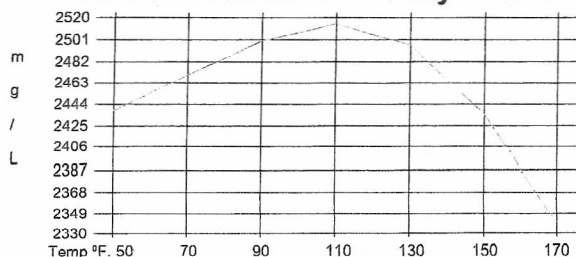
14,579
105.00 / 18.2 = 5.77
4.60 / 27.5 = 0.17

2,402
0.349 Ohm · meters

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT. =	mg/L.
Ca(HCO3)2	9.18		81.04	744
CaSO4	2.21		68.07	151
CaCl2	8.56		55.50	475
Mg(HCO3)2	0.00		73.17	0
MgSO4	0.00		60.19	0
MgCl2	27.87		47.62	1,327
NaHCO3	0.00		84.00	0
NaSO4	0.00		71.03	0
NaCl	202.96		58.46	11,865

* milliequivalents per Liter

Jason Hare, Analyst



API# 05-051-06067

Phone 505-334-0447 FAX 505-334-9530

104 Bison Trail, Aztec, NM 87410

WATER ANALYSIS REPORT

SAMPLE

Oil Co. : S&G Interest
Lease : Federal 125-10
Well No.: 91R
Location: Water Holding Tank
Attention: Lynn Garner

Date Sampled : 8-1-08
Date Analyzed: 8-4-08
Lab ID Number: Aug0808.001- 3
Salesperson : Joe MacLaren
Requested By : Joe Oglesby
File Name : Aug0808.001

ANALYSIS

1. Ph 6.700
2. Specific Gravity 60/60 F. 1.021
3. CACO3 Saturation Index @ 80F
@ 140F

Dissolved Gasses

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

Cations

7. Calcium (Ca++)
8. Magnesium (Mg++)
9. Sodium (Na+) (Calculated)
10. Barium (Ba++)

Anions

11. Hydroxyl (OH-)
12. Carbonate (CO3=)
13. Bicarbonate (HCO3-)
14. Sulfate (SO4=)
15. Chloride (Cl-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Manganese (Mn++)
19. Total Hardness as CaCO3
20. Resistivity @ 75 F. (Calculated)

-0.182 Negligible
0.718 Moderate

MG/L. EQ. WT. *MEQ/L

N.A.
N.A.
N.A.

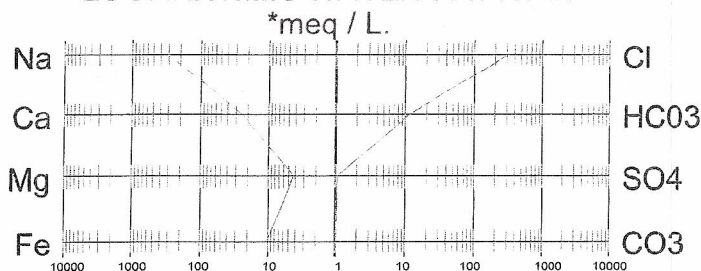
481 / 20.1 = 23.93
49 / 12.2 = 4.02
6,769 / 23.0 = 294.30
0 / 68.7 = 0.00

0 / 17.0 = 0.00
0 / 30.0 = 0.00
683 / 61.1 = 11.18
50 / 48.8 = 1.02
10,998 / 35.5 = 309.80

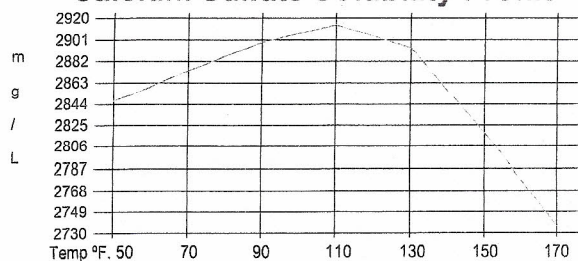
19,030
180.00 / 18.2 = 9.89
2.40 / 27.5 = 0.09
1,401

0.316 Ohm · meters

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	*meq/L	X	EQ. WT. =	mg/L.
Ca(HCO3)2	11.18		81.04	906
CaSO4	1.02		68.07	70
CaCl2	11.73		55.50	651
Mg(HCO3)2	0.00		73.17	0
MgSO4	0.00		60.19	0
MgCl2	4.02		47.62	191
NaHCO3	0.00		84.00	0
NaSO4	0.00		71.03	0
NaCl	294.06		58.46	17,191

* milliequivalents per Liter

Jason Hare, Analyst

HALLIBURTON

Halliburton Energy Services
The Rockies NWA Regional Laboratory
Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

Company SG Interests
Reported To Ann Staley
Reported By Joel Snoke

Date Received March 21, 2008
Date Tested March 21, 2008
Tested By Ann Ekx, Joel Snoke

Sample Physical Characteristics

Well Name	<u>Fed</u>	Temperature	<u>73</u> °F
Location	<u>1-25R</u>	pH	<u>6.3</u>
Specific Gravity	<u>0.994</u>	Color	<u>Yellow</u>
Corrected SG	<u>0.997</u> at 60°F	Turbidity	<u>None</u>
TDS (calculated)	<u>29672</u> ppm <i>(29638 mg/L)</i>	Resistivity	<u>0.32</u> Ω·m

Sample Chemical Characteristics

Anions

Chloride	<u>18200</u>	mg/L
Sulfate	<u>0</u>	mg/L
Bicarbonate	<u>372</u>	mg/L
Carbonate	<u>0</u>	mg/L
Hydroxide		mg/L

Cations

Total Iron	<u>1.6</u>	mg/L
Ferrous Iron	<u>0.1</u>	mg/L
Potassium	<u>20</u>	mg/L
Calcium	<u>10900</u>	mg/L
Magnesium	<u>0</u>	mg/L
Sodium (calculated)	<u>0</u>	mg/L

General Comments

W050

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HALLIBURTON

Halliburton Energy Services
 The Rockies NWA District Laboratory
 Grand Junction, CO 970) 523-3692

