



02469625

05-067-0892.5  
Loc# 33394/infe-ed  
1125 1182 + 1183

Samson Plaza  
Two West Second Street  
Tulsa, Oklahoma 74103-3103  
USA  
918/591-1791  
Fax 918/591-1796

591-7370

August 28, 2006

Colorado Oil & Gas Conservation Commission  
Attn: Debbie Baldwin  
1120 Lincoln Street  
Suite 801  
Denver, CO 80203

Reference: Water well results

Dear Ms. Baldwin:

Attached are copies of letters and analytical data for water well tests that have been run in compliance with COGCC. Samson will continue to get this information out to the water well owners and the COGCC in a timely fashion.

Please call me at (918) 591-1365, if you have any questions or need additional information.

Thank you.

Sincerely,

SAMSON RESOURCES COMPANY

Amanda Walker  
Environmental & Safety Technician

11D 1182

# ANALYSIS REPORT

Lab #: 97907 Job #: 7196  
 Sample Name/Number: Randy & Vivian Neil Water Well  
 Company: Samson Resources  
 Date Sampled: 5/09/2006  
 Container: Square Plastic Bottle & Sm Bottle  
 Field/Site Name: Arco 32-7-6 #3  
 Location: LaPlata County  
 Formation/Depth: SESE S6 T32 R7  
 Sampling Point: FCG# 050906-L1  
 Date Received: 5/11/2006 Date Reported: 6/01/2006

**RECEIVED**  
Environmental & Safety Services

**JUL 03 2006**

Component	Chemical mol. %	Delta 13C per mil	Delta D per mil	Delta 18O per mil
Carbon Monoxide -----	nd			
Hydrogen Sulfide -----	nd			
Helium -----	nd			
Hydrogen -----	nd			
Argon -----	1.48			
Oxygen -----	0.213			
Nitrogen -----	85.13			
Carbon Dioxide -----	0.56			
Methane -----	12.55	-51.97	-118.8	
Ethane -----	0.0703			
Ethylene -----	nd			
Propane -----	nd			
Iso-butane -----	nd			
N-butane -----	nd			
Iso-pentane -----	nd			
N-pentane -----	nd			
Hexanes + -----	nd			
Water -----			-99.3	-12.77
Dissolved Inorganic Carbon -		-19.21		

Total BTU/cu.ft. dry @ 60deg F & 14.7psia, calculated: 128

Specific gravity, calculated: 0.925

Remarks: Analysis is of gas extracted from water by headspace equilibration. Analysis has been corrected for helium added to create headspace. Helium dilution factor = 0.72

nd = not detected. na = not analyzed. Isotopic composition of carbon is relative to VPDB. Isotopic composition of hydrogen and oxygen are relative to VSMOW. Calculations for BTU and specific gravity per D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %. ASTM Chemical analysis based on standards accurate to within 2%



**ISOTECH**

Laboratories, Inc. 1308 Parkland Ct. Champaign, IL 61821 217/398-3490

11D 1183

**Four Corners Geoscience  
BART (Bacterial Test Results)**

Arco 32-7-6#3

GasWell 1

NAME

Randy & Vivian Neil (Rental) Follow-up

FCG #

050906-L2

DATE

5/9/2006

**Water Well Location**

QTRQTR NESE

Section

6

TWP(North)

32

RGE(West)

7

**Methane Result(mg/L)**

0.095

CH4\_MG\_L

NO

ISOTOPE

**SRB**

Sulfate reducing bacteria very aggressive at 3 days. Growth throughout sample.

BART Hach Company  
BART TYPE: SRB-BART  
Batch # 00784-S,T Lot 0784-T  
Expiration Date Decmeber 2007

**IRB**

Iron related bacteria very aggressive. Enteric bacteria present.  
Pseudomonads present.

BART hach Company  
BART TYPE: IRB-BART  
Batch #: 0485-L, M Lot #: 0485-M  
Expiration Date December 2007

11D 1182

**Four Corners Geoscience  
BART (Bacterial Test Results)**

Arco 32-7-6#3

GasWell 1

NAME  
**Randy & Vivian Neil -Main House Followup**

FCG #  
**050906-L1**

DATE  
**5/9/2006**

**Water Well Location**

QTRQTR SENW Section 6 TWP(North) 32 RGE(West) 7

**Methane Result(mg/L)**

1.34

CH4\_MG\_L

YES-Pending

ISOTOPE

**SRB**

Sulfate reducing bacteria present very to moderately aggressive.  
Sulfate bacterial growth throughout sample.

**BART Hach Company  
BART TYPE: SRB-BART  
Batch # 00784-S,T Lot 0784-T  
Expiration Date Decmeber 2007**

**IRB**

Iron related bacteria very aggressive at 4 days. enteric and pseudomonadas present.

