



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: 5/12/10  
API #: 033-05170

Farm name: John Sturm Operator Well No.: Sturm 1

LOCATION: Elevation: 1030' Quadrangle: Brownton 7.5'

District: Simpson County: Harrison  
Latitude: 9530 Feet South of 39 Deg. 15 Min. 00 Sec.  
Longitude 7410 Feet West of 80 Deg. 12 Min. 30 Sec.

Company: Gastar Exploration USA, Inc.

| Address:   | Casing & Tubing | Used in drilling | Left in well | Cement fill up Cu. Ft. |
|--|-----------------|------------------|--------------|------------------------|
| <u>P.O. Box 273</u><br><u>Charleston, WV 25301-0273</u>  | <u>16"</u>      |                  | <u>20'</u>   | <u>Sanded</u>          |
| Agent: <u>William M. Herlity</u>   | <u>9-5/8"</u>   |                  | <u>339'</u>  | <u>168'</u>            |
| Inspector: <u>Tim Bennett</u>  | <u>7"</u>       |                  | <u>1855'</u> | <u>380'</u>            |
| Date Permit Issued: <u>11/17/08</u>  | <u>4-1/2"</u>   |                  | <u>4362'</u> | <u>342'</u>            |
| Date Well Work Commenced: <u>8/5/09</u>  |                 |                  |              |                        |
| Date Well Work Completed: <u>3/7/10</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>4450'</u>    |                  |              |                        |
| Total Measured Depth (ft):   | <u>4450'</u>    |                  |              |                        |
| Fresh Water Depth (ft.):   | <u>68'</u>      |                  |              |                        |
| Salt Water Depth (ft.):  | <u>None</u>     |                  |              |                        |
| Is coal being mined in area (N/Y)?   | <u>N</u>        |                  |              |                        |
| Coal Depths (ft.):   | <u>None</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 Benson/3rd Riley/ Speechley Pay zone depth (ft) 2930-4220

Gas: Initial open flow odor MCF/d Oil: Initial open flow 0 Bbl/d

Final open flow 21 MCF/d Final open flow .5 Bbl/d

Time of open flow between initial and final tests 24 Hours

Static rock Pressure 1250 psig (surface pressure) after 96 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

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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.

Herlity  
Signature

5-12-10  
Date

03/18/2016

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 Photo Density  
Compensated Neutron, Array Induction

**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:

4216 - 4220, 11 holes fraced w/250 gals 15% HC1, 700 sacks 20/40 sand, 2315 bbls slickwater

3992 - 3994, 9 holes fraced w/500 gals 15% HC1, 93 sacks 20/40 sand, 817 bbls slickwater

2930 - 2936, 11 holes fraced w/500 gals 15% HC1, 500 sacks 20/40 sand, 1992 bbls slickwater

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

Formations Encountered: Top Depth / Bottom Depth  
Surface:

|              |                              |              |             |
|--------------|------------------------------|--------------|-------------|
| Fill         | 0 / 8                        | Sand & Shale | 3492 / 3969 |
| Shale        | 8 / 450 - 1/2" Stream @ 450' | Third Riley  | 3969 / 3998 |
| Sand & Shale | 450 / 1303                   | Sand & Shale | 3998 / 4190 |
| Big Lime     | 1303 / 1356                  | Benson       | 4190 / 4230 |
| Big Injun    | 1356 / 1414                  |              |             |
| Sand & Shale | 1414 / 1758                  |              |             |
| Gantz        | 1758 / 1772                  |              |             |
| Sand & Shale | 1772 / 1897                  |              |             |
| Gordon       | 1897 / 1912                  |              |             |
| Sand & Shale | 1912 / 2248                  |              |             |
| Fifth Sand   | 2248 / 2285                  |              |             |
| Sand & Shale | 2285 / 2906                  |              |             |
| Speechley    | 2906 / 2957                  |              |             |
| Sand & Shale | 2957 / 3400                  |              |             |
| Bulltown     | 3400 / 3492                  |              |             |

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