Water Analysis Report

Contact Information

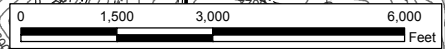
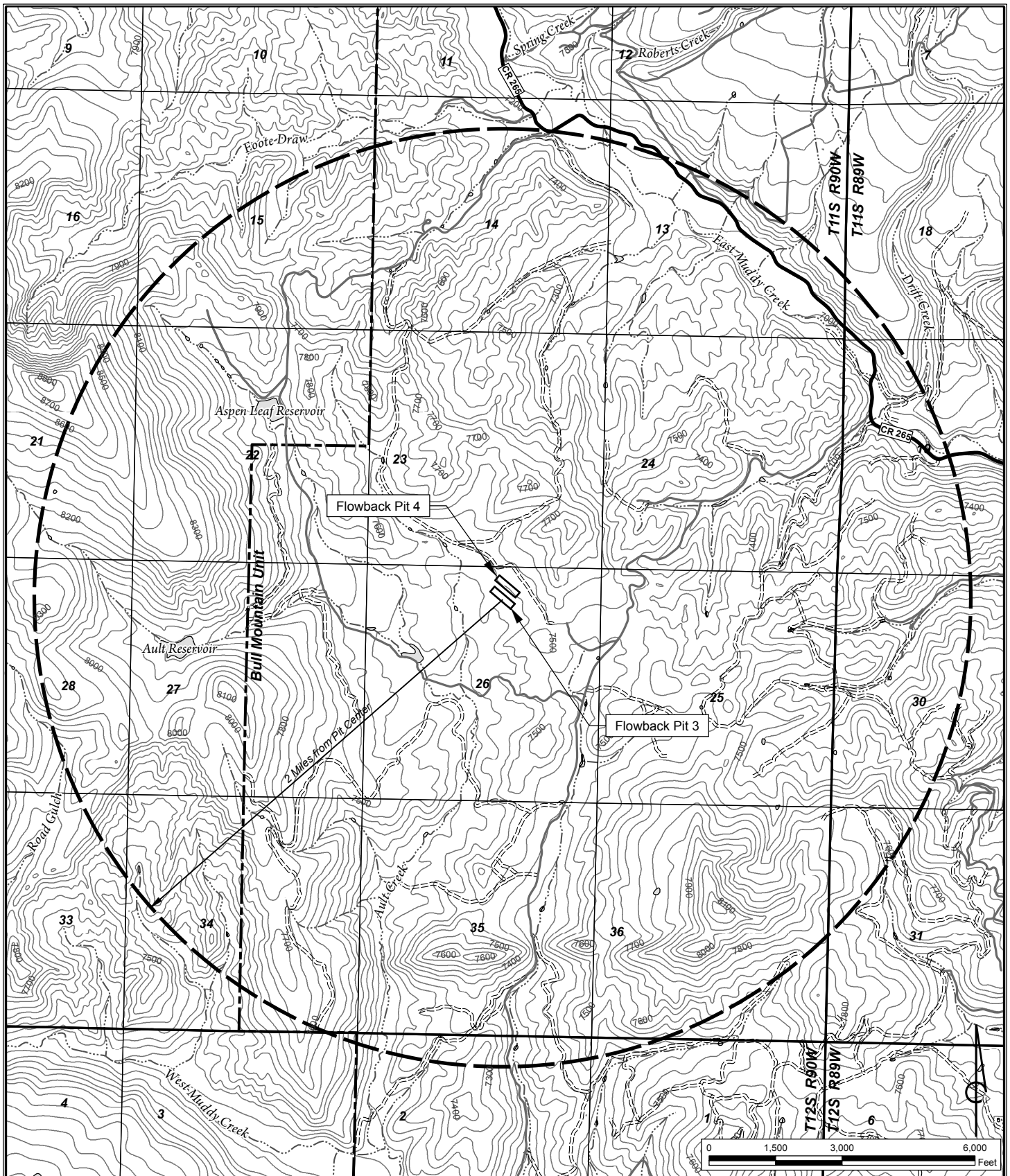
Company	<u>SG Interests</u>	Date Received	<u>September 13, 2007</u>
Reported To	<u>Ann Staley</u>	Date Tested	<u>September 13, 2007</u>
Reported By	<u>Ann Ekx</u>	Tested By	<u>Ann Ekx</u>

Sample 1 Physical Characteristics

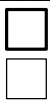
Well Name	<u>11-90-14-1</u>	Temperature	<u>67</u> °F
Location	<u>McIntyre</u>	pH	<u>5.49</u>
Specific Gravity	<u>1.009</u>	Color	<u>Black</u>
Corrected SG	<u>1.010</u> at 60°F	Turbidity	<u>Cloudy</u>
TDS (calculated)	<u>10557</u> ppm (<u>10545 mg/L</u>)	Resistivity	<u>0.47</u> Ω·m

Sample 1 Chemical Characteristics

Anions	Chloride	<u>6400</u>	mg/L	Cations	Total Iron	<u>0.9</u>	mg/L
	Sulfate	<u>0</u>	mg/L		Ferrous Iron	<u>0.8</u>	mg/L
	Bicarbonate	<u>280</u>	mg/L		Potassium	<u>94</u>	mg/L
	Carbonate	<u>0</u>	mg/L		Calcium	<u>664</u>	mg/L
	Hydroxide		mg/L		Magnesium	<u>252</u>	mg/L
					Sodium (calculated)	<u>2961</u>	mg/L



Bull Mountain Unit



Township



Water Body



Stream



State Highway



County Road



Improved Dirt Road



Two-Track



SG Interests
PO Box 26
Montrose, CO 81402
970-252-0696

Bull Mountain Unit

T. 11 S, R. 90 W, Sections 26

McIntyre Flowback Pit 3
WATER BODIES

CO State Plane Central NAD 83
SCALE: 1" = 3,000'
DATE: 11.11.2010

McIntyre Flowback Pits #3 and #4

Shallow Groundwater Monitoring

SG Interests has two shallow groundwater monitoring sites in the vicinity of McIntyre Flowback Pits 3 and 4; the WQ 11-90-13 #2 and the WQ 11-90-27 #1. Both of these sites are sources of drinking water for area residents. The WQ 11-90-13 #2 is on the east side of the Vannice house. The WQ 11-90-27 #1 site is the outflow from Aspen Leaf Ranch's cistern. This water is used for the residents and guests at the ranch. The water at the Aspen Leaf Ranch cistern is alkaline. No other water quality standard was exceeded at either of these two sites (test results from 2010). These monitoring reports set a baseline for pre pit construction shallow groundwater conditions in the area. The following section contains a map of the monitoring sites, a summary sheet for each of the site's test results, and the laboratory analysis reports.



Bull Mountain Unit



Township



Section



Shallow Groundwater Test Location



Water Body



Stream



State Highway



County Road



Improved Dirt Road



Two-Track



SG Interests

PO Box 26
Montrose, CO 81402
970-252-0696

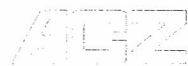
Bull Mountain Unit

T. 11 S, R. 90 W, Sections 26

McIntyre Flowback Pit 3

SHALLOW GROUNDWATER TEST LOCATIONS

CO State Plane Central NAD 83
SCALE: 1" = 3,000'
DATE: 11.11.2010



Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analysis
Results

SG Interests I, Ltd.

