

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. 11/8/13
API #: 47-25-00035

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

LOCATION: Elevation: 3,865' Quadrangle: Fork Mountain

District: Kentucky County: Greenbrier
Latitude: 2009 Feet South of 38 Deg. 12 Min. 30 Sec.
Longitude 8058 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"	115'	115'	207
Agent: Marc A. Monteleone	13 3/8"	1,610'	1,610'	1,486
Inspector: Gary Kennedy	9 5/8"	6,010'	6,010'	1,767 Lead / 157 Lag
Date Permit Issued: 1/10/11	5 1/2"	13,056'	13,056'	2,143 Lead / 1,155 Lag
Date Well Work Commenced: 9/12/2011	2 3/8"	6,840'	6,840'	
Date Well Work Completed: 8/2/2012 REV. 5/29/13				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,942'				
Total Measured Depth (ft): 13,056'				
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) None				

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

Producing formation Lower Marcellus Pay zone depth (ft) 7,942
Gas: Initial open flow 450 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 - Hours
Static rock Pressure 3,500 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

11/8/2013
Date

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WV Department of
Environmental Protection

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 MWD GR (6798 - 13009')

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:

Stages 2 thru 21 from 12,909' TMD to 8,855' TMD. 60 degree phasing, 6 SPF, total 24-36 shots/stage. Fractured utilizing 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.

Permit modified on 5/21/13: Re-enter horizontal section of existing well. Install CIBP at 8,840' TMD to isolate 8,841' thru 12,949' TMD. Perforate and fracture existing horizontal casing from 8,520' to 8,840' TMD (two zones). Utilize N2 foam fracs. 60 degree phasing, 5 SPF at 40' spacing; total 22 shots/stage. Total sand injected into each frac stage 80,000 lbs.

Plug Back Details Including Plug Type and Depth(s): Set CIBP at 8,840' TMD to isolate 13,056' TMD to 8,841' TMD.

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