

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

API 47-103-03073 County Wetzel District Grant
Quad Big Run Pad Name Mary Miller GRT WZ Field/Pool Name _____
Farm name MA Miller Well Number Mary Miller GRT WZ 7H
Operator (as registered with the OOG) American Energy - Marcellus, LLC
Address 301 NW 63rd, Suite 600 City Oklahoma City State OK Zip 73116

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4385122.03 Easting 533259.80
Landing Point of Curve Northing 4385337 Easting 533349
Bottom Hole Northing 4386956.25 Easting 531098.55

Elevation (ft) 1364' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____

Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____

Drilled with Cable Rotary

Received
Office of Oil & Gas
NOV 20 2015

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)

SOBM

Date permit issued 3/02/2015 Date drilling commenced 06/03/2015 Date drilling ceased 6/27/2015
Date completion activities began 8/8/2015 Date completion activities ceased 10/30/2015
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft ~540' Open mine(s) (Y/N) depths N
Salt water depth(s) ft ~2175' Void(s) encountered (Y/N) depths N
Coal depth(s) ft ~1265' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

DmH

API 47- 103 - 03073 Farm name MA Miller Well number Mary Miller GRT WZ 7H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	26"	20"	96'	New	J-55		Y
Surface	17-1/2"	13-3/8"	1313'	New	J-55		Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3441'	New	J-55		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	17043'	New	P-110		Y
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	190	15.6	1.2		0	
Surface	Class A	1210	15.6	1.2		0	
Coal							
Intermediate 1	Class A	850	Lead 15.3, Tail 15.6	Lead 1.23, Tail 1.18		0	
Intermediate 2							
Intermediate 3							
Production	Class H 50/50 Poz	3610	Lead 14.5, Tail 15.2	Lead 1.22, Tail 1.07		0	
Tubing							

Drillers TD (ft) 17064' Loggers TD (ft) _____

Deepest formation penetrated Marcellus Plug back to (ft) _____

Plug back procedure _____

Kick off depth (ft) 6861'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING There were 12 centralizers placed in the surface casing string, 28 in the intermediate and in the production string.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

Received
Office of Oil & Gas

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

NOV 20 2015

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

Perforations

Mary Miller GRT WZ 7H

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
55	8/31/2015	7,772.0	7,773.0	6.0	6	Stage 55
55	8/31/2015	7,805.0	7,806.0	6.0	6	Stage 55
55	8/31/2015	7,838.0	7,839.0	6.0	6	Stage 55
55	8/31/2015	7,871.0	7,872.0	6.0	6	Stage 55
55	8/31/2015	7,904.0	7,905.0	6.0	6	Stage 55
54	8/31/2015	7,938.0	7,939.0	6.0	6	Stage 54
54	8/31/2015	7,971.0	7,972.0	6.0	6	Stage 54
54	8/31/2015	8,004.0	8,005.0	6.0	6	Stage 54
54	8/31/2015	8,037.0	8,038.0	6.0	6	Stage 54
54	8/31/2015	8,070.0	8,071.0	6.0	6	Stage 54
53	8/30/2015	8,104.0	8,105.0	6.0	6	Stage 53
53	8/30/2015	8,137.0	8,138.0	6.0	6	Stage 53
53	8/30/2015	8,170.0	8,171.0	6.0	6	Stage 53
53	8/30/2015	8,203.0	8,204.0	6.0	6	Stage 53
53	8/30/2015	8,236.0	8,237.0	6.0	6	Stage 53
52	8/30/2015	8,270.0	8,271.0	6.0	6	Stage 52
52	8/30/2015	8,303.0	8,304.0	6.0	6	Stage 52
52	8/30/2015	8,336.0	8,337.0	6.0	6	Stage 52
52	8/30/2015	8,369.0	8,370.0	6.0	6	Stage 52
52	8/30/2015	8,402.0	8,403.0	6.0	6	Stage 52
51	8/29/2015	8,436.0	8,437.0	6.0	6	Stage 51
51	8/29/2015	8,469.0	8,470.0	6.0	6	Stage 51
51	8/29/2015	8,502.0	8,503.0	6.0	6	Stage 51
51	8/29/2015	8,535.0	8,536.0	6.0	6	Stage 51
51	8/29/2015	8,568.0	8,569.0	6.0	6	Stage 51
50	8/29/2015	8,602.0	8,603.0	6.0	6	Stage 50
50	8/29/2015	8,635.0	8,636.0	6.0	6	Stage 50
50	8/29/2015	8,668.0	8,669.0	6.0	6	Stage 50
50	8/29/2015	8,701.0	8,702.0	6.0	6	Stage 50
50	8/29/2015	8,734.0	8,735.0	6.0	6	Stage 50
49	8/29/2015	8,768.0	8,769.0	6.0	6	Stage 49
49	8/29/2015	8,801.0	8,802.0	6.0	6	Stage 49
49	8/29/2015	8,834.0	8,835.0	6.0	6	Stage 49
49	8/29/2015	8,867.0	8,868.0	6.0	6	Stage 49
49	8/29/2015	8,900.0	8,901.0	6.0	6	Stage 49
48	8/28/2015	8,934.0	8,935.0	6.0	6	Stage 48
48	8/28/2015	8,967.0	8,968.0	6.0	6	Stage 48
48	8/28/2015	9,000.0	9,001.0	6.0	6	Stage 48
48	8/28/2015	9,033.0	9,034.0	6.0	6	Stage 48
48	8/28/2015	9,066.0	9,067.0	6.0	6	Stage 48
47	8/28/2015	9,100.0	9,101.0	6.0	6	Stage 47
47	8/28/2015	9,133.0	9,134.0	6.0	6	Stage 47
47	8/28/2015	9,166.0	9,167.0	6.0	6	Stage 47
47	8/28/2015	9,199.0	9,200.0	6.0	6	Stage 47
47	8/28/2015	9,232.0	9,233.0	6.0	6	Stage 47
46	8/28/2015	9,266.0	9,267.0	6.0	6	Stage 46
46	8/28/2015	9,299.0	9,300.0	6.0	6	Stage 46
46	8/28/2015	9,332.0	9,333.0	6.0	6	Stage 46
46	8/28/2015	9,365.0	9,366.0	6.0	6	Stage 46
46	8/28/2015	9,398.0	9,399.0	6.0	6	Stage 46
45	8/27/2015	9,432.0	9,433.0	6.0	6	Stage 45
45	8/27/2015	9,465.0	9,466.0	6.0	6	Stage 45
45	8/27/2015	9,498.0	9,499.0	6.0	6	Stage 45
45	8/27/2015	9,531.0	9,532.0	6.0	6	Stage 45
45	8/27/2015	9,564.0	9,565.0	6.0	6	Stage 45
44	8/27/2015	9,598.0	9,599.0	6.0	6	Stage 44
44	8/27/2015	9,631.0	9,632.0	6.0	6	Stage 44
44	8/27/2015	9,664.0	9,665.0	6.0	6	Stage 44
44	8/27/2015	9,697.0	9,698.0	6.0	6	Stage 44
44	8/27/2015	9,730.0	9,731.0	6.0	6	Stage 44
43	8/27/2015	9,764.0	9,765.0	6.0	6	Stage 43
43	8/27/2015	9,797.0	9,798.0	6.0	6	Stage 43
43	8/27/2015	9,830.0	9,831.0	6.0	6	Stage 43