Project ID:

Sample ID: COW SKULL 8

ACZ Sample ID: **L82588-07**

Date Sampled: 06/07/10 00:00

Date Received: 06/09/10

Sample Matrix: Surface Water

Inorganic Prep

Parameter / Method	Result	Unit	LOD	LOQ	Date	Analyst
Total Hot Plate Digestion M200.2 ICP					06/16/10 11:36	ear
Total Hot Plate Digestion M200.2 ICP-MS					06/14/10 9:19	cra

Metals Analysis

Parameter / Method	Result	Unit	LOD	LOQ	Date	Analyst
Arsenic, total M200.8 ICP-MS		mg/L	0.0005	0.002	06/17/10 7:03	erf
Barium, total M200.7 ICP	0.105	mg/L	0.003	0.02	06/17/10 13:10	ear
Calcium, total M200.7 ICP	38.3	mg/L	0.2	1	06/17/10 13:10	ear
Chromium, total M200.8 ICP-MS		mg/L	0.0005	0.002	06/17/10 7:03	erf
Iron, total M200.7 ICP		mg/L	0.02	0.05	06/17/10 13:10	ear
Magnesium, total M200.7 ICP	5.3	mg/L	0.2	1	06/17/10 13:10	ear
Selenium, total M200.8 ICP-MS		mg/L	0.0001	0.0005	06/17/10 7:03	erf
Sodium, total M200.7 ICP	10.8	mg/L	0.3	2	06/17/10 17:01	ear

Wet Chemistry

Parameter / Method	Result	Unit	LOD	LOQ	Date	Analyst
Alkalinity as CaCO3 SM2320B - Titration						
Bicarbonate as CaCO3	143	mg/L	2	20	06/10/10 0:00	jjc
Carbonate as CaCO3		mg/L	2	20	06/10/10 0:00	jjc
Hydroxide as CaCO3		mg/L	2	20	06/10/10 0:00	jjc
Total Alkalinity	143	mg/L	2	20	06/10/10 0:00	jjc
Chloride SM4500Cl-E	1	mg/L	1	5	06/16/10 17:18	aml
Conductivity @25C SM2510B	280	umhos/cm	1	10	06/10/10 4:26	jjc
Fluoride SM4500F-C	0.1	mg/L	0.1	0.5	06/10/10 16:26	jjc
Lab Filtration SM 3030 B					06/09/10 15:11	jlif
pH (lab) SM4500H+ B						
pH	8.3	units	0.1	0.1	06/10/10 0:00	jjc
pH measured at	22.0	C	0.1	0.1	06/10/10 0:00	jjc
Residue, Filterable (TDS) @180C SM2540C	160	mg/L	10	20	06/09/10 16:56	lhb
Sulfate 375.4 - Turbidimetric	4	mg/L	1	5	06/16/10 12:07	aml

Laboratories, Inc.

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SG Interests I, Ltd.

Project ID:

Sample ID: COW SKULL 8

ACZ Sample ID: **L82588-07**

Date Sampled: 06/07/10 0:00

Date Received: 06/09/10

Sample Matrix: Surface Water

Analysis Method: **M8021B/8015D GC/PID/FID**Extract Method: **5030C**

Analyst: kaf

Extract Date: 06/11/10 19:01

Analysis Date: 06/11/10 19:01

Benzene	71-43-2	U	1	*	ug/L	0.2	1
Ethylbenzene	100-41-4	U	1	*	ug/L	0.2	1
m p Xylene	1330-20-7	U	1	*	ug/L	0.4	2
o Xylene	95-47-6	U	1	*	ug/L	0.2	1
Toluene	108-88-3	U	1	*	ug/L	0.2	1
TVH C6 to C10	TVH	U	1	*	mg/L	0.05	0.05
Bromofluorobenzene	460-00-4		1	*	%	70	130
Bromofluorobenzene (TVH)	460-00 4		1	*	%	70	130


Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

SG Interests I, Ltd.

Project ID:

Sample ID: COW SKULL 8

 ACZ Sample ID: **L82588-07**

Date Sampled: 06/07/10 0:00

Date Received: 06/09/10

Sample Matrix: Surface Water

 Analysis Method: **M8270C GC/MS**

 Extract Method: **M3520**

Analyst: djt

Extract Date: 06/10/10 13:39

Analysis Date: 06/16/10 18:26

2-Methylnaphthalene	91-57-6	U	1	*	ug/L	2	10
Acenaphthene	83-32-9	U	1	*	ug/L	2	10
Acenaphthylene	208-96-8	U	1	*	ug/L	2	10
Anthracene	120-12-7	U	1	*	ug/L	2	10
Benzo(a)anthracene	56-55-3	U	1	*	ug/L	2	10
Benzo(a)pyrene	50-32-8	U	1	*	ug/L	2	10
Benzo(b)fluoranthene	205-99-2	U	1	*	ug/L	2	10
Benzo(g,h,i)perylene	191-24-2	U	1	*	ug/L	2	10
Benzo(k)fluoranthene	207-08-9	U	1	*	ug/L	2	10
Chrysene	218-01-9	U	1	*	ug/L	2	10
Dibenzo(a,h)anthracene	53-70-3	U	1	*	ug/L	2	10
Fluoranthene	206-44-0	U	1	*	ug/L	2	10
Fluorene	86-73-7	U	1	*	ug/L	2	10
Indeno(1,2,3-cd)pyrene	193-39-5	U	1	*	ug/L	2	10
Naphthalene	91-20-3	U	1	*	ug/L	2	10
Phenanthrene	85-01-8	U	1	*	ug/L	2	10
Pyrene	129-00-0	U	1	*	ug/L	2	10
2-Fluorobiphenyl	321-60-8						
2-Fluorobiphenyl	321-60-8		63.9	1	*	%	35 121
Nitrobenzene-d5	4165-60-0		46.3	1	*	%	36 117
Terphenyl-d14	1718-51-0		76.3	1	*	%	10 151

**Laboratories, Inc.**

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Organic Analysis
Final Results**SG Interests I, Ltd.**

Project ID:

Sample ID: COW SKULL 8

ACZ Sample ID: **L82588-07**

Date Sampled: 06/07/10 0:00

Date Received: 06/09/10

Sample Matrix: Surface Water

Analysis Method: **M8015D GC/FID**Extract Method: **M3520**

Analyst: abm

Extract Date: 06/10/10 12:14

Analysis Date: 06/14/10 16:37

TPH C10 to C28

U 1 * mg/L 0.1 0.5

OTP

84-15-1

121.9

1 * % 70 130

Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

SG Interests I, Ltd.

