

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

DATE: 9/4/2013
API #: 47-017-06214

HCA

PM

Farm name: Sue Ann Spiker Operator Well No.: 513527

LOCATION: Elevation: 1,254' Quadrangle: Smithburg

District: New Milton County: Doddridge, WV
Latitude: 10,547 Feet South of 39 Deg. 17 Min. 30 Sec.
Longitude 8,446 Feet West of 80 Deg. 42 Min. 30 Sec.

Company: EQT Production Company

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
EQT Plaza, Suite 1700 625 Liberty Avenue, Pittsburgh, PA 15222	20	72	72	81
Agent: Cecil Ray	13 3/8	676	676	629
Inspector: Sam Ward	9 5/8	5,327	5,327	2,129
Date Permit Issued: 3/22/2013	5 1/2	11,745	11,745	1,713
Date Well Work Commenced: 3/28/2013				
Date Well Work Completed: 4/15/2013				
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): 6,887'				
Total Measured Depth (ft): 11,745'				
Fresh Water Depth (ft.): 106', 576'				
Salt Water Depth (ft.): 2,000'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 48', 281', 557', 628', 1,207', 1,376'				
Void(s) encountered (N/Y) Depth(s) No				

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

Producing formation Marcellus Pay zone depth (ft) 6,692
Gas: Initial open flow 2,826 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 7,048 MCF/d Final open flow 60 Bbl/d
Time of open flow between initial and final tests 89.5 Hours
Static rock Pressure 2,000 psig (surface pressure) after 89.5 Hours

Second producing formation No second 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

7/17/2014
Date

RECEIVED
Office of Oil and Gas

WV Department of
Environmental Protection

08/12/2022

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 Yes, MWD Gamma, Gyro, and CBL log

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:

See Attachment

Amended Report With Flow Back Data

Re-Perforated stages 11 (11.1), 15 (15.1), 17 (17.1), 24 (24.1), 26 (26.1)

Performed additional injection tests on stages 1, 2, 11 (3 times), 17, 24.1

Combined stages 11.1 and 12 (no plug)