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
43	8/27/2015	9,863.0	9,864.0	6.0	6	Stage 43
43	8/27/2015	9,896.0	9,897.0	6.0	6	Stage 43
42	8/26/2015	9,930.0	9,931.0	6.0	6	Stage 42
42	8/26/2015	9,963.0	9,964.0	6.0	6	Stage 42
42	8/26/2015	9,996.0	9,997.0	6.0	6	Stage 42
42	8/26/2015	10,029.0	10,030.0	6.0	6	Stage 42
42	8/26/2015	10,062.0	10,063.0	6.0	6	Stage 42
41	8/26/2015	10,096.0	10,097.0	6.0	6	Stage 41
41	8/26/2015	10,129.0	10,130.0	6.0	6	Stage 41
41	8/26/2015	10,162.0	10,163.0	6.0	6	Stage 41
41	8/26/2015	10,195.0	10,196.0	6.0	6	Stage 41
41	8/26/2015	10,228.0	10,229.0	6.0	6	Stage 41
40	8/26/2015	10,262.0	10,263.0	6.0	6	Stage 40
40	8/26/2015	10,295.0	10,296.0	6.0	6	Stage 40
40	8/26/2015	10,328.0	10,329.0	6.0	6	Stage 40
40	8/26/2015	10,361.0	10,362.0	6.0	6	Stage 40
40	8/26/2015	10,394.0	10,395.0	6.0	6	Stage 40
39	8/25/2015	10,428.0	10,429.0	6.0	6	Stage 39
39	8/25/2015	10,461.0	10,462.0	6.0	6	Stage 39
39	8/25/2015	10,494.0	10,495.0	6.0	6	Stage 39
39	8/25/2015	10,527.0	10,528.0	6.0	6	Stage 39
39	8/25/2015	10,560.0	10,561.0	6.0	6	Stage 39
38	8/25/2015	10,594.0	10,595.0	6.0	6	Stage 38
38	8/25/2015	10,627.0	10,628.0	6.0	6	Stage 38
38	8/25/2015	10,660.0	10,661.0	6.0	6	Stage 38
38	8/25/2015	10,693.0	10,694.0	6.0	6	Stage 38
38	8/25/2015	10,726.0	10,727.0	6.0	6	Stage 38
37	8/24/2015	10,760.0	10,761.0	6.0	6	Stage 37
37	8/24/2015	10,793.0	10,794.0	6.0	6	Stage 37
37	8/24/2015	10,826.0	10,827.0	6.0	6	Stage 37
37	8/24/2015	10,859.0	10,860.0	6.0	6	Stage 37
37	8/24/2015	10,892.0	10,893.0	6.0	6	Stage 37
36	8/24/2015	10,926.0	10,927.0	6.0	6	Stage 36
36	8/24/2015	10,959.0	10,960.0	6.0	6	Stage 36
36	8/24/2015	10,992.0	10,993.0	6.0	6	Stage 36
36	8/24/2015	11,025.0	11,026.0	6.0	6	Stage 36
36	8/24/2015	11,058.0	11,059.0	6.0	6	Stage 36
35	8/23/2015	11,092.0	11,093.0	6.0	6	Stage 35
35	8/23/2015	11,125.0	11,126.0	6.0	6	Stage 35
35	8/23/2015	11,158.0	11,159.0	6.0	6	Stage 35
35	8/23/2015	11,191.0	11,192.0	6.0	6	Stage 35
35	8/23/2015	11,224.0	11,225.0	6.0	6	Stage 35
34	8/23/2015	11,258.0	11,259.0	6.0	6	Stage 34
34	8/23/2015	11,291.0	11,292.0	6.0	6	Stage 34
34	8/23/2015	11,324.0	11,325.0	6.0	6	Stage 34
34	8/23/2015	11,357.0	11,358.0	6.0	6	Stage 34
34	8/23/2015	11,390.0	11,391.0	6.0	6	Stage 34
33	8/22/2015	11,424.0	11,425.0	6.0	6	Stage 33
33	8/22/2015	11,457.0	11,458.0	6.0	6	Stage 33
33	8/22/2015	11,490.0	11,491.0	6.0	6	Stage 33
33	8/22/2015	11,523.0	11,524.0	6.0	6	Stage 33
33	8/22/2015	11,556.0	11,557.0	6.0	6	Stage 33
32	8/22/2015	11,590.0	11,591.0	6.0	6	Stage 32
32	8/22/2015	11,623.0	11,624.0	6.0	6	Stage 32
32	8/22/2015	11,656.0	11,657.0	6.0	6	Stage 32
32	8/22/2015	11,689.0	11,690.0	6.0	6	Stage 32
32	8/22/2015	11,722.0	11,723.0	6.0	6	Stage 32
31	8/21/2015	11,756.0	11,757.0	6.0	6	Stage 31
31	8/21/2015	11,789.0	11,790.0	6.0	6	Stage 31
31	8/21/2015	11,822.0	11,823.0	6.0	6	Stage 31
31	8/21/2015	11,855.0	11,856.0	6.0	6	Stage 31
31	8/21/2015	11,888.0	11,889.0	6.0	6	Stage 31
30	8/21/2015	11,922.0	11,923.0	6.0	6	Stage 30