Project ID:

Sample ID: PASCO #2

ACZ Sample ID: **L82406-02**

Date Sampled: 05/26/10 00:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Inorganic Prep

Total Hot Plate Digestion	M200.2 ICP	06/03/10 21:45	ear
Total Hot Plate Digestion	M200.2 ICP-MS	06/08/10 15:00	cra

Metals Analysis

Arsenic, total	M200.8 ICP-MS	U	mg/L	0.0005	0.002	06/10/10 10:59	erf	
Barium, total	M200.7 ICP	0.351	mg/L	0.003	0.02	06/04/10 20:47	ear	
Calcium, total	M200.7 ICP	85.5	mg/L	0.2	1	06/04/10 20:47	ear	
Chromium, total	M200.8 ICP-MS	U	mg/L	0.0005	0.002	06/10/10 10:59	erf	
Iron, total	M200.7 ICP	0.08	mg/L	0.02	0.05	06/04/10 20:47	ear	
Magnesium, total	M200.7 ICP	11.0	mg/L	0.2	1	06/04/10 20:47	ear	
Selenium, total	M200.8 ICP-MS	0.0003	B	mg/L	0.0001	0.0005	06/10/10 10:59	erf
Sodium, total	M200.7 ICP	14.2	mg/L	0.3	2	06/07/10 14:20	aeh	

Wet Chemistry

Alkalinity as CaCO3	SM2320B - Titration						
Bicarbonate as CaCO3		287		mg/L	2	20	06/03/10 0:00 lhb
Carbonate as CaCO3			U	mg/L	2	20	06/03/10 0:00 lhb
Hydroxide as CaCO3			U	mg/L	2	20	06/03/10 0:00 lhb
Total Alkalinity		287		mg/L	2	20	06/03/10 0:00 lhb
Chloride	SM4500Cl-E	3	B *	mg/L	1	5	06/08/10 15:05 aml
Conductivity @25C	SM2510B	545		umhos/cm	1	10	06/03/10 4:06 lhb
Fluoride	SM4500F-C	0.1	B *	mg/L	0.1	0.5	06/04/10 14:23 jjc
Lab Filtration	SM 3030 B		*				05/28/10 14:15 jjc
pH (lab)	SM4500H+ B						
pH		8.2	H	units	0.1	0.1	06/03/10 0:00 lhb
pH measured at		23.0		C	0.1	0.1	06/03/10 0:00 lhb
Residue, Filterable (TDS) @180C	SM2540C	300	H *	mg/L	10	20	06/04/10 14:10 jlf
Sulfate	375.4 - Turbidimetric	6	*	mg/L	1	5	06/14/10 14:55 aml

Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493



SG Interests I, Ltd.

Project ID:

Sample ID: PASCO #2

ACZ Sample ID: **L82406-02**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Analysis Method: **M8021B/8015D GC/PID/FID**

Extract Method: **5030C**

Analyst: kaf

Extract Date: 06/04/10 15:32

Analysis Date: 06/04/10 15:32

Benzene	71-43-2		U	1	*	ug/L	0.2	1
Ethylbenzene	100-41-4		U	1	*	ug/L	0.2	1
m p Xylene	1330-20-7		U	1	*	ug/L	0.4	2
o Xylene	95-47-6		U	1	*	ug/L	0.2	1
Toluene	108-88-3	0.3	J	1	*	ug/L	0.2	1
TVH C6 to C10	TVH		U	1	*	mg/L	0.05	0.05
Bromofluorobenzene	460-00-4	106.3		1	*	%	70	130
Bromofluorobenzene (TVH)	460-00-4	104.7		1	*	%	70	130

SG Interests I, Ltd.

Project ID:

Sample ID: PASCO #2

ACZ Sample ID: **L82406-02**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Analysis Method: **M8270C GC/MS**Extract Method: **M3520**

Analyst: djt

Extract Date: 06/01/10 15:13

Analysis Date: 06/08/10 20:10

2-Methylnaphthalene	91-57-6	U	1	ug/L	2	10
Acenaphthene	83-32-9	U	1	ug/L	2	10
Acenaphthylene	208-96-8	U	1	ug/L	2	10
Anthracene	120-12-7	U	1	ug/L	2	10
Benzo(a)anthracene	56-55-3	U	1	ug/L	2	10
Benzo(a)pyrene	50-32-8	U	1	ug/L	2	10
Benzo(b)fluoranthene	205-99-2	U	1	ug/L	2	10
Benzo(g,h,i)perylene	191-24-2	U	1	ug/L	2	10
Benzo(k)fluoranthene	207-08-9	U	1	ug/L	2	10
Chrysene	218-01-9	U	1	ug/L	2	10
Dibenzo(a,h)anthracene	53-70-3	U	1	ug/L	2	10
Fluoranthene	206-44-0	U	1	ug/L	2	10
Fluorene	86-73-7	U	1	ug/L	2	10
Indeno(1,2,3-cd)pyrene	193-39-5	U	1	ug/L	2	10
Naphthalene	91-20-3	U	1	ug/L	2	10
Phenanthrene	85-01-8	U	1	ug/L	2	10
Pyrene	129-00-0	U	1	ug/L	2	10
2-Fluorobiphenyl	321-60-8		1	%	35	121
Nitrobenzene-d5	4165-60-0		1	%	36	117
Terphenyl-d14	1718-51-0		1	%	10	151

SG Interests I, Ltd.

Project ID:

Sample ID: PASCO #2

ACZ Sample ID: **L82406-02**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Analysis Method: **M8015D GC/FID**Extract Method: **M3520**

Analyst: abm

Extract Date: 05/28/10 14:37

Analysis Date: 06/02/10 19:11

TPH C10 to C28	0.1	J	1	mg/L	0.1	0.5
OTP	84-15-1	72.7	1	%	70	130

McIntyre Flowback Pits #3 and #4

Surface Water Quality Monitoring

SG Interests has four surface water quality monitoring sites in the vicinity of McIntyre Flowback Pits 3 and 4; the WQ 11-90-26 #1, the WQ 11-90-26 #2, the WQ 11-90-27 #2, and the WQ 11-89-19 #4. The WQ 11-90-26 #1 site is at the edge of a reservoir on Ault Creek. The WQ 11-90-26 #2 is on an unnamed tributary to Ault Creek. The WQ 11-90-27 #2 site is near the outflow of Ault Reservoir. The WQ 11-89-19 #4 site is on an unnamed creek. With the exception of the WQ 11-90-27 #2 site, which is within normal pH range, the water at these sites is alkaline. No other water quality standard was exceeded at any site (test results from 2010). These monitoring reports set a baseline for pre pit construction surface water conditions in the area. The following section contains a map of the monitoring sites, a summary sheet for each of the site's test results, and the laboratory analysis reports.



