

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: 9/11/2013  
API #: 47-10302826

Farm name: Richard Dallison ET AL Operator Well No.: 513536

LOCATION: Elevation: 1452 Quadrangle: Big Run 7.5'

District: Grant County: Wetzel  
Latitude: 5129 Feet South of 39 Deg. 32 Min. 30 Sec.  
Longitude 11588 Feet West of 80 Deg. 32 Min. 30 Sec.

Company: EQT Production Company

Address:	EQT Plaza, Suite 1700	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
625 Liberty Avenue, Pittsburgh, PA		20"	40	40	44.84
Agent: Rex C. Ray		13-3/8"	1006	1006	1016.26
Inspector: Derek Haught		9-5/8"	3025	3025	1156.4
Date Permit Issued: 10/29/2012		5-1/2"	14148	14148	2577.5
Date Well Work Commenced: February 25th, 2013					
Date Well Work Completed: September 8th, 2013					
Verbal Plugging: N/A					
Date Permission granted on: N/A					
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>					
Total Vertical Depth (ft): 7267.6					
Total Measured Depth (ft): 14152					
Fresh Water Depth (ft.): 783					
Salt Water Depth (ft.): 2260, 2373					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): 737, 807, 922, 1012, 1244					
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) 7,223  
Gas: Initial open flow 867 MCF/d Oil: Initial open flow 0 Bbl/d  
Final open flow 10,300 MCF/d Final open flow 0 Bbl/d  
Time of open flow between initial and final tests 84 Hours  
Static rock Pressure 3,079 psig (surface pressure) after 85.5 Hours

Second producing formation NA Pay zone depth (ft) NA  
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

RECEIVED  
Office of Oil and Gas

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

9/8/2014  
Date

SEP 09 2014  
WV Department of  
Environmental Protection

01/23/2015

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 Gyro, Gamma, & CBL

**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:

Amended Report with Flow Back Data

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

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

Sand/Shale 0/737/737	Benson 5633.8/5953.1/319.3
Coal 737/738/1	Alexander 5953.1/6872.2/919.1
Sand/Shale 738/807/69	Rhinestreet 6872.2/6877.7/5.5
Coal 807/ 817/10	Sonyea 6877.7/7001.9/124.2
Sand/Shale 817/922/105	Middlesex 7001.9/7043.7/41.8
Coal 922/927/5	Genessee 7043.7/7113.3/69.6
Sand/Shale 927/1012/85	Geneseo 7113.3/7134.8/21.5
Coal 1012/1022/10	Tully 7134.8/7151.3/16.5
Sand/Shale 1022/1244/222	Hamilton 7151.3/7223.5/72.2
Coal 1244/1446/202	Marcellus 7223.5/7267.6/44.1
Sand/Shale 1446/2481.1/1035.1	
Big Lime 2481.1/3958.4/1477.1	
Warren 3958.4/4109.7/151.3	
Speechley 4109.7/4999/889.3	
Riley 4999/5633.8/634.9	

513536 - Perforations

Zone/Stage	Date	Top Plug Depth (ftKB)	Bottom Plug Depth (ftKB)	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Shots/ft
Toe Pop	3/10/14 6:06	13,900.00	NA	14,125.00	14,128.00	NA
1	3/10/14 10:24	13,900.00	NA	14,004.00	14,125.00	4
2	3/10/14 15:54	13,840.00	13,900.00	13,854.00	13,976.00	4
3	3/10/14 21:44	13,690.00	13,840.00	13,704.00	13,826.00	4
4	3/11/14 2:40	13,540.00	13,690.00	13,554.00	13,676.00	4
5	3/11/14 7:23	13,390.00	13,540.00	13,404.00	13,526.00	4
6	3/11/14 16:59	13,240.00	13,390.00	13,254.00	13,376.00	4
7	3/12/14 22:40	13,090.00	13,240.00	13,104.00	13,226.00	4
8	3/13/14 4:16	12,940.00	13,090.00	12,954.00	13,076.00	4
9	3/13/14 9:21	12,790.00	12,940.00	12,804.00	12,926.00	4
10	3/13/14 14:08	12,640.00	12,790.00	12,654.00	12,776.00	4
11	3/13/14 18:40	12,490.00	12,640.00	12,504.00	12,626.00	4
12	3/13/14 23:58	12,340.00	12,490.00	12,354.00	12,476.00	4
13	3/14/14 5:10	12,190.00	12,340.00	12,204.00	12,326.00	4
14	3/14/14 11:03	12,040.00	12,190.00	12,054.00	12,176.00	4
15	3/14/14 15:24	11,890.00	12,040.00	11,904.00	12,026.00	4
16	3/14/14 20:15	11,740.00	11,890.00	11,754.00	11,876.00	4
17	3/15/14 2:42	11,590.00	11,740.00	11,604.00	11,726.00	4
18	3/15/14 6:40	11,440.00	11,590.00	11,454.00	11,576.00	4
19	3/15/14 11:42	11,290.00	11,440.00	11,304.00	11,426.00	4
20	3/15/14 16:15	10,990.00	11,140.00	11,154.00	11,276.00	4
21	3/15/14 16:15	11,140.00	11,290.00	11,154.00	11,276.00	4
22	3/16/14 2:27	10,840.00	10,990.00	10,854.00	10,976.00	4
23	3/16/14 6:41	10,690.00	10,840.00	10,704.00	10,826.00	4
24	3/16/14 10:53	10,540.00	10,690.00	10,554.00	10,676.00	4
25	3/16/14 14:39	10,390.00	10,540.00	10,404.00	10,526.00	4
26	3/16/14 18:42	10,240.00	10,390.00	10,254.00	10,376.00	4
27	3/16/14 23:15	10,090.00	10,240.00	10,104.00	10,226.00	4
28	3/17/14 3:48	9,940.00	10,090.00	9,954.00	10,076.00	4
29	3/17/14 8:01	9,790.00	9,940.00	9,804.00	9,926.00	4
30	3/17/14 11:52	9,640.00	9,790.00	9,654.00	9,776.00	4
31	3/17/14 16:19	9,490.00	9,640.00	9,505.00	9,626.00	4
32	3/17/14 22:01	9,340.00	9,490.00	9,354.00	9,476.00	4
33	3/18/14 2:26	9,190.00	9,340.00	9,204.00	9,326.00	4
34	3/18/14 6:48	9,040.00	9,190.00	9,054.00	9,176.00	4
35	3/18/14 12:03	8,890.00	9,040.00	8,904.00	9,026.00	4
36	3/18/14 16:12	8,740.00	8,890.00	8,754.00	8,876.00	4
37	3/18/14 22:00	8,590.00	8,740.00	8,604.00	8,726.00	4
38	3/19/14 1:45	8,440.00	8,590.00	8,454.00	8,576.00	4
39	3/19/14 6:46	NA	8,440.00	8,304.00	8,426.00	4