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
30	8/21/2015	11,955.0	11,956.0	6.0	6	Stage 30
30	8/21/2015	11,988.0	11,989.0	6.0	6	Stage 30
30	8/21/2015	12,021.0	12,022.0	6.0	6	Stage 30
30	8/21/2015	12,054.0	12,055.0	6.0	6	Stage 30
29	8/20/2015	12,088.0	12,089.0	6.0	6	Stage 29
29	8/20/2015	12,121.0	12,122.0	6.0	6	Stage 29
29	8/20/2015	12,154.0	12,155.0	6.0	6	Stage 29
29	8/20/2015	12,187.0	12,188.0	6.0	6	Stage 29
29	8/20/2015	12,220.0	12,221.0	6.0	6	Stage 29
28	8/20/2015	12,254.0	12,255.0	6.0	6	Stage 28
28	8/20/2015	12,287.0	12,288.0	6.0	6	Stage 28
28	8/20/2015	12,320.0	12,321.0	6.0	6	Stage 28
28	8/20/2015	12,353.0	12,354.0	6.0	6	Stage 28
28	8/20/2015	12,386.0	12,387.0	6.0	6	Stage 28
27	8/19/2015	12,420.0	12,421.0	6.0	6	Stage 27
27	8/19/2015	12,453.0	12,454.0	6.0	6	Stage 27
27	8/19/2015	12,486.0	12,487.0	6.0	6	Stage 27
27	8/19/2015	12,519.0	12,520.0	6.0	6	Stage 27
27	8/19/2015	12,552.0	12,553.0	6.0	6	Stage 27
26	8/19/2015	12,586.0	12,587.0	6.0	6	Stage 26
26	8/19/2015	12,619.0	12,620.0	6.0	6	Stage 26
26	8/19/2015	12,652.0	12,653.0	6.0	6	Stage 26
26	8/19/2015	12,685.0	12,686.0	6.0	6	Stage 26
26	8/19/2015	12,718.0	12,719.0	6.0	6	Stage 26
25	8/19/2015	12,752.0	12,753.0	6.0	6	Stage 25
25	8/19/2015	12,785.0	12,786.0	6.0	6	Stage 25
25	8/19/2015	12,818.0	12,819.0	6.0	6	Stage 25
25	8/19/2015	12,851.0	12,852.0	6.0	6	Stage 25
25	8/19/2015	12,884.0	12,885.0	6.0	6	Stage 25
24	8/18/2015	12,918.0	12,919.0	6.0	6	Stage 24
24	8/18/2015	12,951.0	12,952.0	6.0	6	Stage 24
24	8/18/2015	12,984.0	12,985.0	6.0	6	Stage 24
24	8/18/2015	13,017.0	13,018.0	6.0	6	Stage 24
24	8/18/2015	13,050.0	13,051.0	6.0	6	Stage 24
23	8/18/2015	13,084.0	13,085.0	6.0	6	Stage 23
23	8/18/2015	13,117.0	13,118.0	6.0	6	Stage 23
23	8/18/2015	13,150.0	13,151.0	6.0	6	Stage 23
23	8/18/2015	13,183.0	13,184.0	6.0	6	Stage 23
23	8/18/2015	13,216.0	13,217.0	6.0	6	Stage 23
22	8/18/2015	13,250.0	13,251.0	6.0	6	Stage 22
22	8/18/2015	13,283.0	13,284.0	6.0	6	Stage 22
22	8/18/2015	13,316.0	13,317.0	6.0	6	Stage 22
22	8/18/2015	13,349.0	13,350.0	6.0	6	Stage 22
22	8/18/2015	13,382.0	13,383.0	6.0	6	Stage 22
21	8/15/2015	13,416.0	13,417.0	6.0	6	Stage 21
21	8/15/2015	13,449.0	13,450.0	6.0	6	Stage 21
21	8/15/2015	13,482.0	13,483.0	6.0	6	Stage 21
21	8/15/2015	13,515.0	13,516.0	6.0	6	Stage 21
21	8/15/2015	13,548.0	13,549.0	6.0	6	Stage 21
20	8/15/2015	13,582.0	13,583.0	6.0	6	Stage 20
20	8/15/2015	13,615.0	13,616.0	6.0	6	Stage 20
20	8/15/2015	13,648.0	13,649.0	6.0	6	Stage 20
20	8/15/2015	13,681.0	13,682.0	6.0	6	Stage 20
20	8/15/2015	13,714.0	13,715.0	6.0	6	Stage 20
19	8/14/2015	13,748.0	13,749.0	6.0	6	Stage 19
19	8/14/2015	13,781.0	13,782.0	6.0	6	Stage 19
19	8/14/2015	13,814.0	13,815.0	6.0	6	Stage 19
19	8/14/2015	13,847.0	13,848.0	6.0	6	Stage 19
19	8/14/2015	13,880.0	13,881.0	6.0	6	Stage 19
18	8/14/2015	13,914.0	13,915.0	6.0	6	Stage 18
18	8/14/2015	13,947.0	13,948.0	6.0	6	Stage 18
18	8/14/2015	13,980.0	13,981.0	6.0	6	Stage 18
18	8/14/2015	14,013.0	14,014.0	6.0	6	Stage 18

