

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: 8/27/2013
API #: 47-10302849

al

Farm name: Hart Brothers Operator Well No.: 514418

LOCATION: Elevation: 1452 Quadrangle: Big Run 7.5'

District: Grant County: Wetzel
Latitude: 6244 Feet South of 39 Deg. 32 Min. 30 Sec.
Longitude 2380 Feet West of 80 Deg. 35 Min. 00 Sec.

Company: EQT Production Company

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
625 Liberty Avenue Pittsburgh, PA 1522	20	40	40	45
Agent: <u>Rex C. Ray</u>	13 3/8	1035	1035	1283
Inspector: <u>Derek Haught</u>	9 5/8	3704	3704	1460
Date Permit Issued: <u>2/11/2013</u>	5 1/2	11474	11474	1698
Date Well Work Commenced: <u>4/23/2013</u>				
Date Well Work Completed: <u>8/27/2013</u>				
Verbal Plugging: <u>N/A</u>				
Date Permission granted on: <u>N/A</u>				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): <u>7659'</u>				
Total Measured Depth (ft): <u>11476'</u>				
Fresh Water Depth (ft.): <u>584', 756'</u>				
Salt Water Depth (ft.): <u>2260'</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>853', 922', 1012', 1261', 1336'</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) 7,612
Gas: Initial open flow 560 MCF/d Oil: Initial open flow NA Bbl/d
Final open flow 5,616 MCF/d Final open flow NA Bbl/d
Time of open flow between initial and final tests 84.5 Hours
Static rock Pressure 818 psig (surface pressure) after 95.5 Hours

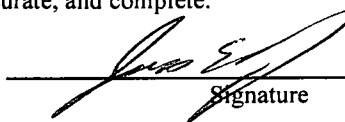
Second producing formation No Second Formation Pay zone depth (ft) NA
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

Office of Oil and Gas

MAY 01 2014

West Virginia 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.


Signature

4/28/2014
Date

06/27/2017

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 FB Data

Plug Back Details Including Plug Type and Depth(s): **N/A**

Formations Encountered: _____ Top Depth _____ / _____ Bottom Depth _____
Surface:

	Speechley 4117/5639/1522
Sand/Shale 0/853/853	Benson 5639/5963/324
Coal 853/854/1	Alexander 5963/7170/1207
Sand/Shale 854/922/68	Rhinestreet 7170/7178/8
Coal 922/923/1	Sonyea 7178/7343/165
Sand/Shale 923/1012/89	Middlesex 7343/7392/49
Coal 1012/1014/2	Genesee 7392/7478/86
Sand/Shale 1014/1261/247	Geneseo 7478/7505/27
Coal 1261/1274/13	Tully 7505/7526/21
Sand/Shale 1274/1336/62	Hamilton 7526/7612/86
Coal 1336/1340/4	Marcellus 7612/7659/52
Sand/Shale 1340/2875/1535	
Weir 2875/3323/448	
Fourth 3323/3967/644	
Warren 3967/4117/150	

514418 - Perforations

Zone/Stage	Date	Top Plug Depth (ftKB)	Bottom Plug Depth (ftKB)	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Shots/ft
Toe Pop	11/23/13 4:27	11,307.00	NA	11,448.00	11,451.00	NA
1	11/23/13 7:15	11,307.00	NA	11,327.00	11,419.00	4
2	11/23/13 13:23	11,163.00	11,307.00	11,177.00	11,293.00	4
3	11/24/13 14:57	11,013.00	11,163.00	11,027.00	11,149.00	4
4	11/24/13 21:50	10,863.00	11,013.00	10,880.00	10,999.00	4
5	11/25/13 1:45	10,713.00	10,863.00	10,727.00	10,849.00	4
6	11/25/13 5:58	10,563.00	10,713.00	10,577.00	10,699.00	4
7	11/25/13 10:41	10,413.00	10,563.00	10,427.00	10,549.00	4
8	11/25/13 15:30	10,260.00	10,413.00	10,277.00	10,399.00	4
9	11/25/13 21:29	10,113.00	10,260.00	10,127.00	10,246.00	4
10	11/26/13 1:52	9,963.00	10,113.00	9,977.00	10,099.00	4
11	11/26/13 4:00	9,813.00	9,963.00	9,827.00	9,949.00	4
12	11/26/13 8:36	9,663.00	9,813.00	9,677.00	9,799.00	4
13	11/26/13 12:50	9,513.00	9,663.00	9,527.00	9,649.00	4
14	11/26/13 18:41	9,363.00	9,513.00	9,377.00	9,499.00	4
15	11/27/13 12:12	9,213.00	9,363.00	9,227.00	9,349.00	4
16	11/27/13 16:30	8,988.00	9,138.00	9,077.00	9,199.00	4
17	11/27/13 22:29	8,838.00	8,988.00	8,927.00	9,049.00	4
18	11/28/13 3:03	8,688.00	8,838.00	8,777.00	8,899.00	4
19	11/28/13 6:58	8,538.00	8,688.00	8,627.00	8,749.00	4
20	11/28/13 11:00	8,388.00	8,538.00	8,477.00	8,599.00	4
21	11/28/13 15:20	8,313.00	8,463.00	8,327.00	8,449.00	4
22	11/28/13 21:10	8,159.00	8,313.00	8,177.00	8,299.00	4
23	11/29/13 1:23	8,013.00	8,159.00	8,027.00	8,149.00	4
24	11/29/13 5:19	NA	8,013.00	7,877.00	7,999.00	4