Bull Mountain Unit



Township



Section



Surface Water Test Location



Water Body



Stream



State Highway



County Road



Improved Dirt Road



Two-Track



SG Interests

PO Box 26
Montrose, CO 81402
970-252-0696

Bull Mountain Unit

T. 11 S, R. 90 W, Sections 26

McIntyre Flowback Pit 3

SURFACE WATER TEST LOCATIONS

CO State Plane Central NAD 83
SCALE: 1" = 3,000'
DATE: 11.11.2010

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Inorganic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #1

ACZ Sample ID: **L82406-01**

Date Sampled: 05/26/10 00:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XO	Units	MDL	POL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS							06/08/10 14:48	cra
Total Hot Plate Digestion	M200.2 ICP							06/03/10 21:32	ear

Metals Analysis

Parameter	EPA Method	Result	Qual	XO	Units	MDL	POL	Date	Analyst
Arsenic, total	M200.8 ICP-MS	0.0007	B		mg/L	0.0005	0.002	06/10/10 10:56	erf
Barium, total	M200.7 ICP	0.350			mg/L	0.003	0.02	06/04/10 20:44	ear
Calcium, total	M200.7 ICP	83.9			mg/L	0.2	1	06/04/10 20:44	ear
Chromium, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	06/10/10 10:56	erf
Iron, total	M200.7 ICP	0.21			mg/L	0.02	0.05	06/04/10 20:44	ear
Magnesium, total	M200.7 ICP	12.1			mg/L	0.2	1	06/04/10 20:44	ear
Selenium, total	M200.8 ICP-MS	0.0002	B		mg/L	0.0001	0.0005	06/10/10 10:56	erf
Sodium, total	M200.7 ICP	13.7			mg/L	0.3	2	06/07/10 14:17	aeh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XO	Units	MDL	POL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		252			mg/L	2	20	06/03/10 0:00	lhb
Carbonate as CaCO ₃		23			mg/L	2	20	06/03/10 0:00	lhb
Hydroxide as CaCO ₃			U		mg/L	2	20	06/03/10 0:00	lhb
Total Alkalinity		276			mg/L	2	20	06/03/10 0:00	lhb
Chloride	SM4500Cl-E	5		*	mg/L	1	5	06/08/10 15:05	aml
Conductivity @25C	SM2510B	515			umhos/cm	1	10	06/03/10 3:57	lhb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	06/04/10 14:17	jjc
Lab Filtration	SM 3030 B			*				05/28/10 14:13	jjc
Lab Filtration & Acidification	SM 3030 B			*				06/02/10 8:05	cra
pH (lab)	SM4500H+ B								
pH		8.6	H		units	0.1	0.1	06/03/10 0:00	lhb
pH measured at		22.0			C	0.1	0.1	06/03/10 0:00	lhb
Residue, Filterable (TDS) @180C	SM2540C	280	H	*	mg/L	10	20	06/04/10 14:09	jlf
Sulfate	375.4 - Turbidimetric	13		*	mg/L	1	5	06/08/10 9:46	aml

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Inorganic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #2

ACZ Sample ID: **L82406-02**

Date Sampled: 05/26/10 00:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XC	Units	MDL	POL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP							06/03/10 21:45	ear
Total Hot Plate Digestion	M200.2 ICP-MS							06/08/10 15:00	cra

Metals Analysis

Parameter	EPA Method	Result	Qual	XC	Units	MDL	POL	Date	Analyst
Arsenic, total	M200.8 ICP-MS			U	mg/L	0.0005	0.002	06/10/10 10:59	erf
Barium, total	M200.7 ICP	0.351			mg/L	0.003	0.02	06/04/10 20:47	ear
Calcium, total	M200.7 ICP	85.5			mg/L	0.2	1	06/04/10 20:47	ear
Chromium, total	M200.8 ICP-MS			U	mg/L	0.0005	0.002	06/10/10 10:59	erf
Iron, total	M200.7 ICP	0.08			mg/L	0.02	0.05	06/04/10 20:47	ear
Magnesium, total	M200.7 ICP	11.0			mg/L	0.2	1	06/04/10 20:47	ear
Selenium, total	M200.8 ICP-MS	0.0003		B	mg/L	0.0001	0.0005	06/10/10 10:59	erf
Sodium, total	M200.7 ICP	14.2			mg/L	0.3	2	06/07/10 14:20	aeh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XC	Units	MDL	POL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		287			mg/L	2	20	06/03/10 0:00	lhb
Carbonate as CaCO ₃				U	mg/L	2	20	06/03/10 0:00	lhb
Hydroxide as CaCO ₃				U	mg/L	2	20	06/03/10 0:00	lhb
Total Alkalinity		287			mg/L	2	20	06/03/10 0:00	lhb
Chloride	SM4500Cl-E	3		B *	mg/L	1	5	06/08/10 15:05	aml
Conductivity @25C	SM2510B	545			umhos/cm	1	10	06/03/10 4:06	lhb
Fluoride	SM4500F-C	0.1		B *	mg/L	0.1	0.5	06/04/10 14:23	jjc
Lab Filtration	SM 3030 B			*				05/28/10 14:15	jjc
pH (lab)	SM4500H+ B								
pH		8.2		H	units	0.1	0.1	06/03/10 0:00	lhb
pH measured at		23.0			C	0.1	0.1	06/03/10 0:00	lhb
Residue, Filterable (TDS) @180C	SM2540C	300		H *	mg/L	10	20	06/04/10 14:10	jlf
Sulfate	375.4 - Turbidimetric	6		*	mg/L	1	5	06/14/10 14:55	aml

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Organic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #1

ACZ Sample ID: **L82406-01**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

BTEX (Toluene, Ethylbenzene, Xylene, and Benzene)

Analysis Method: **M8021B/8015D GC/PID/FID**Extract Method: **5030C**

Analyst: kaf
 Extract Date: 06/04/10 14:23
 Analysis Date: 06/04/10 14:23

Compound	Reference	U	1	*	ug/L	0.2	1
Benzene	71-43-2	U	1	*	ug/L	0.2	1
Ethylbenzene	100-41-4	U	1	*	ug/L	0.2	1
m p Xylene	1330-20-7	U	1	*	ug/L	0.4	2
o Xylene	95-47-6	U	1	*	ug/L	0.2	1
Toluene	108-88-3	U	1	*	ug/L	0.2	1
TVH C6 to C10	TVH	U	1	*	mg/L	0.05	0.05
Bromofluorobenzene	460-00-4		107	1	*	%	70 130
Bromofluorobenzene (TVH)	460-00 4		103.6	1	*	%	70 130

