

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas
Well Operator's Report of Well Work

Farm Name: Hannah, Helen R. Operator Well No. Joker #7
Location: Elevation: 939' Quadrangle: Annamoriah 7.5'
District: Center County: Calhoun
Latitude: 2,960 Feet South of 38 Degrees 55 Minutes 00 Seconds
Longitude: 10,300 Feet West of 81 Degrees 7 Minutes 30 Seconds

Company: Central West Virginia Oil & Gas, LLC
957 Bug Ridge
Sutton, WV 26601

Agent: William Hunt
Inspector: Ed Gainer
Permit Issued: 7/5/2011
Well work Commenced: 8/11/2011
Well work Completed: 8/16/2011
Verbal Plugging Permission granted on:
Rotary X Cable Tool Rig
Total Vertical Depth (ft): 2502'
Total Measured Depth (ft): LTD- 2502' DTD- 2498'
Fresh Water Depths (ft): None reported
Salt Water Depths (ft): 1" stream at 1628'
Is coal being mined in area: No Void(s) encountered: No Depth(s):
Coal Depths: None reported

Table with 4 columns: Casing & Tubing, Used in Drilling, Left in Well, Cement Fill Up Cu. Ft.
Rows include 16", 13 3/8", 9 3/8", 7", and 4 1/2" casing sizes with corresponding drilling and cement data.

OPEN FLOW DATA:

Producing formation(s): Big Lime & Berea Pay zone depth (ft) see page 2
Gas: Initial open flow NEG MCF/D Oil: Initial open flow 0 Bbl/d
Final open flow 400 MCF/D Final open flow 0 Bbl/d
Time of open flow between initial and final tests: 8 Hours
Static rock pressure 80 psig (surface pressure) after 24 Hours

Second producing formation(s): Pay zone depth (ft)
Gas: Initial open flow MCF/D Oil: Initial open flow Bbl/d
Final open flow MCF/D Final open flow Bbl/d
Time of open flow between initial and final tests: Hours
Static rock pressure psig (surface pressure) after Hours

NOTE: ON THE BACK OF THIS FORM PUT THE FOLLOWING; 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2.)THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

FOR: Central WV Oil & Gas, LLC
BY: [Signature]
DATE: 8/27/11

RECEIVED
Office of Oil & Gas
OCT 5 2011

WV Department of Environmental Protection
10/14/2011

August 30, 2011

MIRU Pioneer Wireline Services to run GR/CBL/CCL.

Logger's TD -- 2502'      Calc TOC -- 1225'      Actual TOC -- 1442'      Marker Joint 1745'

September 2, 2011

MIRU Universal Well Services to conduct a 3-stage completion. Tested lines to 4500 psi.

RIH with 3 1/8" Hollow gun, perforated Berea (2352 - 2354') - 12 holes total. ROH with gun.

Hole dry, spotted 500 gals. 15% HCl, brokedown and displaced with treated water.

**1st Stage - Berea:** (2352 - 2354') - 12 holes total. 60Q Foam Frac.12 Bbls. (500 gals.) 15% HCl; 30,000# 20/40 sand; 2.5-7.5 ppg; 230 Bbls water; 156.5 Mscf N<sub>2</sub>.

BKDN -- 1221 psi.      ATP -- 1580 psi.      AIR -- 8.7 bpm.      ISIP -- 1628 psi.

RIH with 3 1/8" Hollow gun, perforated Big Injun (1984 - 1994') - 22 holes total. ROH with gun.

Set "Small Mouth" Frac Plug at 2000'. Dropped frac ball in 12 Bbls. 15% HCl, followed by treated water.

**2nd Stage - Big Injun:** (1984 - 1994') - 22 holes total. 60Q Foam Frac.12 Bbls. (500 gals.) 15% HCl; 50,100# 20/40 sand; 2.5-7.5 ppg; 343 Bbls water; 215 Mscf N<sub>2</sub>.

BKDN -- 1654 psi.      ATP -- 1397 psi.      AIR -- 8.5 bpm      ISIP -- 1840 psi.

RIH with 3 1/8" Hollow gun, perforated Big Lime (1929 - 1936') - 16 holes total. ROH with gun.

Set "Large Mouth" Frac Plug at 1950'. Dropped frac ball in 12 Bbls. 15% HCl, followed by treated water.

**3rd Stage - Big Lime:** (1929 - 1936') - 16 holes total. Energized Acid Frac.76.8 Bbls. (3,200 gals.) 15% HCl; 113 Mscf N<sub>2</sub>.

BKDN -- 3827 psi.      ATP -- 2050 psi.      AIR -- 4.0 bpm      ISIP -- 2221 psi.

Dropped 28 perf balls thru stage.

## Formation Depths taken from Gamma Ray Log

Strata	Depths	Remarks
Sub Base	0' -- 8'	
Fill	8' -- 30'	
Shaley Sand	30' -- 425'	
Sand & Shale	425' -- 1006'	
Gas Sand	1006' -- 1098'	
Shale	1098' -- 1130'	
Salt Sand	1130' -- 1272'	
Shale	1272' -- 1348'	
Salt Sand	1348' -- 1384'	
Shale	1384' -- 1632'	1" stream at 1628'
Maxton	1632' -- 1815'	
Shale	1815' -- 1820'	
Little Lime	1820' -- 1839'	
Pencil Cave	1839' -- 1857'	
Big Lime	1857' -- 1951'	
Big Injun	1951' -- 1999'	
Shale	1999' -- 2338'	
Sunbury Shale	2338' -- 2352'	
Berea	2352' -- 2356'	
Shale	2356' -- TD	DTD - 2498'
No core samples taken and no cuttings caught		

Total Depth: 2502'Well Electric Logged by: Weatherford