

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

Well Operator's Report of Well Work

Farm name: Roy Delaney Operator Well No.: HR 446

LOCATION: Elevation: 694' Quadrangle: Reedy WV 7.5'

District: Reedy County: Roane  
Latitude: 11376 Feet South of 38 Deg. 55 Min. 00 Sec.  
Longitude 728 Feet West of 81 Deg. 27 Min. 30 Sec.

Company: Hard Rock Exploration

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: <u>1244 Martins Branch Road</u>				
<u>Charleston WV, 25312</u>	<u>20"</u>	<u>26</u>	<u>26</u>	<u>N/A</u>
Agent: <u>Marc Scholl</u>	<u>13 3/8"</u>	<u>84</u>	<u>84</u>	<u>N/A</u>
Inspector: <u>Ed Gainer</u>	<u>9 5/8"</u>	<u>635</u>	<u>635</u>	<u>336 ft3 CTS</u>
Date Permit Issued: <u>7/20/11</u>	<u>7"</u>	<u>2283</u>	<u>2283</u>	<u>513 ft3 CTS</u>
Date Well Work Commenced: <u>12/19/11</u>	<u>4.5"</u>	<u>7052</u>	<u>7052</u>	<u>N/A</u>
Date Well Work Completed: <u>1/9/12</u>				
Verbal Plugging:	<u>Ran Gamma Log from KOP(3510' - 4152'TVD)</u>			
Date Permission granted on:	<u>Ran Gamm Log from 2500' - Surface</u>			
Rotary x Cable Rig				
Total Depth (feet): <u>7105'TMD, 4157'TVD</u>				
Fresh Water Depth (ft.): <u>200'</u>				
Salt Water Depth (ft.): <u>1160', 1780'</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>N/A</u>				

OPEN FLOW DATA

Producing formation Lower Huron Shale Pay zone depth (ft) 4111'MD- 7105 'MD  
4039'TVD - 4157' TVD

Gas: Initial open flow 800 MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 800 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 24 Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

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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

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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: \_\_\_\_\_  
By: President  
Date: 3/30/2012

<b>Formation:</b>	<b>Top:</b>	<b>Bottom:</b>
Soil, Sand, Shale	0	1512
Salt Sand	1512	1772
Lime	1772	1812
Injun	1812	1832
Shale	1832	2217
Coffee Shale	2267	2282
Devonian Shale	2282	4160
Lower Huron Section	4072	4157

**All depths shown As TVD**

01/09/12 Run total of 164 joints of R-3 4.5" casing 11.6ppf N-80 with 14 stg Packers Plus mechanical packer system. Total depth of casing at 7052' gl. Land casing hanger in head through BOP. SWI. Will test well as Natural Producer.

	<b>Sleeve</b>	<b>Sleeve Size</b>	<b>Packers</b>
<b>Stage 1</b>	Shoe	N/A	6919
<b>Stage 2</b>	6786	1.250	6697
<b>Stage 3</b>	6563	1.500	6474
<b>Stage 4</b>	6341	1.625	6252
<b>Stage 5</b>	6118	1.750	6030
<b>Stage 6</b>	5896	2.000	5807
<b>Stage 7</b>	5715	2.125	5626
<b>Stage 8</b>	5492	2.375	5404
<b>Stage 9</b>	5270	2.500	5181
<b>Stage 10</b>	5048	2.750	4959
<b>Stage 11</b>	4825	2.875	4736
<b>Stage 12</b>	4644	3.125	4556
<b>Stage 13</b>	4422	3.250	4333
<b>Stage 14</b>	4199	3.500	4111
<b>Anchor</b>			2598

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09/14/2012