

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

DATE: 8/03/2012

API #: 47-049-02130

Farm name: Cain, Richard Operator Well No.: Fenn A 9H

LOCATION: Elevation: 1,251' Quadrangle: Shinnston

District: Lincoln County: Marion  
Latitude: 590' Feet South of 39 Deg. 27 Min. 30 Sec.  
Longitude 7,320' Feet West of 80 Deg. 17 Min. 30 Sec.

Company: XTO Energy, Inc.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
PO Box 1008, Jane Lew, WV 26378	20"	118'	118'	C.T.S.
Agent: Gary Beall	13 3/8"	580'	580'	300 bbls
Inspector: <b>Tristan Jenkins</b>	9 5/8"	3,050'	3,002'	1008.9 cuft
Date Permit Issued: 12/27/2010	5 1/2"	12,746'	12,727'	2626.8 cuft
Date Well Work Commenced: 5/27/2011				
Date Well Work Completed: 10/27/2011				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7497'				
Total Measured Depth (ft): 12,746'				
Fresh Water Depth (ft.): None Noted				
Salt Water Depth (ft.): None Noted				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Noted				
Void(s) encountered (N/Y) Depth(s) N				

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

Producing formation Marcellus Pay zone depth (ft) 7441'-7497'

Gas: Initial open flow Show MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow Show 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

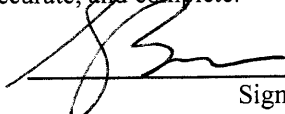
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

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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

8-3-12

Date

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

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

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list \_\_\_\_\_  
MWD, GR, ROP, VS, TVD

**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:

- Stg 1 Marcellus; 12,485'-12,655; 72 shots; Slick water frac; Avg treating 7032 psi@80 bpm; 85,874#s 100 mesh; 292,774#s 30/50 mesh; 7,413 bbl water, 1140 bbl treated water
- Stg 2 Marcellus; 12,233'-12,403; 72 shots; Slick water frac; Avg treating 7163 psi@82 bpm; 87,700#s 100 mesh; 295,300#s 30/50 mesh; 7,594 bbl water, 1100 bbl treated water
- Stg 3 Marcellus; 11,981'-12,151; 72 shots; Slick water frac; Avg treating 7079 psi@80 bpm; 87,085#s 100 mesh; 294,846#s 30/50 mesh; 8260 bbl water, 369 bbl treated water
- Stg 4 Marcellus; 11,729'-11,899; 72 shots; Slick water frac; Avg treating 8059 psi@34 bpm; 10,697#s 100 mesh; 12,705#s 30/50 mesh; 11,600 bbl water, 45 bbl treated water
- Stg 5 Marcellus; 11,343'-11,521; 72 shots; Slick water frac; Avg treating 7053 psi@81 bpm; 85,770#s 100 mesh; 297,209#s 30/50 mesh; 8,651 bbl water
- Stg 6 Marcellus; 11,083'-11,261; 72 shots; Slick water frac; Avg treating 7026 psi@79 bpm; 87,563#s 100 mesh; 287,942#s 30/50 mesh; 8,935 bbl water

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

See additional page

Formations Encountered: \_\_\_\_\_ Top Depth \_\_\_\_\_ / \_\_\_\_\_ Bottom Depth \_\_\_\_\_  
Surface:

Little Lime	1710
Big Lime	1741
Big Injun	1836
5th Sand	2809
Balltown	3709
Geneseo Shale	7202 - 7251
Tully Limestone	7251 - 7302
Hamilton Shale	7302 - 7366
Marcellus Shale	7366 - 7457
Purcell Limestone	7457 - 7497

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Stg 7 Marcellus; 10,823'-11,001'; 72 shots; Slick water frac; Avg treating 7093 psi@81 bpm; 87,842#s 100 mesh; 296,178#s 30/50 mesh; 8,544 bbl water

Stg 8 Marcellus; 10,563'-10,741'; 72 shots; Slick water frac; Avg treating 7186 psi@82 bpm; 85,213#s 100 mesh; 297,756#s 30/50 mesh; 8,617 bbl water

Stg 9 Marcellus; 10,303'-10,481'; 72 shots; Slick water frac; Avg treating 7209 psi@83 bpm; 85,312#s 100 mesh; 249,525#s 30/50 mesh; 7501 bbl water, 782 bbl treated water

Stg 10 Marcellus; 10,043'-10,221'; 72 shots; Slick water frac; Avg treating 7172psi@84 bpm; 85,808#s 100 mesh; 292,083#s 30/50 mesh; 6863 bbl water, 1660 bbl treated water

Stg 11 Marcellus; 9,783'-9,961'; 72 shots; Slick water frac; Avg treating 7021 psi@81 bpm; 85,024#s 100 mesh; 290,007#s 30/50 mesh; 7,336 bbl water, 1,117 bbl treated water

Stg 12 Marcellus; 9,523'-9,701'; 72 shots; Slick water frac; Avg treating 7077 psi@80 bpm; 83,170#s 100 mesh; 295,180#s 30/50 mesh; 7467 bbl water, 1079 bbl treated water

