

WR-35
Rev (8-10)

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

DATE: 5-12-2011
API #: 47-103141

1-03141

Farm name: Thornburg, Clarice Stepi Operator Well No.: R McNeil 1M

LOCATION: Elevation: 1,579' Quadrangle: Grafton

District: Courthouse County: Taylor Barbours
Latitude: 38 Feet South of 15 Deg. 00 Min. Sec.
Longitude: 79 Feet West of 55 Deg. 00 Min. Sec.

Company:

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
PDC Mountaineer, LLC 120 Geneva Blvd. Bridgeport, WV 26330	20"	90'	90'	40 sxs
Agent: Bob Williamson	13 3/8"	333	333	215 sxs
Inspector: Bryan Harris	8 5/8"	2,736	2,736	820 sxs
Date Permit Issued: 7-29-2010	5 1/2"	7,931	7,931	190 sxs
Date Well Work Commenced: 9-24-2010				
Date Well Work Completed: 11-12-2010				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft):				
Total Measured Depth (ft): 7955'				
Fresh Water Depth (ft.): 80', 186'				
Salt Water Depth (ft.): None				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 317', 440', 658'				
Void(s) encountered (N/Y) Depth(s)				

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

Producing formation Marcellus Pay zone depth (ft) 7,785

Gas: Initial open flow N/A 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

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]
Signature

5-12-2011
Date

08/17/2012

Were core samples taken? Yes _____ No X

Were cuttings caught during drilling? Yes X No _____

Were Y/Y/N Electrical, Y/Y/N Mechanical, Y/Y/N or Geophysical logs recorded on this well?

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:

11-12-2010: MIRU Universal Well Svs & pump a limited entry vertical Marcellus stim. using 26 bbl water, 29 bbls 15% HCL, 125 bio balls, 2015 bbls of Slickwater pad, and pumped 10,240 bbls of slickwater with proppant using 200,000# 100 mesh sand & 500,000# of 40/70 sand. Marcellus perms at 7785-7800 (4spf) and 7810-7825 (4 spf). Break at 3433psi at 4.0 BPM and balkout with 125 bio-ball sealers & 1200 gal of 15% HCl. SD, allow balls to drop for approx 15 min, then proceed with remainder of treatment. Pumped 0.5-2.5 ppg of 100 mesh and 1.0 - 3.5 ppg stages of 40/70 sand. Flush well to perms (181 bbls), SD, ISDP at 3886psi. RDMO Universal and turn well to flowback. MTP = 5365psi. ATP = 4720psi, AIR = 84 bpm. Pressure response flat for most of job. Turn on flowback on a 16/64" choke.

Formations Encountered: _____ **Top Depth** _____ / _____ **Bottom Depth**
Surface: _____

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McNeil 1M
47-001-03141

FORMATION	WELL LOG	
	TOP FEET	BOTTOM FEET
		0
sand, shale, RR	0	1169
Little Lime	1169	1186
sand, shale	1186	1602
Big Lime	1602	1344
sand, shale	1344	1346
Keener	1346	1376
sand, shale	1376	1378
Big Injun	1378	1428
sand, shale	1428	1483
Welr	1483	1493
sand, shale	1493	1590
Gantz	1590	1618
sand, shale	1618	1635
50 ft	1635	1686
sand, shale	1686	1694
30 ft	1694	1742
sand, shale	1742	1947
Gordon	1947	1994
sand, shale	1994	2236
4th	2236	2344
sand, shale	2344	2357
5th	2357	2406
sand, shale	2406	2460
Bayard	2460	2510
sand, shale	2510	2574
Elizabeth	2574	2644
sand, shale	2644	2675
Speechley	2675	2941
sand, shale	2941	2983
Balltown	2983	3368
sand, shale	3368	3378
Bradford	3378	3516
sand, shale	3516	3752
Riley	3752	3936
sand, shale	3936	4058
Benson	4058	4102
sand, shale	4102	4252
1st Elk	4252	4320
sand, shale	4320	4378
2nd Elk	4378	4438
sand, shale	4438	4640
3rd Elk	4640	4706
sand, shale	4706	5017
4th Elk	5017	5130
silt, shale	5130	6947
Sycamore Gril	6947	7060
silt, shale	7060	7494
Tully LS	7494	7576
silt, shale	7576	7755
Marcellus Shale	7755	7854
Onondaga LS	7854	7859
Huntersville Chert	7859	7965
TD	7965	

REMARKS: FRESH & SALT
WATER, COAL, OIL & GAS

Damp @ 80'
1/2" H2o @ 166'

Coal:
317', 440', 658'

Mudlogger Gas Shows:

2nd Elk: 57 units at 4413' (mudloggers scale)
Genesee: 2350 units at 7496' (mudloggers scale)
Marcellus: 67 units at 7796' (mudloggers scale)

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Environmental Conservation

7955' Drillers TD

7855' Logger TD

08/17/2012