

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: 02/14/2013  
API #: 47-041-04153

Farm name: US Army Corps of Engineers Operator Well No.: GWS 91

LOCATION: Elevation: 1263' GL Quadrangle: Roanoke 7.5'

District: Collins Settlement County: Lewis  
Latitude: 900 Feet South of 38 Deg. 57 Min. 30 Sec.  
Longitude: 11,580 Feet West of 80 Deg. 25 Min. 00 Sec.

Company: PDC Mountaineer LLC

| Address:   | Casing & Tubing | Used in drilling | Left in well | Cement fill up Cu. Ft. |
|--|-----------------|------------------|--------------|------------------------|
| 120 Genesis Boulevard<br>Bridgeport, WV 26330  | 13 3/8"         | 27'              | 27'          | Sanded In              |
| Agent: Bob Williamson  | 9 5/8"          | 903'             | 903'         | 342                    |
| Inspector: Bill Hatfield   | 4 1/2"          | 4706'            | 4706'        | 902                    |
| Date Permit Issued: 07/24/2009   |                 |                  |              |                        |
| Date Well Work Commenced: 10/05/2009   |                 |                  |              |                        |
| Date Well Work Completed: 10/06/2009   |                 |                  |              |                        |
| Verbal Plugging:   |                 |                  |              |                        |
| Date Permission granted on:  |                 |                  |              |                        |
| Rotary <input type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/> |                 |                  |              |                        |
| Total Vertical Depth (ft): 4752'   |                 |                  |              |                        |
| Total Measured Depth (ft): 4752'   |                 |                  |              |                        |
| Fresh Water Depth (ft.): 347'  |                 |                  |              |                        |
| Salt Water Depth (ft.): None   |                 |                  |              |                        |
| Is coal being mined in area (N/Y)? N   |                 |                  |              |                        |
| Coal Depths (ft.): None Reported   |                 |                  |              |                        |
| Void(s) encountered (N/Y) Depth(s) N   |                 |                  |              |                        |

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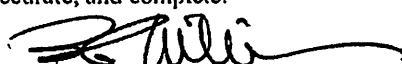
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OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation 5th Sand Pay zone depth (ft) 2520  
Gas: Initial open flow 133 MCF/d Oil: Initial open flow 2 Bbl/d  
Final open flow NT MCF/d Final open flow NT Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure NT 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

02/15/2013  
Date

03/08/2013

41-04153

Were core samples taken? Yes \_\_\_\_\_ No XX

Were cuttings caught during drilling? Yes \_\_\_\_\_ No XX

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list JW Wireline GR/CCL log from 2650' - 2400'

**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:**

10/05/2009: MIRU JW Wireline & log correlation strip & CCL/GR. Ran in hole with solid composite plug BP & set at 2560'. Perf 5th Sand at 2497-2501 & 2517-2521.

Stimulated well with 75 quality N2 assist, 38,584 lbs of 20/40 brown sand and 480,639 scf N2 (ATP 2415 psig, MTP 2703 psig) (Avg Rates 22.8 bpm; 14,063 scfm).

Brokedown formation at 2417 psig. Pumped a pad of 53 bbl, 148,485 scf @ 5.7 bpm, 14,821 scfm. Ramped sand concentrations from .5-3 ppa in 97 bbl,

261,607 scf @ 7.7 bpm, 15,835 scfm. Held 3# sand concentration for 10 bbl, 25,021 scf @ 9.8 bpm, 15628 scfm. Held 4# sand concentration for 24 bbl,

45,288 scf @ 10.2 bpm, 14,297 scfm. Pumped 281 bbl of slurry in ramp (231 bbl of clean). Flushed with 47 bbl of H2O @ 17 bpm. ISIP 1563 psig

Plug Back Details Including Plug Type and Depth(s): Drilled out bridge plug & cleaned to original TD.

| <u>Formations Encountered:</u> | <u>Top Depth</u> | <u>Bottom Depth</u> |
|--------------------------------|------------------|---------------------|
| <u>Surface:</u>                |                  |                     |

See original submitted Well Log for this well API# 47-041-04153.

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