

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

DATE: 02/11/2013  
API #: 47-091-01251

Farm name: Patriot Mining Company Operator Well No.: Coaltrain 8HM

LOCATION: Elevation: 1273' GL Quadrangle: Grafton 7.5'

District: Courthouse County: Taylor  
Latitude: 13,262 Feet South of 39 Deg. 20 Min. 00 Sec.  
Longitude 7,562 Feet West of 80 Deg. 05 Min. 00 Sec.

Company: PDC Mountaineer LLC

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>20"</u>	<u>80'</u>	<u>80'</u>	<u>Surface</u>
Agent: <u>Bob Williamson</u>	<u>13 3/8"</u>	<u>470'</u>	<u>470'</u>	<u>383</u>
Inspector: <u>Joe McCourt</u>	<u>9 5/8"</u>	<u>2779'</u>	<u>2779'</u>	<u>1140</u>
Date Permit Issued: <u>11/30/2011</u>	<u>5 1/2"</u>	<u>13,611'</u>	<u>13,611'</u>	<u>3915</u>
Date Well Work Commenced: <u>12/26/2011</u>				
Date Well Work Completed: <u>05/16/2012</u>	<u>2 7/8"</u>		<u>8160'</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>7,775'</u>				
Total Measured Depth (ft): <u>13,615'</u>				
Fresh Water Depth (ft.): <u>Drilled from surf on air/foam</u>				
Salt Water Depth (ft.): <u>Drilled from surf on air/foam</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>78', 783'</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) 7767'

Gas: Initial open flow ----- MCF/d Oil: Initial open flow ----- Bbl/d

Final open flow 4,721 MCF/d Final open flow ----- Bbl/d

Time of open flow between initial and final tests 720 Hours

Static rock Pressure 1,500 psig (surface pressure) after 72 Hours

Second producing formation N/A 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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FEB 19 2013

**WV Department of**  
**Environmental Protection**

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

02/15/2013

Date

03/08/2013

91-01251

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 from 6850'- 13,615' SLB open hole LWD EcoScope Image /GR/Dens/Neutron from 8,440'-13,587'. Pathfinder Directional surveys from 2,908'- TD (GR from 2,800' to TD). SLB 3D Bore Hole Caliper from 8,440' - 13,587'.

**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:

Perforated interval 8,515 ft - 13,500 ft (760 shots). Frac'd 19 stages using 452 bbls 15% HCL, and 173,500 bbls of Slickwater carrying 1,336,400 lbs of 100-mesh sand, 4,572,400lbs of 40/70 sand, and 143,200 lbs of 30/50 sand.

Plug Back Details Including Plug Type and Depth(s):

Formations Encountered: \_\_\_\_\_ Top Depth \_\_\_\_\_ / \_\_\_\_\_ Bottom Depth \_\_\_\_\_  
Surface:

Little Lime (est)	1522	1537	
Big Lime (est)	1559	1741	
Gantz (est)	2000	2018	<b>RECEIVED</b> <b>Office of Oil &amp; Gas</b>
50 Foot (est)	2057	2141	
30 Foot (est)	2155	2209	<b>FEB 19 2013</b>
Gordon(est)	2230	2266	
4th Sand (est)	2477	2535	<b>WV Department of</b> <b>Environmental Protection</b>
5th Sand (est)	2551	2595	
Riley	4155	4508	
Benson	4664	4704	
Sycamore	6772	6888	Show Gas
Geneseo	7461	7478	Show Gas
Tully	7478	7548	
Marcellus	7708	13,615' MD-TD	Show Gas

All depths are KB (19') TVD except MD-TD. Depths below 5th Sand are from directional "GR-TVD" Log.

03/08/2013