



## Shell Exploration & Production

Shell Frontier Oil & Gas Inc.  
P. O. Box 478  
Meeker, CO 81641

**UPS Tracking #: 1Z 6Y5 826 03 9837 3373**

January 10, 2013

State of Colorado  
Office of State Engineer  
1313 Sherman Street, Room 821  
Denver, CO 80203-2246

**RECEIVED**

JAN 18 2013  
GRAND JUNCTION FIELD OFFICE  
DIVISION OF  
RECLAMATION MINING & SAFETY

Gentlemen:

SUBJECT: **WELL CONSTRUCTION AND TEST REPORTS**  
MAHOGANY RESEARCH PROJECT  
SECTION 04 T2S, R98W  
RIO BLANCO COUNTY, COLORADO

Shell Frontier Oil & Gas Inc. (SFOGI) hereby submits a **Revised** Well Construction and Test Report for the "SAW1" hydrology well drilled on the 135-4-298 well pad, permit number 281715 associated with our Mahogany Research Project

The only revision to this well consists of an additional string of 4-1/2" casing run into the well from surface to 2282 feet. This will allow us to utilize this well as an observation well on our East RDD Pilot Project. In turn, monitor well 135-4-288(SAW1), will now be labeled OW-8124. To avoid confusion with this name change we will refer to the well as OW-8124(SAW1) in future correspondence.

Pursuant to applicable confidentiality provisions, we request that this information be kept confidential since this project involves our ongoing exploration research efforts.

If you have any questions or need additional information regarding this report, please contact Ms. Patti Merriam at (970) 675-6307.

Sincerely,

Greg Larsen  
Operations Manager, COMWY

mdk

Enclosures

Cc: Cc: (with Attachments) **UPS Tracking # 1Z 6Y5 826 03 9540 1785**

Division of Reclamation, Mining & Safety  
Department of Natural Resources  
Attn: Travis Marshall P-2010-026 (2 Copies)  
Grand Junction Field Office  
101 South 3<sup>rd</sup> Street, Suite 301  
Grand Junction, CO 81501-2416

Cc: (with Attachments) **UPS Tracking # 1Z 6Y5 826 03 9970 4594**

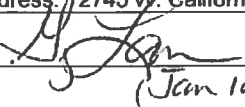
Bureau of Land Management  
Attn: Mr. Paul Daggett (Reference (COC69166))  
White River Field Office  
222 Market Street  
Meeker, CO 81641-9652

Cc: (with Attachments) **UPS Tracking # 1Z 6Y5 826 03 9617 7802**

Ms. Wendy Cheung  
U.S. EPA Region 8  
Mail Code 8P-W-GW  
1595 Wynkoop Street  
Denver, CO 80202-1129

Cc: (Scanned/emailed copy)

Jeff Stevenson (Houston files)  
Tom Gillis (Denver files)