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
18	8/14/2015	14,046.0	14,047.0	6.0	6	Stage 18
17	8/14/2015	14,080.0	14,081.0	6.0	6	Stage 17
17	8/14/2015	14,113.0	14,112.0	6.0	6	Stage 17
17	8/14/2015	14,146.0	14,147.0	6.0	6	Stage 17
17	8/14/2015	14,179.0	14,180.0	6.0	6	Stage 17
17	8/14/2015	14,212.0	14,213.0	6.0	6	Stage 17
16	8/13/2015	14,246.0	14,247.0	6.0	6	Stage 16
16	8/13/2015	14,279.0	14,280.0	6.0	6	Stage 16
16	8/13/2015	14,312.0	14,313.0	6.0	6	Stage 16
16	8/13/2015	14,345.0	14,346.0	6.0	6	Stage 16
16	8/13/2015	14,378.0	14,379.0	6.0	6	Stage 16
15	8/13/2015	14,412.0	14,413.0	6.0	6	Stage 15
15	8/13/2015	14,445.0	14,446.0	6.0	6	Stage 15
15	8/13/2015	14,478.0	14,479.0	6.0	6	Stage 15
15	8/13/2015	14,511.0	14,512.0	6.0	6	Stage 15
15	8/13/2015	14,544.0	14,545.0	6.0	6	Stage 15
14	8/13/2015	14,578.0	14,579.0	6.0	6	Stage 14
14	8/13/2015	14,611.0	14,612.0	6.0	6	Stage 14
14	8/13/2015	14,644.0	14,645.0	6.0	6	Stage 14
14	8/13/2015	14,677.0	14,678.0	6.0	6	Stage 14
14	8/13/2015	14,710.0	14,711.0	6.0	6	Stage 14
13	8/12/2015	14,744.0	14,745.0	6.0	6	Stage 13
13	8/12/2015	14,777.0	14,778.0	6.0	6	Stage 13
13	8/12/2015	14,810.0	14,811.0	6.0	6	Stage 13
13	8/12/2015	14,843.0	14,844.0	6.0	6	Stage 13
13	8/12/2015	14,876.0	14,877.0	6.0	6	Stage 13
12	8/12/2015	14,910.0	14,911.0	6.0	6	Stage 12
12	8/12/2015	14,943.0	14,944.0	6.0	6	Stage 12
12	8/12/2015	14,976.0	14,977.0	6.0	6	Stage 12
12	8/12/2015	15,009.0	15,010.0	6.0	6	Stage 12
12	8/12/2015	15,042.0	15,043.0	6.0	6	Stage 12
11	8/11/2015	15,076.0	15,077.0	6.0	6	Stage 11
11	8/11/2015	15,109.0	15,110.0	6.0	6	Stage 11
11	8/11/2015	15,142.0	15,143.0	6.0	6	Stage 11
11	8/11/2015	15,175.0	15,176.0	6.0	6	Stage 11
11	8/11/2015	15,208.0	15,209.0	6.0	6	Stage 11
10	8/11/2015	15,242.0	15,243.0	6.0	6	Stage 10
10	8/11/2015	15,275.0	15,276.0	6.0	6	Stage 10
10	8/11/2015	15,308.0	15,309.0	6.0	6	Stage 10
10	8/11/2015	15,341.0	15,342.0	6.0	6	Stage 10
10	8/11/2015	15,374.0	15,375.0	6.0	6	Stage 10
9	8/10/2015	15,408.0	15,409.0	6.0	6	Stage 9
9	8/10/2015	15,441.0	15,442.0	6.0	6	Stage 9
9	8/10/2015	15,474.0	15,475.0	6.0	6	Stage 9
9	8/10/2015	15,507.0	15,508.0	6.0	6	Stage 9
9	8/10/2015	15,540.0	15,541.0	6.0	6	Stage 9
8	8/10/2015	15,574.0	15,575.0	6.0	6	Stage 8
8	8/10/2015	15,607.0	15,608.0	6.0	6	Stage 8
8	8/10/2015	15,640.0	15,641.0	6.0	6	Stage 8
8	8/10/2015	15,673.0	15,674.0	6.0	6	Stage 8
8	8/10/2015	15,706.0	15,707.0	6.0	6	Stage 8
7	8/9/2015	15,740.0	15,741.0	6.0	6	Stage 7
7	8/9/2015	15,773.0	15,774.0	6.0	6	Stage 7
7	8/9/2015	15,806.0	15,807.0	6.0	6	Stage 7
7	8/9/2015	15,839.0	15,840.0	6.0	6	Stage 7
7	8/9/2015	15,872.0	15,873.0	6.0	6	Stage 7
6	8/9/2015	15,906.0	15,907.0	6.0	6	Stage 6
6	8/9/2015	15,939.0	15,940.0	6.0	6	Stage 6
6	8/9/2015	15,972.0	15,973.0	6.0	6	Stage 6
6	8/9/2015	16,005.0	16,006.0	6.0	6	Stage 6
6	8/9/2015	16,038.0	16,039.0	6.0	6	Stage 6
5	8/8/2015	16,072.0	16,072.0	6.0	6	Stage 5
5	8/8/2015	16,105.0	16,106.0	6.0	6	Stage 5

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
5	8/8/2015	16,138.0	16,139.0	6.0	6	Stage 5
5	8/8/2015	16,171.0	16,172.0	6.0	6	Stage 5
5	8/8/2015	16,204.0	16,205.0	6.0	6	Stage 5
4	8/8/2015	16,238.0	16,239.0	6.0	6	Stage 4
4	8/8/2015	16,271.0	16,272.0	6.0	6	Stage 4
4	8/8/2015	16,304.0	16,305.0	6.0	6	Stage 4
4	8/8/2015	16,337.0	16,338.0	6.0	6	Stage 4
4	8/8/2015	16,370.0	16,371.0	6.0	6	Stage 4
3	8/7/2015	16,404.0	16,405.0	6.0	6	Stage 3
3	8/7/2015	16,437.0	16,438.0	6.0	6	Stage 3
3	8/7/2015	16,470.0	16,471.0	6.0	6	Stage 3
3	8/7/2015	16,503.0	16,504.0	6.0	6	Stage 3
3	8/7/2015	16,536.0	16,537.0	6.0	6	Stage 3
2	8/7/2015	16,570.0	16,571.0	6.0	6	Stage 2
2	8/7/2015	16,603.0	16,604.0	6.0	6	Stage 2
2	8/7/2015	16,636.0	16,637.0	6.0	6	Stage 2
2	8/7/2015	16,669.0	16,670.0	6.0	6	Stage 2
2	8/7/2015	16,702.0	16,703.0	6.0	6	Stage 2
1	7/6/2015	16,736.0	16,737.0	5.0	6	Stage 1
1	7/6/2015	16,769.0	16,770.0	5.0	6	Stage 1
1	7/6/2015	16,802.0	16,803.0	5.0	6	Stage 1
1	7/6/2015	16,835.0	16,836.0	5.0	6	Stage 1
1	7/6/2015	16,868.0	16,869.0	5.0	6	Stage 1

Well Name MARY MILLER GRT WZ 7H	API 47103030730000	Property Number 1470020	Well Status PRODUCTION	State WEST VIRGINIA	County WETZEL	Well Spud Date 6/3/2015	RR Date 6/27/2015	Comp Date
---------------------------------------	-----------------------	----------------------------	---------------------------	------------------------	------------------	----------------------------	----------------------	-----------