Stg 13 Marcellus; 9,263'-9,441'; 72 shots; Slick water frac; Avg treating 7052 psi@82 bpm; 83,851#s 100 mesh; 293,898#s 30/50 mesh; 7354 bbl water, 1158 bbl treated water

Stg 14 Marcellus; 9,003'-9,181'; 72 shots; Slick water frac; Avg treating 7037 psi@79 bpm; 85,712#s 100 mesh; 276,342#s 30/50 mesh; 7171 bbl water, 1117 bbl treated water

Stg 15 Marcellus; 8,743'-8,921'; 72 shots; Slick water frac; Avg treating 7103 psi@84 bpm; 83,845#s 100 mesh; 292,327#s 30/50 mesh; 7344 bbl water, 1100 bbl treated water

Stg 16 Marcellus; 8,483'-8,661'; 72 shots; Slick water frac; Avg treating 6721 psi@84 bpm; 88,154#s 100 mesh; 295,262#s 30/50 mesh; 7173 bbl water, 1301 bbl treated water

Stg 17 Marcellus; 8,223'-8,401'; 72 shots; Slick water frac; Avg treating 6937 psi@82 bpm; 86,114#s 100 mesh; 297,129#s 30/50 mesh; 7729 bbl water, 830 bbl treated water

Stg 18 Marcellus; 7,963'-8,141'; 72 shots; Slick water frac; Avg treating 6619 psi@84 bpm; 85,777#s 100 mesh; 298,734#s 30/50 mesh; 7,122 bbl water, 1,248 bbl treated water

Stg 19 Marcellus; 7,703'-7,881'; 72 shots; Slick water frac; Avg treating 7099 psi@79 bpm; 83,699#s 100 mesh; 297,771#s 30/50 mesh; 7582 bbl water, 863 bbl treated water

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

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Fracture Date:	10/3/2011
State:	WV
County:	Marion
API Number:	47-490-2130
Operator Name:	XTO Energy
Well Name and Number:	Fenn 9H
Longitude:	-80.19038
Latitude:	39.27247
Long/Lat Projection:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	7,492
Total Water Volume (gal)*:	6,936,930

## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water				7732-18-5	100.00%	88.918	
Sand		Proppant	Crystalline Silica	14808-60-7	100.00%	10.462	
Biocide EC 6116A	Universal	Biocide					
			Dibromoacetonitrile	3252-43-5	5.00%	0.002	
			2,2-Dibromo-3-nitropropionamide	10222-01-2	30.00%	0.010	
			Polyethylene Glycol	25322-68-3	60.00%	0.020	
			Other - unspecified		5.00%	0.002	
Unislik ST 50	Universal	Friction Reducer					
			Hydrotreated light distillates	64742-47-8	30.00%	0.020	
			Polyacrylamide powder and other		70.00%	0.046	
EC 6486A	Universal	Scale Inhibitor					
			Ethylene glycol	107-21-1	30.00%	0.010	
			Other - unspecified		70.00%	0.024	
7.5% HCl Acid	Universal	Cleaning					
			Hydrogen Chloride	7647-01-0	7.50%	0.036	
			Water	7732-18-5	92.50%	0.449	

\* 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

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Units	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9	Stage 10	Stage 11
Iron Control gal											
Acid gal	1,500.00	1,500.00	1,500.00	5,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
Biocide gal	115	115	108	152	105	113	111	107	98	117	115
Fresh Water gal	7,413.00	7,594.00	8,260.00	11,600.00	8,651.00	8,935.00	8,544.00	8,617.00	7,501.00	6,863.00	7,336.00
Friction Reducer gal	218	191	197	414	285	288	228	196	243	265	257
Sand bbl	292,774.00	87,700.00	294,846.00	10,697.00	85,770.00	87,563.00	87,842.00	85,213.00	85,312.00	85,808.00	85,024.00
Sand gal	85,874.00	295,300.00	87,085.00	12,705.00	297,209.00	287,942.00	296,178.00	297,756.00	249,525.00	292,083.00	290,007.00
Scale Inhibitor lb	118	104	111	150	111	113	109	108	102	108	104
Water - Recycled lb	1,140.00	1,100.00	369	45					782	1,660.00	1,117.00

Units	Stage 12	Stage 13	Stage 14	Stage 15	Stage 16	Stage 17	Stage 18	Stage 19	Total
Iron Control gal									0.00
Acid gal	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00	32,500.00
Biocide gal	115	106	111	106	102	107	107	113	2,123.00
Fresh Water gal	7,467.00	7,354.00	7,171.00	7,344.00	7,173.00	7,729.00	7,122.00	7,582.00	150,256.00
Friction Reducer gal	280	261	204	256	260	272	258	293	4,866.00
Sand bbl	83,170.00	293,898.00	85,712.00	83,845.00	295,262.00	86,114.00	298,734.00	83,699.00	2,598,983.00
Sand gal	295,180.00	83,851.00	276,342.00	292,327.00	88,154.00	297,129.00	85,777.00	297,771.00	4,208,195.00
Scale Inhibitor lb	109	112	101	108	98	106	96	111	2,079.00
Water - Recycled lb	1,079.00	1,158.00	1,117.00	1,100.00	1,301.00	830	1,248.00	863	14,909.00

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