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

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

SAND / SHALE / 0 / 48 / 48 --

COAL / 48 / 53 / 5 -- SAND / SHALE / 53 / 281 / 228 --

COAL / 281 / 285 / 4 -- SAND / SHALE / 285 / 557 / 272 --

COAL / 557 / 560 / 3 -- SAND / SHALE / 560 / 628 / 68 --

COAL / 628 / 633 / 5 -- SAND / SHALE / 633 / 1,207 / 574 --

COAL / 1,207 / 1,210 / 3 -- SAND / SHALE / 1,210 / 1,376 / 166 --

COAL / 1,376 / 1,381 / 5 -- SAND / SHALE / 1,381 / 2,657 / 1,276 --

GORDON / 2,657 / 3,257 / 600 -- WARREN / 3,257 / 3,336 / 79 --

SPEECHLEY / 3,336 / 3,999 / 663 -- BALLTOWN B / 3,999 / 4,209 / 210 --

BRADFORD / 4,209 / 4,509 / 300 -- RILEY / 4,509 / 4,924 / 415 --

BENSON / 4,924 / 5,183 / 259 -- ALEXANDER / 5,183 / 6,356 / 1,173 --

RHINESTREET / 6,356 / 6,358 / 2 -- SONYEA / 6,358 / 6,455 / 97 --

MIDDLESEX / 6,455 / 6,502 / 47 -- GENESSEE / 6,502 / 6,567 / 65 --

GENESE / 6,567 / 6,587 / 20 -- TULLY / 6,587 / 6,605 / 18 --

HAMILTON / 6,605 / 6,692 / 87 -- Marcellus blk shale / 6,692 / 6,887 / 195

08/12/2022

513527 - Perforations

Zone/Stage	Date	Top Plug Depth (ftKB)	Bottom Plug Depth (ftKB)	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Shots/ft
Toe Pop	1/11/14 23:04	11,582.00	NA	10,717.00	10,720.00	NA
1	1/12/14 3:45	11,582.00	NA	11,596.00	11,688.00	4
2	1/12/14 18:25	11,432.00	11,582.00	11,446.00	11,568.00	4
3	1/14/14 23:33	11,432.00	11,582.00	11,296.00	11,418.00	4
4	1/15/14 4:15	11,282.00	11,432.00	11,146.00	11,268.00	4
5	1/15/14 13:28	11,132.00	11,282.00	10,996.00	11,162.00	4
6	1/15/14 21:35	10,982.00	11,132.00	10,846.00	10,968.00	4
7	1/16/14 10:09	10,832.00	10,982.00	10,696.00	10,818.00	4
8	1/16/14 16:48	10,686.00	10,832.00	10,546.00	10,668.00	4
9	1/16/14 22:55	10,532.00	10,686.00	10,396.00	10,518.00	4
10	1/17/14 0:00	10,382.00	10,532.00	10,246.00	10,368.00	4
11	1/17/14 19:09	10,232.00	10,382.00	10,096.00	10,218.00	4
11.1 (Re-Perf)	3/9/14 8:18	10,082.00	10,232.00	10,115.00	10,205.00	4
12	3/9/14 12:55	10,082.00	10,232.00	9,965.00	10,057.00	4
13	3/9/14 17:50	9,801.00	9,951.00	9,815.00	9,937.00	4
14	3/9/14 23:00	9,651.00	9,801.00	9,665.00	9,787.00	4
15	3/10/14 8:02	9,501.00	9,651.00	9,515.00	9,637.00	4
15.1 (Re-Perf)	3/10/14 15:15	9,501.00	9,651.00	9,530.00	9,600.00	4
16	3/10/14 20:15	9,365.00	9,501.00	9,379.00	9,501.00	4
17	3/11/14 18:10	9,215.00	9,365.00	9,229.00	9,351.00	4
17.1 (Re-Perf)	3/12/14 6:01	9,215.00	9,365.00	9,244.00	9,334.00	4
18	3/12/14 15:06	9,065.00	9,215.00	9,079.00	9,201.00	4
19	3/12/14 21:18	8,915.00	9,065.00	8,929.00	9,051.00	4
20	3/13/14 2:30	8,765.00	8,915.00	8,779.00	8,901.00	4
21	3/13/14 2:30	8,615.00	8,765.00	8,629.00	8,751.00	4
22	3/13/14 6:04	8,465.00	8,615.00	8,479.00	8,601.00	4
23	3/13/14 10:05	8,315.00	8,465.00	8,329.00	8,451.00	4
24	3/13/14 14:07	8,118.00	8,315.00	8,179.00	8,301.00	4
24.1 (Re-Perf)	3/13/14 19:00	8,118.00	8,315.00	8,134.00	8,209.00	4
25	3/14/14 6:11	7,968.00	8,118.00	7,982.00	8,104.00	4
26	3/14/14 10:13	7,842.00	7,968.00	7,832.00	7,952.00	4
26.1 (Re-Perf)	3/14/14 16:20	7,842.00	7,968.00	7,856.00	7,916.00	4
27	3/14/14 20:30	7,668.00	7,818.00	7,682.00	7,804.00	4
28	3/15/14 2:30	7,518.00	7,668.00	7,532.00	7,654.00	4
29	3/15/14 6:03	7,368.00	7,518.00	7,502.00	7,382.00	4
30	3/15/14 9:08	7,218.00	7,368.00	7,232.00	7,352.00	4
31	3/15/14 16:50	NA	7,218.00	7,082.00	7,202.00	4