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
55	8/31/2015	7,466.3	7,466.5			Stage 55
55	8/31/2015	7,471.9	7,472.1			Stage 55
55	8/31/2015	7,476.4	7,476.5			Stage 55
55	8/31/2015	7,479.7	7,479.8			Stage 55
55	8/31/2015	7,481.5	7,481.6			Stage 55
54	8/31/2015	7,482.0	7,482.0			Stage 54
54	8/31/2015	7,481.6	7,481.6			Stage 54
54	8/31/2015	7,481.0	7,480.9			Stage 54
54	8/31/2015	7,480.1	7,480.0			Stage 54
54	8/31/2015	7,479.2	7,479.2			Stage 54
53	8/30/2015	7,478.6	7,478.6			Stage 53
53	8/30/2015	7,478.2	7,478.1			Stage 53
53	8/30/2015	7,478.2	7,478.2			Stage 53
53	8/30/2015	7,478.7	7,478.8			Stage 53
53	8/30/2015	7,479.7	7,479.8			Stage 53
52	8/30/2015	7,480.8	7,480.8			Stage 52
52	8/30/2015	7,481.7	7,481.8			Stage 52
52	8/30/2015	7,482.5	7,482.6			Stage 52
52	8/30/2015	7,483.1	7,483.1			Stage 52
52	8/30/2015	7,483.3	7,483.3			Stage 52
51	8/29/2015	7,483.4	7,483.4			Stage 51
51	8/29/2015	7,483.8	7,483.9			Stage 51
51	8/29/2015	7,484.6	7,484.6			Stage 51
51	8/29/2015	7,485.5	7,485.6			Stage 51
51	8/29/2015	7,486.4	7,486.4			Stage 51
50	8/29/2015	7,487.1	7,487.2			Stage 50
50	8/29/2015	7,487.8	7,487.8			Stage 50
50	8/29/2015	7,488.4	7,488.4			Stage 50
50	8/29/2015	7,488.9	7,488.9			Stage 50
50	8/29/2015	7,489.2	7,489.2			Stage 50
49	8/29/2015	7,489.2	7,489.2			Stage 49
49	8/29/2015	7,489.0	7,489.0			Stage 49
49	8/29/2015	7,489.0	7,489.0			Stage 49
49	8/29/2015	7,489.5	7,489.6			Stage 49
49	8/29/2015	7,490.4	7,490.5			Stage 49
48	8/28/2015	7,491.3	7,491.3			Stage 48
48	8/28/2015	7,492.1	7,492.1			Stage 48
48	8/28/2015	7,492.7	7,492.7			Stage 48
48	8/28/2015	7,493.3	7,493.3			Stage 48
48	8/28/2015	7,493.8	7,493.8			Stage 48
47	8/28/2015	7,494.3	7,494.3			Stage 47
47	8/28/2015	7,494.8	7,494.8			Stage 47
47	8/28/2015	7,495.3	7,495.3			Stage 47
47	8/28/2015	7,495.7	7,495.8			Stage 47

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
47	8/28/2015	7,496.1	7,496.1			Stage 47
46	8/28/2015	7,496.4	7,496.4			Stage 46
46	8/28/2015	7,496.7	7,496.7			Stage 46
46	8/28/2015	7,496.9	7,496.9			Stage 46
46	8/28/2015	7,497.2	7,497.2			Stage 46
46	8/28/2015	7,497.4	7,497.4			Stage 46
45	8/27/2015	7,497.6	7,497.6			Stage 45
45	8/27/2015	7,497.7	7,497.7			Stage 45
45	8/27/2015	7,497.6	7,497.6			Stage 45
45	8/27/2015	7,497.4	7,497.3			Stage 45
45	8/27/2015	7,496.9	7,496.9			Stage 45
44	8/27/2015	7,496.3	7,496.3			Stage 44
44	8/27/2015	7,495.6	7,495.6			Stage 44
44	8/27/2015	7,494.8	7,494.8			Stage 44
44	8/27/2015	7,494.4	7,494.4			Stage 44
44	8/27/2015	7,494.4	7,494.4			Stage 44
43	8/27/2015	7,494.8	7,494.8			Stage 43
43	8/27/2015	7,495.2	7,495.2			Stage 43
43	8/27/2015	7,495.7	7,495.7			Stage 43
43	8/27/2015	7,496.3	7,496.4			Stage 43
43	8/27/2015	7,497.3	7,497.3			Stage 43
42	8/26/2015	7,498.6	7,498.7			Stage 42
42	8/26/2015	7,500.2	7,500.2			Stage 42
42	8/26/2015	7,501.9	7,502.0			Stage 42
42	8/26/2015	7,503.9	7,503.9			Stage 42
42	8/26/2015	7,505.7	7,505.7			Stage 42
41	8/26/2015	7,507.2	7,507.2			Stage 41
41	8/26/2015	7,508.3	7,508.3			Stage 41
41	8/26/2015	7,509.1	7,509.2			Stage 41
41	8/26/2015	7,509.8	7,509.8			Stage 41
41	8/26/2015	7,510.2	7,510.2			Stage 41
40	8/26/2015	7,510.4	7,510.4			Stage 40
40	8/26/2015	7,510.4	7,510.4			Stage 40
40	8/26/2015	7,510.3	7,510.3			Stage 40
40	8/26/2015	7,510.4	7,510.4			Stage 40
40	8/26/2015	7,510.8	7,510.8			Stage 40
39	8/25/2015	7,511.5	7,511.5			Stage 39
39	8/25/2015	7,512.1	7,512.1			Stage 39
39	8/25/2015	7,512.6	7,512.6			Stage 39
39	8/25/2015	7,512.9	7,512.9			Stage 39
39	8/25/2015	7,513.0	7,513.0			Stage 39
38	8/25/2015	7,513.0	7,513.0			Stage 38
38	8/25/2015	7,513.1	7,513.1			Stage 38
38	8/25/2015	7,513.6	7,513.6			Stage 38
38	8/25/2015	7,514.6	7,514.7			Stage 38
38	8/25/2015	7,515.8	7,515.9			Stage 38

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
37	8/24/2015	7,516.9	7,516.9			Stage 37
37	8/24/2015	7,517.8	7,517.8			Stage 37
37	8/24/2015	7,518.5	7,518.5			Stage 37
37	8/24/2015	7,518.9	7,518.9			Stage 37
37	8/24/2015	7,519.0	7,519.0			Stage 37
36	8/24/2015	7,519.1	7,519.1			Stage 36
36	8/24/2015	7,519.3	7,519.3			Stage 36
36	8/24/2015	7,519.6	7,519.6			Stage 36
36	8/24/2015	7,519.9	7,519.9			Stage 36
36	8/24/2015	7,520.1	7,520.1			Stage 36
35	8/23/2015	7,520.1	7,520.1			Stage 35
35	8/23/2015	7,519.9	7,519.9			Stage 35
35	8/23/2015	7,519.4	7,519.4			Stage 35
35	8/23/2015	7,518.9	7,518.9			Stage 35
35	8/23/2015	7,519.0	7,519.0			Stage 35
34	8/23/2015	7,519.8	7,519.8			Stage 34
34	8/23/2015	7,521.1	7,521.2			Stage 34
34	8/23/2015	7,522.5	7,522.6			Stage 34
34	8/23/2015	7,524.0	7,524.0			Stage 34
34	8/23/2015	7,525.4	7,525.4			Stage 34
33	8/22/2015	7,526.5	7,526.5			Stage 33
33	8/22/2015	7,527.2	7,527.2			Stage 33
33	8/22/2015	7,527.8	7,527.9			Stage 33
33	8/22/2015	7,528.4	7,528.5			Stage 33
33	8/22/2015	7,529.0	7,529.0			Stage 33
32	8/22/2015	7,529.5	7,529.5			Stage 32
32	8/22/2015	7,529.7	7,529.7			Stage 32
32	8/22/2015	7,529.7	7,529.7			Stage 32
32	8/22/2015	7,529.6	7,529.6			Stage 32
32	8/22/2015	7,529.5	7,529.4			Stage 32
31	8/21/2015	7,529.2	7,529.2			Stage 31
31	8/21/2015	7,529.1	7,529.1			Stage 31
31	8/21/2015	7,529.2	7,529.2			Stage 31
31	8/21/2015	7,529.5	7,529.5			Stage 31
31	8/21/2015	7,529.7	7,529.7			Stage 31
30	8/21/2015	7,529.9	7,529.9			Stage 30
30	8/21/2015	7,530.1	7,530.1			Stage 30
30	8/21/2015	7,530.7	7,530.7			Stage 30
30	8/21/2015	7,531.6	7,531.7			Stage 30
30	8/21/2015	7,532.7	7,532.8			Stage 30
29	8/20/2015	7,533.8	7,533.9			Stage 29
29	8/20/2015	7,534.8	7,534.9			Stage 29
29	8/20/2015	7,535.5	7,535.5			Stage 29
29	8/20/2015	7,535.5	7,535.5			Stage 29
29	8/20/2015	7,534.9	7,534.9			Stage 29
28	8/20/2015	7,534.1	7,534.0			Stage 28

