

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: 3/27/2013  
API #: 47-4902162

Farm name: Bower, Richard and Jocelyn Operator Well No.: Brennan A 2H

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LOCATION: Elevation: 1256 Quadrangle: Mannington 7.5

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District: Lincoln County: Marion  
Latitude: 15010 Feet South of 39 Deg. 32 Min. 30 Sec.  
Longitude 1090 Feet West of 80 Deg. 17 Min. 30 Sec.

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

Company: XTO Energy Inc

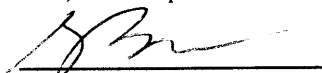
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>PO Box 1008, Jane Lew, WV 26378</u>	<u>20"</u>	<u>40'</u>	<u>40'</u>	<u>CTS</u>
Agent: <u>Gary Beall</u>	<u>13-3/8"</u>	<u>622'</u>	<u>622'</u>	<u>600 sx</u>
Inspector: <u>Bill Hendershot</u>	<u>9-5/8"</u>	<u>3128'</u>	<u>3128'</u>	<u>1052 sx</u>
Date Permit Issued: <u>6/21/2011</u>	<u>5-1/2"</u>	<u>11949'</u>	<u>11949'</u>	<u>1735 sx</u>
Date Well Work Commenced: <u>1/11/2012</u>				
Date Well Work Completed: <u>1/8/2013</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>7662'</u>				
Total Measured Depth (ft): <u>11949'</u>				
Fresh Water Depth (ft.): <u>65'</u>				
Salt Water Depth (ft.): <u>None Noted</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>140'</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 Marcellus Pay zone depth (ft) 7535-7670  
Gas: Initial open flow N/A MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 891 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests N/A 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

3-28-13  
Date



Brennan A 2H	47-049-02162	
Formations Encountered	Top Depth	Bottom Depth
SS,SLT,SH	0	80
SS	80	128
SH	128	140
COAL	140	150
SS,SH	150	170
SH	170	178
SS	178	202
SS,SH	202	460
SH	460	506
SS	506	525
SS,SH	525	700
SH,SS	700	1025
SH	1025	1165
SH,SS	1165	1265
SH	1265	1830
SS	1830	2070
SH	2070	2100
SH,SS	2100	2540
SS	2540	2700
SH	2700	3170
SLTST,SS	3170	3220
SH,SLTST	3220	3840
SH	3840	3870
SH,SLTST	3870	3990
SH	3990	4050
SH,SLTST	4050	4110
SH,SLTST,SS	4110	4170
SH	4170	4320
SH,SLTST	4320	4350
SLTST,SS,SH	4350	4380
SH	4380	4440
SH,SLTST	4440	4470
SH	4470	4950
SH,SLTST	4950	4980
SH	4980	5220
SH,SLTST	5220	5280
SH	5280	5610
SH,SLTST	5610	5700
SH	5700	5760
SH,SLTST	5760	5790
SH	5790	5880
SH,SLTST	5880	5910
SH	5910	6480
SH,SLTST	6480	6510
SH	6510	7550
LS,SH	7550	7680
SH	7680	7720
SH,LS	7720	7790
SH	7790	8150
SH,LS	8150	8200

**BRENNAN A 2H**

FORMATION	TVD
BIG INJUN*	1955
BIG INJUN BASE*	2021
GREENBRIER*	2051
GREENBRIER BASE*	2085
SQUAW*	2094
SQUAW BASE*	2105
GANTZ*	2493
GANTZ BASE*	2510
50FT*	2541
50FT BASE*	2639
30FT*	2653
30FT BASE*	2702
GORDON*	2721
GORDON BASE*	2747
LWR GORDON*	2853
LWR GORDON BASE*	2896
4TH SAND*	2928
4TH SAND BASE*	2935
5TH SAND*	2987
5TH SAND BASE*	3022
LWR SPEECHLEY*	3607
LWR SPEECH. BASE*	3627
UP BALLTOWN*	3827
UP BALLTOWN BASE*	3840
BALLTOWN*	3891
BALLTOWN BASE*	3922
GENESEO SHALE	7371
GENESEO BASE	7425
TULLY LIMESTONE	7425
TULLY BASE	7469
HAMILTON SHALE	7469
HAMILTON BASE	7533
UPPER MARCELLUS	7533
UP MARCELLUS BASE	7632
PURCELL LIMESTONE	7632
PURCELL BASE	7635
LOWER MARCELLUS	7635
LO MARCELLUS BASE**	7683

