

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas

Well Operator's Report of Well Work

Farm name: Barbara L. Black Operator Well No.: HR-294

LOCATION: Elevation: 1004' Quadrangle: Mount Olive WV 7.5  
District: Teays Vally County: Putnam  
Latitude: 13536' Feet South of 32 \_\_\_ Deg. 30 \_\_\_ Min. 00 \_\_\_ Sec.  
Longitude: 8022' Feet West of 82 \_\_\_ Deg. 00 \_\_\_ Min. 00 \_\_\_ Sec.

Company: Hard Rock Exploration, Inc.

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: <u>2034 Martins Branch Road</u> <u>Charleston, WV 25312</u>				
Agent: <u>Marc Scholl</u>	<u>13-3/8"</u>	<u>37'</u>	<u>37'</u>	<u>N/A</u>
Inspector: <u>Jamie Stevens</u>	<u>9-5/8"</u>	<u>547'</u>	<u>547'</u>	<u>294 cf</u>
Date Permit Issued: <u>12/2/08</u>	<u>7"</u>	<u>2259'</u>	<u>2259'</u>	<u>156 cf</u>
Date Well Work Commenced: <u>12/13/08</u>	<u>4-1/2"</u>	<u>4362'</u>	<u>4362'</u>	<u>326 cf</u>
Date Well Work Completed: <u>1/8/09</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): <u>4374'</u>				
Fresh Water Depth (ft.): <u>107</u>				
Salt Water Depth (ft.): <u>901, 1700'</u>				
Is coal being mined in area (N/Y)? <u>N/A</u>				
Coal Depths (ft.):				

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OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth (ft) 2642' -  
4310'  
Gas: Initial open flow 50 MCF/d Oil: Initial open flow \_\_\_ Bbl/d  
Final open flow 315 MCF/d Final open flow \_\_\_ Bbl/d  
Time of open flow between initial and final tests 72 Hours  
Static rock Pressure 750 psig (surface pressure) after 72 Hours

**OPEN FLOWS ARE TAKEN FROM COMMINGLED PRODUCING ZONES.**

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

NOTE: ON 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.

Signed:

James L. Stephens  
By: James L. Stephens, President  
Date: September 17, 2008

<b>Formation:</b>	<b>To:</b>	<b>Bottom:</b>
Soil/Sand/Shale	0	150
Sand	150	170
Sand/Shale	170	1450
Salt Sand	1450	1590
Big Lime	1630	1930
Injun Sand	1990	2225
Berea Sand	2480	2510
Devonian Shale	2731	4374
Lower Huron	3560	3915
Rhinestreet Section	4128	4290
Onandaga Lime	4363'	4374'

01/05/09 Perforated Rhinestreet Shale from 4237' - 4309' w/ 20 S.F. shots. Started pumping N<sub>2</sub> @ 25Kscf/min & breakdown formation @ 2140 psi. Up rate to 60Kscf/min & pumped total of 805Kscf N<sub>2</sub> w/ 11 perf balls. ISIP - 1847 psi. Maximum pressure - 3575 psi. Average pressure - 3448 psi. Average rate- 62.8Kscf/min. 2 min SIP - 1608 psi. Perforated Lower Huron Shale from 3505' - 3924' w/ 24 S.F. shots. Started pumping 12 bbls 7.5% HCL acid (dropped 3-3/8" ball after 2) land ball w/ 30Kscf/min N<sub>2</sub>. Ball seated. Up rate to 60Kscf/min & pumped total of 1.505MMscf N<sub>2</sub> w/ 20 perf balls. ISIP - 1685 psi. Maximum pressure - 2852 psi. Average pressure - 2674 psi. Average rate - 63.6Kscf/min. 2 min SIP - 1446 psi. Perforated Upper Shale from 2642' - 3241' w/ 16 S.F. shots. Started pumping 6 bbls 7.5% HCL acid (dropped 3-1/2" ball after 2 bbls) Seat ball w/ N<sub>2</sub> @ 30Kscf/min. Up rate & pumped total of 1MMscf N<sub>2</sub> w/ 3 perf balls. ISIP - 2070 psi. Maximum pressure - 3915 psi. Average pressure - 3628 psi. 2 min SIP - 1736 psi.

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Environmental Protection

03/09/2012