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
28	8/20/2015	7,533.2	7,533.2			Stage 28
28	8/20/2015	7,532.4	7,532.3			Stage 28
28	8/20/2015	7,531.5	7,531.4			Stage 28
28	8/20/2015	7,530.5	7,530.5			Stage 28
27	8/19/2015	7,529.5	7,529.5			Stage 27
27	8/19/2015	7,528.9	7,528.9			Stage 27
27	8/19/2015	7,528.7	7,528.7			Stage 27
27	8/19/2015	7,529.0	7,529.0			Stage 27
27	8/19/2015	7,529.1	7,529.1			Stage 27
26	8/19/2015	7,529.0	7,529.0			Stage 26
26	8/19/2015	7,528.9	7,528.9			Stage 26
26	8/19/2015	7,528.7	7,528.7			Stage 26
26	8/19/2015	7,528.5	7,528.5			Stage 26
26	8/19/2015	7,528.4	7,528.4			Stage 26
25	8/19/2015	7,528.4	7,528.5			Stage 25
25	8/19/2015	7,528.7	7,528.7			Stage 25
25	8/19/2015	7,528.9	7,528.9			Stage 25
25	8/19/2015	7,528.9	7,528.9			Stage 25
25	8/19/2015	7,528.7	7,528.7			Stage 25
24	8/18/2015	7,528.6	7,528.6			Stage 24
24	8/18/2015	7,528.7	7,528.8			Stage 24
24	8/18/2015	7,529.1	7,529.1			Stage 24
24	8/18/2015	7,529.5	7,529.5			Stage 24
24	8/18/2015	7,529.8	7,529.8			Stage 24
23	8/18/2015	7,530.1	7,530.1			Stage 23
23	8/18/2015	7,530.0	7,530.0			Stage 23
23	8/18/2015	7,529.5	7,529.5			Stage 23
23	8/18/2015	7,528.7	7,528.7			Stage 23
23	8/18/2015	7,527.8	7,527.8			Stage 23
22	8/18/2015	7,526.9	7,526.9			Stage 22
22	8/18/2015	7,525.9	7,525.9			Stage 22
22	8/18/2015	7,524.9	7,524.8			Stage 22
22	8/18/2015	7,523.7	7,523.7			Stage 22
22	8/18/2015	7,522.6	7,522.6			Stage 22
21	8/15/2015	7,521.9	7,521.9			Stage 21
21	8/15/2015	7,521.6	7,521.6			Stage 21
21	8/15/2015	7,521.6	7,521.6			Stage 21
21	8/15/2015	7,521.4	7,521.4			Stage 21
21	8/15/2015	7,521.1	7,521.1			Stage 21
20	8/15/2015	7,520.7	7,520.6			Stage 20
20	8/15/2015	7,520.1	7,520.0			Stage 20
20	8/15/2015	7,519.3	7,519.3			Stage 20
20	8/15/2015	7,518.9	7,518.9			Stage 20
20	8/15/2015	7,519.2	7,519.2			Stage 20
19	8/14/2015	7,520.0	7,520.0			Stage 19
19	8/14/2015	7,520.8	7,520.8			Stage 19

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
19	8/14/2015	7,521.4	7,521.4			Stage 19
19	8/14/2015	7,521.9	7,521.9			Stage 19
19	8/14/2015	7,522.3	7,522.3			Stage 19
18	8/14/2015	7,522.5	7,522.5			Stage 18
18	8/14/2015	7,522.5	7,522.5			Stage 18
18	8/14/2015	7,522.2	7,522.2			Stage 18
18	8/14/2015	7,521.6	7,521.5			Stage 18
18	8/14/2015	7,520.8	7,520.8			Stage 18
17	8/14/2015	7,520.2	7,520.2			Stage 17
17	8/14/2015	7,519.9	7,519.9			Stage 17
17	8/14/2015	7,519.8	7,519.8			Stage 17
17	8/14/2015	7,520.0	7,520.0			Stage 17
17	8/14/2015	7,520.4	7,520.4			Stage 17
16	8/13/2015	7,520.9	7,520.9			Stage 16
16	8/13/2015	7,521.4	7,521.4			Stage 16
16	8/13/2015	7,521.9	7,521.9			Stage 16
16	8/13/2015	7,522.4	7,522.4			Stage 16
16	8/13/2015	7,522.9	7,522.9			Stage 16
15	8/13/2015	7,523.6	7,523.6			Stage 15
15	8/13/2015	7,524.1	7,524.2			Stage 15
15	8/13/2015	7,524.7	7,524.7			Stage 15
15	8/13/2015	7,525.1	7,525.2			Stage 15
15	8/13/2015	7,525.6	7,525.6			Stage 15
14	8/13/2015	7,526.1	7,526.2			Stage 14
14	8/13/2015	7,526.7	7,526.7			Stage 14
14	8/13/2015	7,527.2	7,527.2			Stage 14
14	8/13/2015	7,527.8	7,527.8			Stage 14
14	8/13/2015	7,528.4	7,528.4			Stage 14
13	8/12/2015	7,528.9	7,528.9			Stage 13
13	8/12/2015	7,529.3	7,529.3			Stage 13
13	8/12/2015	7,529.5	7,529.5			Stage 13
13	8/12/2015	7,529.4	7,529.4			Stage 13
13	8/12/2015	7,529.1	7,529.1			Stage 13
12	8/12/2015	7,528.5	7,528.5			Stage 12
12	8/12/2015	7,527.8	7,527.8			Stage 12
12	8/12/2015	7,526.9	7,526.9			Stage 12
12	8/12/2015	7,525.9	7,525.9			Stage 12
12	8/12/2015	7,524.8	7,524.8			Stage 12
11	8/11/2015	7,523.6	7,523.5			Stage 11
11	8/11/2015	7,522.6	7,522.6			Stage 11
11	8/11/2015	7,522.0	7,522.0			Stage 11
11	8/11/2015	7,521.8	7,521.8			Stage 11
11	8/11/2015	7,521.5	7,521.5			Stage 11
10	8/11/2015	7,521.2	7,521.2			Stage 10
10	8/11/2015	7,520.8	7,520.8			Stage 10
10	8/11/2015	7,520.5	7,520.5			Stage 10