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

**Organic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #1

ACZ Sample ID: **L82406-01**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

PDF FILE: Aromatics_Hydrocarbons_GCM

Analysis Method: **M8270C GC/MS**Extract Method: **M3520**

Analyst: djt

Extract Date: 06/01/10 15:10

Analysis Date: 06/08/10 19:44

2-Methylnaphthalene	91-57-6	U	1	ug/L	2	10
Acenaphthene	83-32-9	U	1	ug/L	2	10
Acenaphthylene	208-96-8	U	1	ug/L	2	10
Anthracene	120-12-7	U	1	ug/L	2	10
Benzo(a)anthracene	56-55-3	U	1	ug/L	2	10
Benzo(a)pyrene	50-32-8	U	1	ug/L	2	10
Benzo(b)fluoranthene	205-99-2	U	1	ug/L	2	10
Benzo(g,h,i)perylene	191-24-2	U	1	ug/L	2	10
Benzo(k)fluoranthene	207-08-9	U	1	ug/L	2	10
Chrysene	218-01-9	U	1	ug/L	2	10
Dibenzo(a,h)anthracene	53-70-3	U	1	ug/L	2	10
Fluoranthene	206-44-0	U	1	ug/L	2	10
Fluorene	86-73-7	U	1	ug/L	2	10
Indeno(1,2,3-cd)pyrene	193-39-5	U	1	ug/L	2	10
Naphthalene	91-20-3	U	1	ug/L	2	10
Phenanthrene	85-01-8	U	1	ug/L	2	10
Pyrene	129-00-0	U	1	ug/L	2	10
2-Fluorobiphenyl	321-60-8		1	%	35	121
Nitrobenzene-d5	4165-60-0		1	%	36	117
Terphenyl-d14	1718-51-0		1	%	10	151

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**Organic Analytical
Results**

SG Interests I, Ltd.

Project ID:

Sample ID: PASCO #1

ACZ Sample ID: **L82406-01**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Total Petroleum HydrocarbonsAnalysis Method: **M8015D GC/FID**Extract Method: **M3520**

Analyst: abm

Extract Date: 05/28/10 14:36

Analysis Date: 06/02/10 17:53

TPH C10 to C28

U 1 mg/L 0.1 0.5

OTP

84-15-1

77.6

1

%

70

130

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**Inorganic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #5

ACZ Sample ID: **L82406-05**

Date Sampled: 05/26/10 00:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XO	Units	MDL	POL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP							06/04/10 10:14	ear
Total Hot Plate Digestion	M200.2 ICP-MS							06/08/10 12:43	cra

Metals Analysis

Parameter	EPA Method	Result	Qual	XO	Units	MDL	POL	Date	Analyst
Arsenic, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	06/10/10 15:33	msh
Barium, total	M200.7 ICP	0.349			mg/L	0.003	0.02	06/07/10 11:57	aeH
Calcium, total	M200.7 ICP	83.0			mg/L	0.2	1	06/04/10 17:55	ear
Chromium, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	06/10/10 15:33	msh
Iron, total	M200.7 ICP	0.72		*	mg/L	0.02	0.05	06/04/10 17:55	ear
Magnesium, total	M200.7 ICP	11.8			mg/L	0.2	1	06/04/10 17:55	ear
Selenium, total	M200.8 ICP-MS	0.0002	B		mg/L	0.0001	0.0005	06/10/10 15:33	msh
Sodium, total	M200.7 ICP	15.4			mg/L	0.3	2	06/04/10 17:55	ear

Wet Chemistry

Parameter	EPA Method	Result	Qual	XO	Units	MDL	POL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		239			mg/L	2	20	06/03/10 0:00	lhb
Carbonate as CaCO ₃		32			mg/L	2	20	06/03/10 0:00	lhb
Hydroxide as CaCO ₃			U		mg/L	2	20	06/03/10 0:00	lhb
Total Alkalinity		271			mg/L	2	20	06/03/10 0:00	lhb
Chloride	SM4500Cl-E	5		*	mg/L	1	5	06/08/10 15:05	aml
Conductivity @25C	SM2510B	505			umhos/cm	1	10	06/03/10 4:42	lhb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	06/04/10 14:52	jjc
Lab Filtration	SM 3030 B			*				05/28/10 14:24	jjc
pH (lab)	SM4500H+ B								
pH		8.6	H		units	0.1	0.1	06/03/10 0:00	lhb
pH measured at		22.0			C	0.1	0.1	06/03/10 0:00	lhb
Residue, Filterable (TDS) @180C	SM2540C	280	H	*	mg/L	10	20	06/04/10 14:14	jlf
Sulfate	375.4 - Turbidimetric	2	B	*	mg/L	1	5	06/10/10 13:42	aml

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**Organic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #5

ACZ Sample ID: **L82406-05**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

DEVELOPMENTAL METHODSAnalysis Method: **M8021B/8015D GC/PID/FID**Extract Method: **5030C**

Analyst: kaf

Extract Date: 06/04/10 17:49

Analysis Date: 06/04/10 17:49

Benzene	71-43-2	U	1	*	ug/L	0.2	1
Ethylbenzene	100-41-4	U	1	*	ug/L	0.2	1
m p Xylene	1330-20-7	U	1	*	ug/L	0.4	2
o Xylene	95-47-6	U	1	*	ug/L	0.2	1
Toluene	108-88-3	U	1	*	ug/L	0.2	1
TVH C6 to C10	TVH	U	1	*	mg/L	0.05	0.05
Bromofluorobenzene	460-00-4		107.5	1	%	70	130
Bromofluorobenzene (TVH)	460-00 4		105	1	%	70	130

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**Organic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #5

ACZ Sample ID: **L82406-05**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Report generated by ACZ Laboratories, Inc.

