

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: 5/31/13 REV. 10/30/13  
API #: 47-25-00034

Farm name: Plum Creek Timberlands, LP Operator Well No.: PCSF 2-1H

LOCATION: Elevation: 3,665 Quadrangle: Fork Mountain

District: Kentucky County: Greenbrier  
Latitude: 1998 Feet South of 38 Deg. 12 Min. 30 Sec.  
Longitude 9068 Feet West of 80 Deg. 25 Min. 00 Sec.

Company: BRC Operating Company, LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
200 Crescent Court, Suite 200 Dallas, TX 75201	20"	138'	138'	207
Agent: Marc A. Montelcone	13 3/8"	1,571'	1,571'	1,290
Inspector: Gary Kennedy	9 5/8"	6,010'	6,010'	2,490 Lead/202 Lag
Date Permit Issued: 1/10/11	5 1/2"	12,948'	12,948'	2,200 Lead/1,144 Lag
Date Well Work Commenced: 8/6/11	2 3/8"	7,400'	7,400'	
Date Well Work Completed: 9/2/12				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,943'				
Total Measured Depth (ft): 12,919'				
Fresh Water Depth (ft.): 1,500'				
Salt Water Depth (ft.): 2,350'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 275'				
Void(s) encountered (N/Y) Depth(s) N/A				

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

Producing formation Lower Marcellus Pay zone depth (ft) 7,934  
Gas: Initial open flow 3,355 MCF/d Oil: Initial open flow Bbl/d  
Final open flow 300 MCF/d Final open flow Bbl/d  
Time of open flow between initial and final tests 4,512 Hours  
Static rock Pressure 3,350 psig (surface pressure) after 36 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

10/29/13  
Date

11/08/2013

Were core samples taken? Yes  No

Were cuttings caught during drilling? Yes  No

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Pilot hole: Platform Express (0-8102').  
Sonic Scanner, MRI (6756 - 8102'). MWD GR In lateral (8898 - 12914')

**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:

23 Stages from 8,217 TMD to 12,948 TMD. 60 degree phasing. 6 SPF,  
total 24-42 shots/stage 1 thru 23

Fractured using slickwater fracs at average rates of 65 bpm.

Total sand injected into each frac stage 250,000 lbs.

Average pressures observed were approximately 7,500 psi.

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

Well was not plugged

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Formations Encountered:

<u>Geologic Age</u>	<u>Formation</u>	<u>Lithology</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
Mississippian	Ravencliff	Sandstone	1770	1833
Mississippian		Shale	1833	2107
Mississippian	Lower Maxon	Sandstone	2107	2120
Mississippian		Shale	2120	2211
Mississippian	Greenbrier	Limestone	2211	2359
Mississippian	Big Lime	Limestone	2359	2677
Mississippian		Shale	2677	2731
Mississippian	Injun	Sandstone	2731	2763
Mississippian	Squaw	Shale	2763	2783
Mississippian		Shale	2783	2929
Mississippian	Weir	Sandstone	2929	2937
Mississippian		Shale	2937	3350
Mississippian	Berea	Sandstone	3350	3370
Mississippian		Shale	3370	3436
Devonian	Gordon	Sandstone	3436	3468
Devonian		Shale	3468	3719
Devonian	Huron	Shale	3719	6582
Devonian		Shale	6582	7533
Devonian	Rhinestreet	Organic Shale	7533	7616
Devonian		Shale	7616	7814
Devonian	Upper Marcellus	Shale	7814	7915
Devonian	Cherry Valley	Limestone	7915	7930
Devonian	Lower Marcellus	Shale	7930	7998
Devonian	Onodaga	Limestone	7998	8008
Devonian	Huntersville	Chert	8008	TD

11/08/2013