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
10	8/11/2015	7,520.2	7,520.2			Stage 10
10	8/11/2015	7,520.0	7,519.9			Stage 10
9	8/10/2015	7,519.7	7,519.7			Stage 9
9	8/10/2015	7,519.4	7,519.4			Stage 9
9	8/10/2015	7,519.1	7,519.1			Stage 9
9	8/10/2015	7,518.7	7,518.7			Stage 9
9	8/10/2015	7,518.2	7,518.2			Stage 9
8	8/10/2015	7,517.9	7,517.9			Stage 8
8	8/10/2015	7,517.9	7,517.9			Stage 8
8	8/10/2015	7,518.3	7,518.3			Stage 8
8	8/10/2015	7,518.9	7,518.9			Stage 8
8	8/10/2015	7,519.6	7,519.7			Stage 8
7	8/9/2015	7,520.6	7,520.6			Stage 7
7	8/9/2015	7,521.6	7,521.7			Stage 7
7	8/9/2015	7,522.7	7,522.7			Stage 7
7	8/9/2015	7,523.8	7,523.9			Stage 7
7	8/9/2015	7,524.9	7,524.9			Stage 7
6	8/9/2015	7,525.9	7,525.9			Stage 6
6	8/9/2015	7,526.8	7,526.8			Stage 6
6	8/9/2015	7,527.8	7,527.8			Stage 6
6	8/9/2015	7,528.9	7,528.9			Stage 6
6	8/9/2015	7,530.1	7,530.1			Stage 6
5	8/8/2015	7,531.3	7,531.3			Stage 5
5	8/8/2015	7,532.4	7,532.4			Stage 5
5	8/8/2015	7,533.4	7,533.4			Stage 5
5	8/8/2015	7,534.1	7,534.1			Stage 5
5	8/8/2015	7,534.5	7,534.5			Stage 5
4	8/8/2015	7,534.8	7,534.8			Stage 4
4	8/8/2015	7,535.2	7,535.3			Stage 4
4	8/8/2015	7,535.8	7,535.8			Stage 4
4	8/8/2015	7,536.3	7,536.3			Stage 4
4	8/8/2015	7,536.3	7,536.3			Stage 4
3	8/7/2015	7,536.0	7,536.0			Stage 3
3	8/7/2015	7,535.6	7,535.5			Stage 3
3	8/7/2015	7,535.0	7,535.0			Stage 3
3	8/7/2015	7,534.4	7,534.4			Stage 3
3	8/7/2015	7,533.8	7,533.8			Stage 3
2	8/7/2015	7,533.1	7,533.1			Stage 2
2	8/7/2015	7,532.5	7,532.5			Stage 2
2	8/7/2015	7,531.7	7,531.7			Stage 2
2	8/7/2015	7,530.8	7,530.8			Stage 2
2	8/7/2015	7,529.9	7,529.8			Stage 2
1	7/6/2015	7,529.4	7,529.4			Stage 1
1	7/6/2015	7,529.4	7,529.4			Stage 1
1	7/6/2015	7,529.8	7,529.8			Stage 1
1	7/6/2015	7,530.1	7,530.1			Stage 1

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
1	7/6/2015	7,530.2	7,530.2			Stage 1

Received
Office of Oil & Gas
NOV 20 2015

Well Name MARY MILLER GRT WZ 7H	API 47103030730000	Property Number 1470020	Well Status PRODUCTION	State WEST VIRGINIA	County WETZEL	Well Spud Date 6/3/2015	RR Date 6/27/2015	Comp Date
---------------------------------------	-----------------------	----------------------------	---------------------------	------------------------	------------------	----------------------------	----------------------	-----------