**BART hach Company  
BART TYPE:IRB-BART  
Batch #:0485-L,MLot #:0485-M  
Expiration Date December 2007**

Samson Resources  
Domestic Water Well Test  
COGCC Infill Order  
112-156;112-157;112-180  
FCGeo Water Well Test Report

FCG # 050906-L2

BLM NO

DATE 5/9/2006

IID(COGCC) 1183

Randy & Vivian Neil (Rental) Follow-up

NAME

4425 CR 319 Ignacio, CO 81137

P.O. Box 1207 Ignacio, CO 81137

970-563-3670

Address Water Well

Mailing Address

Telephone#

Water Well Location and Permit Data

222422	360	170	1.75
WaterWellPermit#	WellDepth(Ft)	StaticWater Level(Ft)	Yield(Permit)
NESE	6	32	7
QTRQTR	SECTION	TWP(North)	RGE(West)
		3500N4200W	LaPlataCounty,CO
		FTG	

Garmin GPS NAD CONUS 27 until  
2/20/2006 then NAD 83 Commenced

-107.64466	37.04392
Longitude(DecDegrees)	Latitude(DecDegrees)

Field Chemistries	9.1	675	422	15
	pH	Electric Conductivity	TDS(Calculated)	H2OTemp(Degrees Celsius)

Water samples delivered Analytical Laboratory for chemistries. See attached results.

Methane Result (mg/L)(Dissolved)

0.095 mg/L

Detection Limit 0.0005 mg/L-USGS/BLM  
METHOD

Hydrogen Sulfide (mg/L)

>2.0 <5.0 mg/L

Detection Limit 0.1 mg/L-HACH Test 25378-00

San Juan Basin Health- Coliform Test Only

Absent

Coliform Bacteria

Presence/Absence-State of Colorado  
See Attachment

Conducted field parameter tests while Randy pumped well 289 gallons to clean well for fresh aquifer. Initially grey tint then clear, some coal or carbonaceous shale in bucket. Slight "S" odor. Water grey brown to grey near end of pumping. BARTS No isotope.

COMMENTS

Monitor well for Infill

Arco 32-7-6#3

GasWellName

SESE Sec 6 T32N R7W

Location GasWell

067-08925

Four Corners Geoscience conducted onsite field chemistries, observations of physical characteristics of well water while pumping well to receive a fresh aquifer sample. Water samples were collected and delivered to analytical laboratory. Methane samples were delivered to Four Corners Geoscience for analysis for methane in accordance with BLM/USGS Method established in 1993 for LaPlata County Colorado. Onsite water well evaluation and sample collection and analysis are conducted in compliance with the Colorado Oil and Gas Conservation Commission Order Numbers 112-156 and 112-157 established in July 2000 and Order Number 112-180 established in 2005. Four Corners Geoscience is not liable for the results or interpretation of these analyses. Qualified specialists should be consulted for interpretation or treatment of water.

Samson Resources  
Domestic Water Well Test  
COGCC Infill Order  
112-156;112-157;112-180  
FCGeo Water Well Test Report

FCG # 050906-L1

BLM NO

DATE 5/9/2006

IID(COGCC) 1182

Randy & Vivian Neil -Main House Followup

NAME

4050 CR 319 Ignacio,CO 81137

P.O. Box 1207 Ignacio,CO 81137

970-563-3670

AddressWaterWell

Mailing Address

Telephone#

Water Well Location and Permit Data

222423	340	175	1.0
WaterWellPermit#	WellDepth(Ft)	StaticWater Level(Ft)	Yield(Permit)
SENW	6	32	7
QTRQTR	SECTION	TWP(North)	RGE(West)
1380N2400W		LaPlataCounty,CO	
FTG			

Garmin GPS NAD CONUS 27 until  
2/20/2006 then NAD 83 Commenced

-107.65011  
Longitude(DecDegrees)

37.04856  
Latitude(DecDegrees)

Field Chemistries

8.94

pH

680

ElectricConductivity

425

TDS(Calculated)

14

H2OTemp(DegreesCelsius)

Water samples delivered Analytical Laboratory for chemistries. See attached results.

Methane Result (mg/L)(Dissolved)

1.34 mg/L

DetectionLimit 0.0005 mg/L-USGS/ BLM  
METHOD

HydrogenSulfide (mg/L)

>5.0 mg/L

Detection Limit 0.1 mg/L-HACH Test 25378-00

San Juan Basin Health- Coliform Test Only

Absent

ColiformBacteria

Presence/Absence-State of Colorado  
See Attachment

Hose attached to bypass cistern. Water running when we arrived. 291 gallons measured before & during field test. Water clear, strong sulfur odor, Tr. very fine sands, silt & carb shale or coal fines. Green tint. Large bubbles from end of hose. Iso & BARTS

COMMENTS

Monitor well for Infill

Arco 32-7-6#3

GasWellName

SESE Sec 6 T32N R7W

LocationGasWell

Four Corners Geoscience conducted onsite field chemistries, observations of physical characteristics of well water while pumping well to receive a fresh aquifer sample. Water samples were collected and delivered to analytical laboratory. Methane samples were delivered to Four Corners Geoscience for analysis for methane in accordance with BLM/USGS Method established in 1993 for LaPlata County Colorado. Onsite water well evaluation and sample collection and analysis are conducted in compliance with the Colorado Oil and Gas Conservation Commission Order Numbers 112-156 and 112-157 established in July 2000 and Order Number 112-180 established in 2005. Four Corners Geoscience is not liable for the results or interpretation of these analyses. Qualified specialists should be consulted for interpretation or treatment of water.