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## 513536 - Stimulated Stages

Zone/Stage	P Break (psi)	Avg Treat Pressure (psi)	Avg rate (bbl/min)	ISIP (psi)	Frac Gradient (psi/ft)	15 Min. SIP (psi)	Fluid Volume (bbl)	Start Date	End Date	Proppant (lb)
Toe Pop	NA	8,470.00	28.5	NA	NA	NA	1,662	3/10/2014 6:06	3/10/2014 8:07	NA
1	8,214.00	8,733.00	78.5	4,752.00	1.05	3,554.00	5,228	3/10/2014 12:23	3/10/2014 13:44	196,700
2	6,974.00	8,656.00	87.9	5,018.00	1.08	3,752.00	5,331	3/10/2014 18:09	3/10/2014 19:31	201,700
3	6,386.00	8,775.00	91.4	4,665.00	1.04	3,655.00	5,258	3/10/2014 23:17	3/10/2014 0:35	199,500
4	6,918.00	8,742.00	89.7	5,281.00	1.12	3,955.00	5,209	3/11/2014 4:13	3/11/2014 5:31	200,200
5	6,460.00	8,747.00	93.3	5,093.00	1.09	3,851.00	5,215	3/11/2014 13:35	3/11/2014 14:50	201,300
6	6,653.00	8,766.00	90.9	5,039.00	1.09	3,824.00	5,347	3/11/2014 18:32	3/11/2014 19:50	199,900
7	6,165.00	8,737.00	90.9	4,216.00	1.03	3,874.00	5,319	3/13/2014 0:46	3/13/2014 2:08	199,900
8	6,380.00	8,746.00	89.4	4,577.00	1.03	3,915.00	5,152	3/13/2014 6:08	3/13/2014 7:28	200,800
9	6,227.00	8,822.00	91.5	5,462.00	1.14	4,128.00	5,271	3/13/2014 10:49	3/13/2014 12:04	200,100
10	6,051.00	8,815.00	91.4	5,418.00	1.14	4,189.00	5,148	3/13/2014 15:28	3/13/2014 16:42	201,600
11	6,293.00	8,781.00	87.2	4,600.00	1.03	4,079.00	5,336	3/13/2014 20:52	3/13/2014 22:16	200,400
12	6,136.00	8,789.00	92.6	4,554.00	1.02	3,899.00	5,341	3/14/2014 1:45	3/14/2014 3:15	201,400
13	5,920.00	8,713.00	90.4	5,014.00	1.08	4,010.00	5,146	3/14/2014 7:08	3/14/2014 8:22	203,100
14	6,290.00	8,755.00	88.9	5,028.00	1.09	4,079.00	5,019	3/14/2014 12:22	3/14/2014 13:37	203,000
15	6,289.00	8,728.00	97.0	5,118.00	1.1	4,120.00	5,118	3/14/2014 17:08	3/14/2014 18:18	199,700
16	5,830.00	8,705.00	95.7	5,292.00	1.12	4,160.00	5,233	3/14/2014 22:37	3/14/2014 23:52	199,500
17	6,345.00	8,769.00	90.4	5,016.00	1.08	4,187.00	5,051	3/15/2014 4:23	3/15/2014 5:37	198,700
18	6,251.00	8,694.00	90.2	5,085.00	1.09	4,196.00	5,017	3/15/2014 8:43	3/15/2014 9:56	200,700
19	6,134.00	8,603.00	90.3	5,487.00	1.15	4,411.00	4,999	3/15/2014 13:21	3/15/2014 14:39	197,900
20	6,549.00	8,770.00	91.5	5,330.00	1.13	4,147.00	5,092	3/15/2014 18:56	3/15/2014 20:10	197,000
21	6,227.00	8,677.00	96.7	5,371.00	1.13	4,175.00	5,001	3/15/2014 23:41	3/16/2014 0:51	198,100
22	6,010.00	8,742.00	97.9	5,310.00	1.12	4,193.00	4,964	3/16/2014 3:44	3/16/2014 4:55	200,600
23	6,283.00	8,676.00	98.2	5,340.00	1.13	4,260.00	4,995	3/16/2014 7:59	3/16/2014 9:07	199,400
24	6,151.00	8,808.00	97.5	5,156.00	1.1	4,284.00	4,913	3/16/2014 12:04	3/16/2014 13:11	199,300