FORM NO. GWS-31 04/2012	<b>WELL CONSTRUCTION AND TEST REPORT</b> STATE OF COLORADO, OFFICE OF THE STATE ENGINEER 1313 Sherman St., Ste 821, Denver, CO 80203 Phone - Info (303) 866-3587 Main (303) 866-3581 Main (303) 866-3581 Fax (303) 866-3589 http://www.water.state.co.us	For Office Use Only																																																		
<b>1. WELL PERMIT NUMBER:</b> 281715 (135-4-298-SAW1 & OW-8124) <u>REVISED 01/2013</u>																																																				
<b>2. WELL OWNER INFORMATION</b> NAME OF WELL OWNER: Shell Frontier Oil & Gas Inc. MAILING ADDRESS: P. O. Box 478 CITY: Meeker STATE: CO ZIP CODE: 81641 TELEPHONE NUMBER: ( 970 ) 675 - 6307 Attn: P. L. Merriam																																																				
<b>3. WELL LOCATION AS DRILLED:</b> SE 1/4, NW 1/4, Sec. 04, Twp. 2 <input type="checkbox"/> N or <input checked="" type="checkbox"/> S, Range 98 <input type="checkbox"/> E or <input checked="" type="checkbox"/> W DISTANCES FROM SEC. LINES: 1812.5 ft. from <input checked="" type="checkbox"/> N or <input type="checkbox"/> S section line and 2046.2 ft. from <input type="checkbox"/> E or <input checked="" type="checkbox"/> W section line. SUBDIVISION: N/A LOT BLOCK FILING (UNIT) Optional GPS Location: GPS Unit must use the following settings: Format must be UTM, Units must be meters, Datum must be NAD83, Unit must be set to true N, <input checked="" type="checkbox"/> Zone 12 or <input type="checkbox"/> Zone 13 Owners Well Designation: SAW1-OW-8124 Easting: 722380.765 STREET ADDRESS AT WELL LOCATION: 7380 County Rd 24, Rifle, CO 81650 Northing: 4420750.113																																																				
<b>4. GROUND SURFACE ELEVATION</b> 6612.6 feet <b>DRILLING METHOD</b> Air Rotary <b>DATE COMPLETED</b> Jan. 2, 2010 <b>TOTAL DEPTH</b> 2325 feet <b>DEPTH COMPLETED</b> 2325 feet																																																				
<b>5. GEOLOGIC LOG:</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Depth</th> <th>Type</th> <th>Grain Size</th> <th>Color</th> <th>Water Loc.</th> </tr> </thead> <tbody> <tr> <td>0-944'</td> <td>Sandstone</td> <td>Sand, silt</td> <td></td> <td>225 +/-</td> </tr> <tr> <td></td> <td>Silty Sandstone</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Siltstone</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Sandy Siltstone</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Carbonate</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Rich Marlstone</td> <td></td> <td></td> <td></td> </tr> <tr> <td>944'-2325'</td> <td>Oilshale alternating</td> <td>Shale</td> <td></td> <td></td> </tr> <tr> <td></td> <td>Rich and Lean</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Marlstone Intervals</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Depth	Type	Grain Size	Color	Water Loc.	0-944'	Sandstone	Sand, silt		225 +/-		Silty Sandstone					Siltstone					Sandy Siltstone					Carbonate					Rich Marlstone				944'-2325'	Oilshale alternating	Shale				Rich and Lean					Marlstone Intervals			
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<b>8. FILTER PACK:</b> Material N/A Size Interval <b>9. PACKER PLACEMENT:</b> Type Depth																																																				
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<b>11. DISINFECTION:</b> Type N/A Amt. Used N/A																																																				
<b>12. WELL TEST DATA:</b> <input type="checkbox"/> Check box if Test Data is submitted on Form Number GWS 39 Supplemental Well Test. <b>TESTING METHOD</b> Not Tested - Environmental monitor well only Static Level ft. Date/Time measured: Production Rate gpm. Pumping Level ft. Date/Time measured: Test Length (hrs) Remarks:																																																				
<b>13. I have read the statements made herein and know the contents thereof, and they are true to my knowledge. This document is signed and certified in accordance with Rule 17.4 of the Water Well Construction Rules, 2 CCR 402-2. (The filing of a document that contains false statements is a violation of section 37-91-108(1)(e), C.R.S., and is punishable by fines up to \$5000 and/or revocation of the contracting license. If filing online the State Engineer considers entering of licensed contractor name to be compliance with Rule 17.4.)</b>																																																				
Company Name: Boart Longyear Drilling Company, Inc.	Phone: ( 801 ) 973 - 6667	License Number: 1458																																																		
Mailing Address: 2745 W. California Ave., Salt Lake City, UT 84104-4579																																																				
Signature: 	Print Name and Title Greg Larsen, Operations Manager COMWY	Date 1-10-13																																																		

(Jan 10, 2013 Rev.)

**NOTE Additional Information regarding monitor Hole OW-8124 (Also known as 135-4-298 SAW1)**

This well was originally drilled with Permit Number 281715 from the Office of State Engineer. The well was drilled as a monitor well to a depth of 2325'. The well will now be used as an observation well on SFOGI's East RDD Pilot Project, and will be called OW-8124. To avoid confusion between agencies we identify the monitor well with both hole designations (OW-8124 & SAW1).

**In 2010:**

A 22" conductor hole was drilled from Surface to 80'. 16" conductor pipe installed from 0-80'. w/80sx Type 1/11 cmt.

Followed by:

A 14.74" hole drilled from 80-1154'; 11-3/4" surface casing installed 0-1148', cmt'd w/160 sx Type 1/11

Followed by:

A 10-5/8" hole drilled from 1001-2075'; 8-5/8" intermediate casing installed 0-2071', cmt'd w/270 sx Type 1/11

Followed by:

7-7/8" hole drilled from 2065-2325 TD.

**In 12/2012**

Install 4-1/2" casing

Mix and pump 30 bbls Mud Push express, 9.0 ppg, 4.5 bpm

Cement Casing with:

**LEAD:** Mix and pump 84 bbls , (193 sx, Litecrete D907 cement extender, 46.5 WBOB + D065 Dispersant + 0.50% WBOB, D046 Antifoam + 0.2% WBOB, D167 Fluid loss + 0.20% WBOB, 9.47 (ppg) 4.5 (bpm)

**TAIL:** pumped 19.9 bbls (72 sx, EasyBLOK D907 cement, 94.02 lb/sx WBOB + D44 gas control agent 0.80% WBOB + D046 Antifoam 0.20% WBOB + D154 extender 8.00% WBOB + D066 silica 30.0% WBOB + D202 Dispersant 0.75% WBOB 15.8 (ppg) 3.0 BPM

Good Returns throughout job