513527 - 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	7,871.00	12.0	NA	NA	NA	930	1/12/2014 0:42	1/12/2014 2:26	NA
1	5,993.00	8,138.00	75.2	5,096.00	1.17	2,752.00	6,543	1/12/2014 5:11	1/12/2014 7:19	202,800
Inj Test	NA	6,706.00	13.9	5,762.00	1.27	NA	543	1/12/2014 14:33	1/12/2014 15:25	NA
2	5,427.00	8,142.00	93.2	8,502.00	1.68	NA	6,340	1/12/2014 22:30	1/13/2014 21:30	199,700
Inj Test	NA	6,454.00	93.2	5,378.00	1.22	NA	2,658	1/14/2014 15:19	1/14/2014 22:08	NA
3	5,876.00	8,093.00	93.2	5,000.00	1.17	3,816.00	5,187	1/15/2014 0:59	1/15/2014 2:25	199,000
4	5,412.00	8,011.00	94.6	5,376.00	1.22	4,117.00	7,006	1/15/2014 7:09	1/15/2014 11:25	194,700
5	5,542.00	8,027.00	92.2	5,379.00	1.22	4,236.00	6,180	1/15/2014 16:45	1/15/2014 18:46	202,900
6	6,641.00	8,420.00	72.7	4,884.00	1.15	3,757.00	6,962	1/15/2014 5:59	1/15/2014 8:14	193,400
7	5,716.00	7,905.00	97.4	5,072.00	1.18	3,914.00	5,285	1/16/2014 13:33	1/16/2014 14:53	203,600
8	6,425.00	8,025.00	98.0	5,448.00	1.23	4,265.00	5,005	1/16/2014 19:33	1/16/2014 20:48	201,200
9	6,222.00	7,840.00	99.7	4,961.00	1.16	3,650.00	5,061	1/16/2014 2:45	1/16/2014 3:59	202,000
10	5,370.00	7,722.00	99.8	5,127.00	1.18	3,641.00	5,062	1/17/2014 17:02	1/17/2014 17:21	202,900
11	7,482.00	7,903.00	55.7	NA	1.13	NA	2,574	1/17/2014 11:54	1/17/2014 14:23	3,700
Inj Test (1)	NA	7,043.00	2.8	NA	1.16	NA	1,057	1/17/2014 22:55	1/18/2014 6:00	NA
Inj Test (2)	NA	5,959.00	3.6	NA	1.16	NA	750	1/20/2014 9:12	1/20/2014 13:45	NA
Inj Test (3)	NA	4,903.00	11.6	NA	1.16	NA	1,844	3/8/2014 14:16	3/8/2014 16:54	NA
11.1 (Re-Perf)	6,148.00	8,807.00	59.9	4,940.00	1.16	4,051.00	4,744	3/9/2014 9:55	3/9/2014 11:30	4,700
12 (Combined)	6,489.00	8,624.00	85.7	4,195.00	1.05	2,905.00	9,804	3/9/2014 14:06	3/9/2014 16:25	395,600
13	5,526.00	8,455.00	85.3	4,851.00	1.14	3,540.00	5,117	3/9/2014 19:14	3/9/2014 20:41	201,700
14	5,383.00	8,503.00	89.3	4,943.00	1.16	4,099.00	5,456	3/10/2014 5:12	3/10/2014 6:40	200,000
15	7,713.00	8,425.00	34.6	4,814.00	1.14	4,141.00	7,388	3/10/2014 9:12	3/10/2014 13:24	1,000
15.1 (Re-Perf)	NA	8,543.00	85.3	4,700.00	1.12	3,700.00	5,280	3/10/2014 17:12	3/10/2014 18:38	180,200
16	5,969.00	8,449.00	87.6	4,898.00	1.15	3,935.00	4,999	3/10/2014 21:33	3/10/2014 22:54	199,900
17	5,992.00	8,380.00	25.0	8,228.00	1.64	NA	827	3/11/2014 3:36	3/11/2014 4:10	1,000
Inj Test	NA	5,718.00	11.6	NA	1.17	NA	2,508	3/11/2014 13:20	3/11/2014 16:56	NA
17.1 (Re-Perf)	NA	8,376.00	97.7	5,013.00	1.17	4,269.00	5,198	3/12/2014 3:06	3/12/2014 4:23	198,800
18	6,089.00	8,303.00	97.0	5,058.00	1.17	3,909.00	5,633	3/12/2014 6:01	3/12/2014 9:25	201,500
19	5,646.00	8,490.00	98.1	4,550.00	1.1	3,624.00	5,125	3/12/2014 16:24	3/12/2014 17:42	201,200
20	5,627.00	8,226.00	97.8	4,372.00	1.07	3,444.00	5,277	3/12/2014 23:30	3/13/2014 1:05	203,800
21	5,580.00	8,198.00	100.1	4,447.00	1.09	3,640.00	4,967	3/12/2014 3:30	3/12/2014 5:08	199,700
22	5,599.00	8,210.00	99.8	4,092.00	1.03	3,265.00	5,120	3/13/2014 7:40	3/13/2014 8:59	198,100
23	5,344.00	8,523.00	94.5	4,913.00	1.15	3,539.00	6,429	3/13/2014 11:11	3/13/2014 12:44	199,800
24	6,917.00	8,888.00	72.6	5,729.00	1.27	NA	7,567	3/13/2014 15:42	3/13/2014 17:43	3,200
24.1 (Re-Perf)	NA	8,332.00	97.0	9,397.00	1.81	NA	4,590	3/13/2014 21:00	3/13/2014 23:39	157,400
Inj Test	NA	3,999.00	8.2	5,170.00	1.81	NA	743	3/14/2014 3:40	3/14/2014 5:15	NA
25	5,985.00	7,677.00	96.1	5,035.00	1.17	3,681.00	6,359	3/14/2014 7:25	4/20/2014 9:06	197,600
26	5,443.00	8,458.00	60.2	5,322.00	1.21	4,125.00	6,086	3/14/2014 12:04	3/14/2014 15:20	7,100
26.1 (Re-Perf)	NA	7,895.00	96.4	5,046.00	1.17	3,763.00	5,425	3/14/2014 18:30	3/14/2014 0:00	198,200
27	5,641.00	7,536.00	97.9	5,114.00	1.18	3,997.00	4,659	3/14/2014 23:24	3/15/2014 12:45	202,800
28	6,023.00	7,615.00	99.5	5,078.00	1.18	4,139.00	4,719	3/15/2014 4:00	3/14/2014 5:15	200,300
29	6,543.00	7,624.00	98.6	5,086.00	1.18	3,931.00	4,861	3/15/2014 6:55	3/15/2014 8:21	198,500
30	6,132.00	7,560.00	98.5	5,004.00	1.17	4,109.00	5,271	3/15/2014 14:30	3/15/2014 15:44	202,700
31	6,203.00	7,723.00	97.2	4,867.00	1.15	3,959.00	5,024	3/15/2014 17:30	3/15/2014 19:00	200,800