25	6,197.00	8,746.00	98.6	5,529.00	1.15	4,163.00	5,029	3/16/2014 15:58	3/16/2014 17:06	200,900
26	6,198.00	8,566.00	99.0	4,754.00	1.05	3,995.00	5,023	3/16/2014 20:28	3/16/2014 21:42	199,000
27	6,226.00	8,707.00	100.0	4,986.00	1.08	4,106.00	5,033	3/17/2014 1:02	3/17/2014 2:15	201,800
28	6,044.00	8,716.00	100.3	4,775.00	1.05	3,892.00	5,070	3/17/2014 5:11	3/17/2014 6:22	202,000
29	5,916.00	8,442.00	100.8	5,048.00	1.09	4,244.00	5,012	3/17/2014 9:58	3/17/2014 11:08	203,000
30	6,454.00	8,591.00	99.8	5,664.00	1.17	4,435.00	5,022	3/17/2014 13:38	3/17/2014 14:44	201,300
31	5,889.00	8,371.00	99.4	5,472.00	1.15	4,114.00	5,025	3/17/2014 19:17	3/17/2014 20:24	201,600
32	6,824.00	8,539.00	98.7	4,749.00	1.05	3,851.00	5,061	3/17/2014 23:45	3/18/2014 0:56	200,500
33	6,294.00	8,163.00	99.7	5,388.00	1.14	4,232.00	4,945	3/18/2014 3:45	3/18/2014 4:50	201,100
34	5,967.00	8,012.00	101.1	5,638.00	1.17	4,703.00	4,814	3/18/2014 9:14	3/18/2014 10:17	203,700
35	6,470.00	8,148.00	96.3	5,567.00	1.16	4,461.00	4,875	3/18/2014 13:29	3/18/2014 14:34	200,900
36	6,898.00	8,591.00	95.9	5,736.00	1.18	4,381.00	4,662	3/18/2014 20:00	3/18/2014 21:04	204,000
37	6,838.00	8,353.00	98.6	5,475.00	1.15	4,232.00	4,644	3/18/2014 23:54	3/19/2014 0:57	205,000
38	6,183.00	8,025.00	99.3	5,918.00	1.2	4,633.00	4,584	3/19/2014 3:56	3/19/2014 4:57	198,200
39	6,849.00	8,072.00	100.2	4,920.00	1.08	3,525.00	4,920	3/19/2014 10:39	3/19/2014 11:43	201,600

103-02882

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/10/2014
Job End Date:	3/19/2014
State:	West Virginia
County:	Wetzel
API Number:	47-103-02826-00-00
Operator Name:	EQT Production
Well Name and Number:	BIG192 - 513536
Longitude:	-80.58225000
Latitude:	39.52750000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,700
Total Base Water Volume (gal):	8,720,780
Total Base Non Water Volume:	393,146



## 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	Halliburton	Carrier					
			Water	7732-18-5	100.00000	89.85282	
Sand	Halliburton	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.67879	
MX-5	Halliburton	Biocide					
			Sodium Nitrate	7631-99-4	60.00000	0.05655	
Hydrochloric Acid 15%	Halliburton	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03943	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02177	
MX-8	Halliburton	Biocide					
			Bacteria Culture	N/A	100.00000	0.00961	
LP-65	Halliburton	Scale Inhibitor					
			Ammonium Chloride	12125-02-9	10.00000	0.00245	
WG-36	Halliburton	Gelling Agent					
			Guar Gum	9000-30-0	100.00000	0.00243	
BA-40L	Halliburton	Buffer					
			Potassium carbonate	584-08-7	60.00000	0.00104	
HAI-OS	Halliburton	Protects casing					