Analysis Method: **M8270C GC/MS**Extract Method: **M3520**

Analyst: djt

Extract Date: 06/01/10 15:23

Analysis Date: 06/08/10 21:25

2-Methylnaphthalene	91-57-6	U	1	ug/L	2	10
Acenaphthene	83-32-9	U	1	ug/L	2	10
Acenaphthylene	208-96-8	U	1	ug/L	2	10
Anthracene	120-12-7	U	1	ug/L	2	10
Benzo(a)anthracene	56-55-3	U	1	ug/L	2	10
Benzo(a)pyrene	50-32-8	U	1	ug/L	2	10
Benzo(b)fluoranthene	205-99-2	U	1	ug/L	2	10
Benzo(g,h,i)perylene	191-24-2	U	1	ug/L	2	10
Benzo(k)fluoranthene	207-08-9	U	1	ug/L	2	10
Chrysene	218-01-9	U	1	ug/L	2	10
Dibenzo(a,h)anthracene	53-70-3	U	1	ug/L	2	10
Fluoranthene	206-44-0	U	1	ug/L	2	10
Fluorene	86-73-7	U	1	ug/L	2	10
Indeno(1,2,3-cd)pyrene	193-39-5	U	1	ug/L	2	10
Naphthalene	91-20-3	U	1	ug/L	2	10
Phenanthrene	85-01-8	U	1	ug/L	2	10
Pyrene	129-00-0	U	1	ug/L	2	10
2-Fluorobiphenyl	321-60-8	68.9	1	%	35	121
Nitrobenzene-d5	4165-60-0	52.2	1	%	36	117
Terphenyl-d14	1718-51-0	82	1	%	10	151

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**Organic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #5

ACZ Sample ID: **L82406-05**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

TPH Petroleum HydrocarbonsAnalysis Method: **M8015D GC/FID**Extract Method: **M3520**

Analyst: abm

Extract Date: 05/26/10 14:39

Analysis Date: 06/02/10 20:29

TPH C10 to C28

U 1 mg/L 0.1 0.5

OTP

84-15-1

73.4

1 % 70 130

**SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #3

ACZ Sample ID: **L82406-03**

Date Sampled: 05/26/10 00:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Inorganic Prep

Total Hot Plate Digestion	M200.2 ICP	06/04/10 9:49	ear
Total Hot Plate Digestion	M200.2 ICP-MS	06/08/10 12:21	cra

Metals Analysis

Arsenic, total	M200.8 ICP-MS	U	mg/L	0.0005	0.002	06/10/10 15:26	msh	
Barium, total	M200.7 ICP	0.100	mg/L	0.003	0.02	06/07/10 11:51	aeh	
Calcium, total	M200.7 ICP	22.3	mg/L	0.2	1	06/04/10 17:49	ear	
Chromium, total	M200.8 ICP-MS	0.0012	B	mg/L	0.0005	0.002	06/10/10 15:26	msh
Iron, total	M200.7 ICP	1.04	*	mg/L	0.02	0.05	06/04/10 17:49	ear
Magnesium, total	M200.7 ICP	4.2		mg/L	0.2	1	06/04/10 17:49	ear
Selenium, total	M200.8 ICP-MS	0.0006		mg/L	0.0001	0.0005	06/10/10 15:26	msh
Sodium, total	M200.7 ICP	5.8		mg/L	0.3	2	06/04/10 17:49	ear

Wet Chemistry

Alkalinity as CaCO ₃	SM2320B - Titration						
Bicarbonate as CaCO ₃		78		mg/L	2	20	06/03/10 0:00 lhb
Carbonate as CaCO ₃			U	mg/L	2	20	06/03/10 0:00 lhb
Hydroxide as CaCO ₃			U	mg/L	2	20	06/03/10 0:00 lhb
Total Alkalinity		78		mg/L	2	20	06/03/10 0:00 lhb
Chloride	SM4500Cl-E	3	B	mg/L	1	5	06/08/10 15:05 aml
Conductivity @25C	SM2510B	168		umhos/cm	1	10	06/03/10 4:15 lhb
Fluoride	SM4500F-C		U	mg/L	0.1	0.5	06/04/10 14:44 jjc
Lab Filtration	SM 3030 B						05/28/10 14:18 jjc
pH (lab)	SM4500H+ B						
pH		8.3	H	units	0.1	0.1	06/03/10 0:00 lhb
pH measured at		23.0		C	0.1	0.1	06/03/10 0:00 lhb
Residue, Filterable (TDS) @180C	SM2540C	110	H	mg/L	10	20	06/04/10 14:11 jlf
Sulfate	375.4 - Turbidimetric		U	mg/L	1	5	06/10/10 13:42 aml


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SG Interests I, Ltd.

Project ID:

Sample ID: PASCO #3

 ACZ Sample ID: **L82406-03**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

 Analysis Method: **M8021B/8015D GC/PID/FID**

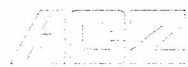
 Extract Method: **5030C**

Analyst: kaf

Extract Date: 06/04/10 16:41

Analysis Date: 06/04/10 16:41

Benzene	71-43-2	U	1	*	ug/L	0.2	1
Ethylbenzene	100-41-4	U	1	*	ug/L	0.2	1
m p Xylene	1330-20-7	U	1	*	ug/L	0.4	2
o Xylene	95-47-6	U	1	*	ug/L	0.2	1
Toluene	108-88-3	U	1	*	ug/L	0.2	1
TVH C6 to C10	TVH	U	1	*	mg/L	0.05	0.05
Bromofluorobenzene	460-00-4		109.3	1	%	70	130
Bromofluorobenzene (TVH)	460-00 4		106.9	1	%	70	130


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SG Interests I, Ltd.

Project ID:

Sample ID: PASCO #3

 ACZ Sample ID: **L82406-03**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

 Analysis Method: **M8270C GC/MS**

 Extract Method: **M3520**

Analyst: djt

Extract Date: 06/01/10 15:16

Analysis Date: 06/08/10 20:35

2-Methylnaphthalene	91-57-6	U	1	ug/L	2	10
Acenaphthene	83-32-9	U	1	ug/L	2	10
Acenaphthylene	208-96-8	U	1	ug/L	2	10
Anthracene	120-12-7	U	1	ug/L	2	10
Benzo(a)anthracene	56-55-3	U	1	ug/L	2	10
Benzo(a)pyrene	50-32-8	U	1	ug/L	2	10
Benzo(b)fluoranthene	205-99-2	U	1	ug/L	2	10
Benzo(g,h,i)perylene	191-24-2	U	1	ug/L	2	10
Benzo(k)fluoranthene	207-08-9	U	1	ug/L	2	10
Chrysene	218-01-9	U	1	ug/L	2	10
Dibenzo(a,h)anthracene	53-70-3	U	1	ug/L	2	10
Fluoranthene	206-44-0	U	1	ug/L	2	10
Fluorene	86-73-7	U	1	ug/L	2	10
Indeno(1,2,3-cd)pyrene	193-39-5	U	1	ug/L	2	10
Naphthalene	91-20-3	U	1	ug/L	2	10
Phenanthrene	85-01-8	U	1	ug/L	2	10
Pyrene	129-00-0	U	1	ug/L	2	10
2-Fluorobiphenyl	321-60-8		1	%	35	121
Nitrobenzene-d5	4165-60-0		1	%	36	117
Terphenyl-d14	1718-51-0		1	%	10	151