103.02849

514418 - 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	7,853.00	13.1	NA	NA	NA	1,665	11/23/2013 6:00	11/23/2013 6:40	NA
1	6,089.00	8,458.00	84.9	4,510.00	1	3,298.00	5,123	11/23/2013 10:01	11/23/2013 11:31	203,714
2	7,588.00	8,384.00	91.1	4,807.00	1.06	3,691.00	4,942	11/24/2013 4:23	11/24/2013 5:40	200,857
3	7,075.00	8,424.00	94.0	5,530.00	1.16	3,923.00	4,898	11/24/2013 18:54	11/24/2013 20:14	200,963
4	7,503.00	8,357.00	95.8	5,387.00	1.14	3,808.00	5,031	11/24/2013 22:57	11/25/2013 0:16	200,005
5	7,471.00	8,425.00	95.5	4,969.00	1.08	3,962.00	4,935	11/25/2013 3:10	11/25/2013 4:29	201,892
6	7,312.00	8,393.00	96.0	4,546.00	1.03	3,711.00	4,971	11/25/2013 8:18	11/25/2013 10:05	201,555
7	6,646.00	8,200.00	91.3	5,379.00	1.14	3,928.00	5,297	11/25/2013 13:14	11/25/2013 14:35	200,395
8	7,003.00	8,414.00	98.6	5,686.00	1.18	4,327.00	4,984	11/25/2013 18:44	11/25/2013 20:00	201,476
9	7,169.00	8,018.00	98.9	5,557.00	1.16	4,054.00	5,116	11/25/2013 22:38	11/25/2013 23:57	201,574
10	7,062.00	8,297.00	97.2	5,221.00	1.12	3,951.00	5,012	11/26/2013 2:48	11/26/2013 4:05	201,399
11	7,086.00	8,321.00	97.1	4,950.00	1.08	3,744.00	4,743	11/26/2013 6:43	11/26/2013 7:59	202,062
12	7,097.00	8,082.00	98.5	4,975.00	1.08	3,830.00	4,918	11/26/2013 10:47	11/26/2013 11:58	201,257
13	7,053.00	8,084.00	96.4	5,391.00	1.14	3,997.00	5,002	11/26/2013 15:26	11/26/2013 16:41	202,446
14	6,841.00	7,662.00	80.5	NA	1.17	NA	6,889	11/26/2013 20:33	11/26/2013 23:40	200,350
14 Inj	3,508.00	7,628.00	32.7	5,637.00	1.17	NA	976	11/27/2013 9:56	11/27/2013 11:29	NA
15	5,966.00	8,427.00	100.1	5,350.00	1.13	4,002.00	4,859	11/27/2013 14:31	11/27/2013 15:42	200,230
16	7,553.00	8,134.00	95.1	5,473.00	1.15	3,920.00	4,790	11/27/2013 19:34	11/27/2013 21:01	202,375
17	7,733.00	8,134.00	94.7	5,654.00	1.17	3,951.00	4,998	11/28/2013 23:56	11/28/2013 1:41	203,177
18	7,000.00	8,063.00	98.3	4,616.00	1.04	3,643.00	4,942	11/28/2013 4:43	11/28/2013 6:18	201,455
19	5,297.00	8,257.00	99.3	5,108.00	1.1	3,687.00	4,997	11/28/2013 9:04	11/28/2013 10:15	204,404
20	7,268.00	8,405.00	99.8	5,137.00	1.1	3,788.00	4,883	11/28/2013 13:29	11/28/2013 14:39	199,008
21	7,270.00	8,001.00	98.9	5,590.00	1.16	4,084.00	4,738	11/28/2013 18:00	11/28/2013 19:29	201,433
22	6,635.00	8,033.00	98.3	5,069.00	1.1	4,035.00	4,876	11/28/2013 22:39	11/28/2013 0:11	200,876
23	6,642.00	7,968.00	99.4	5,051.00	1.09	3,850.00	4,724	11/29/2013 2:42	11/29/2013 4:15	202,231
24	6,370.00	8,300.00	100.0	4,936.00	1.08	3,778.00	4,686	11/29/2013 6:33	11/29/2013 7:40	201,519

103-02849