\* Tops projected from offset log due to air drilling and therefore not logging this section

\*\* Base projected from offset logs due to not actually drilling through this base

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SH	8200	8300
SH,LS	8300	8320
SH	8320	11995

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Well Name: Brennan A 2H

API # 47-049-02162

**Preforated Intervals, Fracturing or Stimulating**

Stg 7 Marcellus; 9930'-10032'; 60 shots; Slick water frac; Avg treating 7390 psi@ 73 bpm; 106,767 #100 mesh; 306,694 #s 30/50 mesh; 9628 bbl water, 0 bbl treated water
Stg 8 Marcellus; 9632'-9734'; 60 shots; Slick water frac; Avg treating 7355 psi@ 78 bpm; 102,209 #100 mesh; 305,744 #s 30/50 mesh; 9657 bbl water, 0 bbl treated water
Stg 9 Marcellus; 9337'-9439'; 60 shots; Slick water frac; Avg treating 7169 psi@ 74 bpm; 105,843 #100 mesh; 304,991 #s 30/50 mesh; 9890 bbl water, 0 bbl treated water
Stg 10 Marcellus; 9041'-9143'; 60 shots; Slick water frac; Avg treating 7281 psi@ 72 bpm; 106,241 #100 mesh; 305,053 #s 30/50 mesh; 9647 bbl water, 0 bbl treated water
Stg 11 Marcellus; 8747'-8847'; 60 shots; Slick water frac; Avg treating 7451 psi@ 82 bpm; 106,600 #100 mesh; 304,900 #s 30/50 mesh; 9735 bbl water, 0 bbl treated water
Stg 12 Marcellus; 8622'-8844'; 60 shots; Slick water frac; Avg treating 7717 psi@ 79 bpm; 106,200 #100 mesh; 305,400 #s 30/50 mesh; 9583 bbl water, 0 bbl treated water
Stg 13 Marcellus; 7602'-7635'; 60 shots; Slick water frac; Avg treating 7551 psi@ 82 bpm; 99,962 #100 mesh; 336,632 #s 30/50 mesh; 10271 bbl water, 0 bbl treated water

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MORGANTOWN, WV

# Hydraulic Fracturing Fluid Product Component Information Disclosure

10/25/2012
West Virginia
Marion
47-049-02162
XTO Energy
Brennan 2H
-80.2955547
39.5003961
NAD27
Gas
7,654
6,082,188

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MORGANTOWN, WV

## Hydraulic Fracturing Fluid Composition:

Water			water	7732-18-5	100.00000%	0.9020	
Sand		Proppant	sand	14808-60-7	100.00000%	0.0832	
Biocide - MC 8520	Multi-Chem	Biocide	Whole Product				
			4,4 -Dimethyloxazolidine	51200-87-4	95.00000%	0.0001	
			3,4,4-Trimethyloxazolidine	75673-43-7	4.50000%	0.0000	
			2-Amino-2-Methyl-1-Propanol	124-68-5	0.50000%	0.0000	
Biocide - MC 8650	Multi-Chem	Biocide	Whole Product				
			Glutaraldehyde	111-30-8	60.00000%	0.0000	
			Other -(non hazardous)		40.00000%	0.0000	
Friction Reducer - MC MX-14-5	Multi-Chem	Friction Reducer	Whole Product				
			Hydrotreated light distillates (10-30%)	64742-47-8	30.00000%	0.0003	
			Other -(non hazardous)		70.00000%	0.0007	
Scale Inhibitor - MC-MX-588-2	Multi-Chem	Scale Inhibitor	Whole Product				
			Other -(non hazardous)		100.00000%	0.0001	
Acid - 7.5% HCl Acid	Universal	Acid	Whole Product				
			Hydrochloric Acid (15-40%) blended down to 7.5%	7647-01-0	7.50000%	0.0010	
			Other -(non hazardous)		92.50000%	0.0126	

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.