

WR-35
Rev (9-11)

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 10/16/2012
API #: 47-001-03013

Farm name: Smith, Joanne V. Operator Well No.: Waldman 4

LOCATION: Elevation: 1370' GL / 1380' KB Quadrangle: Brownston 7.5

District: Pleasant County: Barbour
Latitude: 6,590 Feet South of 39 Deg. 15 Min. 00 Sec.
Longitude 1,240 Feet West of 80 Deg. 10 Min. 00 Sec.

Company: Petroleum Development Corporation

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>120 Genesis Boulevard</u> <u>Bridgeport, WV 26330</u>	<u>11 3/4"</u>	<u>72'</u>	<u>72'</u>	<u>Sanded In</u>
Agent: <u>Bob Williamson</u>	<u>8 7/8"</u>	<u>1354'</u>	<u>1354'</u>	<u>448</u>
Inspector: <u>Bryan Harris</u>	<u>5 1/2"</u>	<u>7898'</u>	<u>7898'</u>	<u>297</u>
Date Permit Issued: <u>01/30/2009</u>				
Date Well Work Commenced: <u>07/15/2009</u>	<u>2 3/8"</u>	<u>7709'</u>	<u>7709'</u>	<u>---</u>
Date Well Work Completed: <u>11/18/2009</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>7908'</u>				
Total Measured Depth (ft): <u>7908'</u>				
Fresh Water Depth (ft.): <u>31', 111'</u>				
Salt Water Depth (ft.): <u>None Reported</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>142', 433', 519'</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7720'
Gas: Initial open flow NA MCF/d Oil: Initial open flow Bbl/d
Final open flow 200 MCF/d Final open flow Bbl/d
Time of open flow between initial and final tests Hours
Static rock Pressure 2300 psig (surface pressure) after 24 Hours

Second producing formation 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

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.


Signature

10/16/2012
Date

10/19/2012

Were core samples taken? Yes _____ No **XX**

Were cuttings caught during drilling? Yes **XX** No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Mud Log, Weatherford Triple Combo, Compact Monopole/Cross Dipole Semblance, Protechnics SpectraScan, Hotwell GR/CCL, Weatherford GR/CCL/CBL

NOTE: IN THE AREA BELOW 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 THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

8/21/2009: MIRU Hotwell & run GR/CCL log from 7876' - 7240'. Perf from 7806-7826 (80 holes) & from 7720-7740 (80 holes).

10/1/2009 60 bbls of fluid was pumped at a rate of 15 bpm and an ISIP of 2399 was obtained. 5 minutes later, the stimulation was continued with starting pressure at 2340 psi.

The pressure "rolled over" at 4829 psi at a rate of 35 bpm. The rate was increased to 66 bpm with a treating pressure of 5082 psi. The pad was pumped as designed. Introduction of sand began with

100 mesh at 0.5 ppa. The rate was 69 bpm at a TP of 4910. The 100 mesh was continued as designed with increases to concentration as follows: 0.5, 0.75, 1, 1.25, 1.5, 2, 2.5. This sequence was performed

twice giving a total of 1021 sacks of 100 mesh. Once the 100 mesh was completed, 40/70 mesh sand was utilized. The 40/70 began to be pumped at a rate of 70 bpm and a TP of 4715 psi.

The concentration was as follows: 1, 1.5, 2, 2.5, 3, 4. The total 40/70 proppant pumped was 1960 sacks. The maximum pressure recorded was 5329 psi near the flush.

~~Plug Back Details Including Plug Type and Depth(s):~~ The maximum rate was 71 bpm. The average treating pressure was 4830 psi and the

average rate was 69 bpm. The ISIP after stimulation was 4070 psi, 5 minute equal to 3366 psi, 10 minutes equal to 3249 psi, and the 15 minute equal to 3093 psi.

Formations Encountered:

	<u>Top Depth</u>	/	<u>Bottom Depth</u>
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Surface:

L Lime	1554		1570
B Lime	1594		1782
Gantz	2066		2076 Show Gas
Fifty Foot	2134		2202
Gordon Stray	2270		2279
4th Sand	2454		2532
5th Sand	2572		2616
Benson	4522		4568 Show Gas
Sycamore	6878		6914
Tully	7545		7597
Marcellus	7750		7842 Show Gas
Tioga Ash	7842		7848
Onondaga LS	7848		7852
Huntersville CH	7852		7990

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