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**SG Interests I, Ltd.**

Project ID:

Sample ID: PASCO #3

ACZ Sample ID: **L82406-03**

Date Sampled: 05/26/10 0:00

Date Received: 05/28/10

Sample Matrix: Surface Water

Analysis Method: **M8015D GC/FID**Extract Method: **M3520**

Analyst: abm

Extract Date: 05/28/10 14:38

Analysis Date: 06/02/10 19:37

TPH C10 to C28

U 1 mg/L 0.1 0.5

OTP

84-15-1

72.5

1 % 70 130

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**Inorganic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: COW SKULL 10

ACZ Sample ID: **L82588-09**

Date Sampled: 06/04/10 00:00

Date Received: 06/09/10

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PCL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS							06/14/10 10:08	cra
Total Hot Plate Digestion	M200.2 ICP							06/16/10 12:24	ear

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PCL	Date	Analyst
Arsenic, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	06/17/10 7:13	erf
Barium, total	M200.7 ICP	0.204			mg/L	0.003	0.02	06/17/10 13:22	ear
Calcium, total	M200.7 ICP	48.3			mg/L	0.2	1	06/17/10 13:22	ear
Chromium, total	M200.8 ICP-MS		U		mg/L	0.0005	0.002	06/17/10 7:13	erf
Iron, total	M200.7 ICP	0.31			mg/L	0.02	0.05	06/17/10 13:22	ear
Magnesium, total	M200.7 ICP	5.7			mg/L	0.2	1	06/17/10 13:22	ear
Selenium, total	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	06/17/10 7:13	erf
Sodium, total	M200.7 ICP	33.6			mg/L	0.3	2	06/17/10 17:14	ear

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PCL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		192			mg/L	2	20	06/10/10 0:00	jjc
Carbonate as CaCO ₃		11	B		mg/L	2	20	06/10/10 0:00	jjc
Hydroxide as CaCO ₃			U		mg/L	2	20	06/10/10 0:00	jjc
Total Alkalinity		204		*	mg/L	2	20	06/10/10 0:00	jjc
Chloride	SM4500Cl-E	7		*	mg/L	1	5	06/16/10 17:19	aml
Conductivity @25C	SM2510B	405		*	umhos/cm	1	10	06/10/10 4:44	jjc
Fluoride	SM4500F-C	0.4	B	*	mg/L	0.1	0.5	06/10/10 16:36	jjc
Lab Filtration	SM 3030 B			*				06/09/10 15:13	jlf
pH (lab)	SM4500H+ B								
pH		8.5	H		units	0.1	0.1	06/10/10 0:00	jjc
pH measured at		22.0			C	0.1	0.1	06/10/10 0:00	jjc
Residue, Filterable (TDS) @180C	SM2540C	230			mg/L	10	20	06/09/10 16:58	lhb
Sulfate	375.4 - Turbidimetric	7		*	mg/L	1	5	06/16/10 12:07	aml

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**Organic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: COW SKULL 10

ACZ Sample ID: **L82588-09**

Date Sampled: 06/04/10 0:00

Date Received: 06/09/10

Sample Matrix: Surface Water

BIOTRANSFORMABLE HYDROCARBONSAnalysis Method: **M8021B/8015D GC/PID/FID**Extract Method: **5030C**

Analyst: kaf

Extract Date: 06/11/10 20:05

Analysis Date: 06/11/10 20:05

Benzene	71-43-2	U	1	*	ug/L	0.2	1
Ethylbenzene	100-41-4	U	1	*	ug/L	0.2	1
m p Xylene	1330-20-7	U	1	*	ug/L	0.4	2
o Xylene	95-47-6	U	1	*	ug/L	0.2	1
Toluene	108-88-3	U	1	*	ug/L	0.2	1
TVH C6 to C10	TVH	U	1	*	mg/L	0.05	0.05
Bromofluorobenzene	460-00-4		100.5	1	*	%	70 130
Bromofluorobenzene (TVH)	460-00 4		98.8	1	*	%	70 130

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**Organic Analytical
Results****SG Interests I, Ltd.**

Project ID:

Sample ID: COW SKULL 10

ACZ Sample ID: **L82588-09**

Date Sampled: 06/04/10 0:00

Date Received: 06/09/10

Sample Matrix: Surface Water

Reported by: [Redacted]

Analysis Method: **M8270C GC/MS**Extract Method: **M3520**

Analyst: djt

Extract Date: 06/10/10 13:41

Analysis Date: 06/16/10 19:17

2-Methylnaphthalene	91-57-6	U	1	*	ug/L	2	10
Acenaphthene	83-32-9	U	1	*	ug/L	2	10
Acenaphthylene	208-96-8	U	1	*	ug/L	2	10
Anthracene	120-12-7	U	1	*	ug/L	2	10
Benzo(a)anthracene	56-55-3	U	1	*	ug/L	2	10
Benzo(a)pyrene	50-32-8	U	1	*	ug/L	2	10
Benzo(b)fluoranthene	205-99-2	U	1	*	ug/L	2	10
Benzo(g,h,i)perylene	191-24-2	U	1	*	ug/L	2	10
Benzo(k)fluoranthene	207-08-9	U	1	*	ug/L	2	10
Chrysene	218-01-9	U	1	*	ug/L	2	10
Dibenzo(a,h)anthracene	53-70-3	U	1	*	ug/L	2	10
Fluoranthene	206-44-0	U	1	*	ug/L	2	10
Fluorene	86-73-7	U	1	*	ug/L	2	10
Indeno(1,2,3-cd)pyrene	193-39-5	U	1	*	ug/L	2	10
Naphthalene	91-20-3	U	1	*	ug/L	2	10
Phenanthrene	85-01-8	U	1	*	ug/L	2	10
Pyrene	129-00-0	U	1	*	ug/L	2	10
2-Fluorobiphenyl	321-60-8	60.4	1	*	%	35	121
Nitrobenzene-d5	4165-60-0	52.8	1	*	%	36	117
Terphenyl-d14	1718-51-0	60	1	*	%	10	151

SG Interests I, Ltd.

Project ID:

Sample ID: COW SKULL 10

ACZ Sample ID: **L82588-09**

Date Sampled: 06/04/10 0:00

Date Received: 06/09/10

Sample Matrix: Surface Water

Organic Analytical Results

Analysis Method: **M8015D GC/FID**

Extract Method: **M3520**

Analyst: abm

Extract Date: 06/10/10 12:16

Analysis Date: 06/14/10 17:28

TPH C10 to C28

U 1 * mg/L 0.1 0.5

OTP

84-15-1

74.3

1 * % 70 130