Well Treatment Summary

Stage #	Start Date	Slurry Rate Avg (bb/min)	P Treat Avg (psi)	P Breakdown (psi)	ISIP (psi)	Prop Placed (lb)	Vol Slurry Total (bb)
1	8/7/2015	78	8,147.0	5,651.0	4,656.0	230,000	0.00
2	8/7/2015	75	8,216.0	5,982.0	4,148.0	230,000	0.00
3	8/8/2015	72	8,420.0	6,694.0	4,231.0	230,000	0.00
4	8/8/2015	74	8,363.0	7,012.0	4,172.0	230,000	0.00
5	8/9/2015	75	8,437.0	6,512.0	4,406.0	230,000	0.00
6	8/9/2015	74	8,273.0	6,443.0	4,120.0	230,000	0.00
7	8/10/2015	72	8,633.0	7,235.0	4,508.0	230,000	0.00
8	8/10/2015	78	8,381.0	7,407.0	4,347.0	230,000	0.00
9	8/11/2015	75	8,637.0	7,030.0	4,342.0	230,000	0.00
10	8/11/2015	78	8,401.0	6,242.0	4,559.0	230,000	0.00
11	8/12/2015	75	8,379.0	6,884.0	4,348.0	230,000	0.00
12	8/12/2015	77	8,396.0	7,026.0	4,543.0	230,000	0.00
13	8/13/2015	76	8,496.0	7,769.0	4,550.0	230,000	0.00
14	8/13/2015	76	8,238.0	7,182.0	4,308.0	230,000	0.00
15	8/13/2015	74	8,325.0	7,025.0	4,782.0	230,000	0.00
16	8/14/2015	76	8,315.0	7,102.0	4,558.0	230,000	0.00
17	8/14/2015	78	8,486.0	6,924.0	4,500.0	230,000	0.00
18	8/14/2015	78	8,400.0	7,025.0	4,416.0	230,000	0.00
19	8/15/2015	75	8,562.0	6,847.0	4,983.0	230,000	0.00
20	8/15/2015	79	8,502.0	7,021.0	4,726.0	230,000	0.00
21	8/18/2015	78	8,466.0	6,869.0	4,470.0	230,000	0.00
22	8/18/2015	79	8,484.0	6,967.0	4,633.0	230,000	0.00
23	8/18/2015	80	8,421.0	7,526.0	4,472.0	230,000	0.00
24	8/19/2015	75	8,372.0	7,144.0	4,368.0	230,000	0.00
25	8/19/2015	78	8,300.0	6,860.0	4,176.0	230,000	0.00
26	8/19/2015	79	8,252.0	6,915.0	4,347.0	230,000	0.00
27	8/20/2015	77	8,317.0	6,680.0	4,412.0	230,000	0.00
28	8/20/2015	75	8,254.0	6,640.0	4,383.0	230,000	0.00
29	8/21/2015	76	8,269.0	6,550.0	4,662.0	230,000	0.00
30	8/21/2015	80	8,294.0	6,872.0	4,369.0	230,000	0.00
31	8/22/2015	78	8,172.0	6,537.0	4,376.0	230,000	0.00
32	8/22/2015	77	7,925.0	6,739.0	4,295.0	230,000	0.00
33	8/23/2015	78	8,199.0	6,570.0	4,489.0	230,000	0.00
34	8/23/2015	76	8,078.0	6,784.0	4,184.0	230,000	0.00
35	8/24/2015	79	8,195.0	5,688.0	4,794.0	230,000	0.00
36	8/24/2015	74	8,041.0	6,653.0	4,632.0	230,000	0.00
37	8/25/2015	80	7,947.0	6,107.0	4,829.0	230,000	0.00
38	8/25/2015	80	7,959.0	6,591.0	4,884.0	230,000	0.00
39	8/26/2015	80	7,960.0	6,171.0	4,857.0	230,000	0.00
40	8/26/2015	80	7,883.0	5,939.0	4,574.0	230,000	0.00
41	8/26/2015	76	7,820.0	6,270.0	4,488.0	230,000	0.00
42	8/27/2015	75	8,155.0	6,474.0	4,602.0	230,000	0.00
43	8/27/2015	78	7,671.0	6,680.0	4,283.0	230,000	0.00
44	8/27/2015	78	7,745.0	6,419.0	4,544.0	230,000	0.00

Received
 Office of Oil & Gas
 NOV 20 2015

Well Treatment Summary

Stage #	Start Date	Slurry Rate Avg (bbl/min)	P Treat Avg (psi)	P Breakdown (psi)	ISIP (psi)	Prop Placed (lb)	Vol Slurry Total (bbl)
45	8/28/2015	78	7,841.0	6,020.0	4,428.0	230,000	0.00
46	8/28/2015	80	7,580.0	6,611.0	4,101.0	230,000	0.00
47	8/28/2015	78	7,668.0	5,699.0	4,461.0	230,000	0.00
48	8/29/2015	79	7,888.0	6,106.0	4,207.0	230,000	0.00
49	8/29/2015	80	7,635.0	6,669.0	4,047.0	230,000	0.00
50	8/29/2015	80	7,382.0	6,524.0	3,951.0	230,000	0.00
51	8/30/2015	79	7,500.0	6,036.0	4,124.0	230,000	0.00
52	8/30/2015	80	7,654.0	6,407.0	4,163.0	230,000	0.00
53	8/31/2015	82	7,510.0	6,298.0	4,085.0	230,000	0.00
54	8/31/2015	78	7,455.0	5,952.0	3,976.0	230,000	0.00
55	9/1/2015	78	7,630.0	6,857.0	4,287.0	230,000	0.00

Received
Office of Oil & Gas
NOV 20 2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/7/2015
Job End Date:	9/1/2015
State:	West Virginia
County:	Wetzel
API Number:	47-103-03073-00-00
Operator Name:	Ascent Resources - Marcellus, LLC
Well Name and Number:	Mary Miller GRT WZ 7H
Longitude:	-80.61241700
Latitude:	39.61505500
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,507
Total Base Water Volume (gal):	10,550,694
Total Base Non Water Volume:	0

Received
 Office of Oil & Gas
 NOV 20 2015



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	Company 1	Carrier/Base Fluid	Water	7732-18-5	100.00000	86.08738	None
Sand (Proppant)	PSC	Proppant	Silica Substrate	14808-60-7	100.00000	12.36866	None
Hydrochloric Acid (15%)	Producers Service Corp	Acidizing	Hydrochloric Acid	7647-01-0	10.00000	0.14405	None
FRA 408	Producers Service Corp	Friction Reducer	Petroleum Distillates	64742-47-8	40.00000	0.02828	None
			Polyacrylamide salt	Proprietary	30.00000	0.02121	None
			Ammonium Chloride	12125-02-9	5.00000	0.00353	None
			Sodium Chloride	7647-14-5	5.00000	0.00353	None
			Ethoxylate Alcohol	Proprietary	5.00000	0.00353	None
			Tall oil	Proprietary	2.00000	0.00141	None
			Proprietary Ingredient	Proprietary	1.00000	0.00071	None
PRO GEL 4.0L	Producers Service Corp	Gelling Agent	Distillates (Petroleum), hydrotreated light	64742-47-8	65.00000	0.00683	None
			Guar Gum	9000-30-0	50.00000	0.00526	None

			Nonylphenol, Ethoxylate	9016-45-9	5.00000	0.00053	None
			Nonionic Surfactant	60828-78-6	5.00000	0.00053	None
			Nonionic Surfactant	60828-78-6	5.00000	0.00053	None
PRO SCALE CLEAR 112	Producers Service Corp	Scale Inhibitor					
			Polymer	Proprietary	50.00000	0.00616	None
			ethylene glycol	107-21-1	40.00000	0.00493	None
BIO CLEAR 2000	Producers Service Corp	Biocide					
			Polyether	25322-68-3	48.00000	0.00411	None
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00171	None
			Proprietary Ingredient	Proprietary	2.00000	0.00017	None
			Proprietary Ingredient	Proprietary	1.00000	0.00009	None
PROHIB II	Producers Service Corp	Inhibitor					
			Dimethylcocoamine, bis (chloroethyl) ether, diquatary ammonium salt	68607-28-3	40.00000	0.00052	None
			2-Butoxyethanol	111-76-2	20.00000	0.00026	None
			Ethylene Glycol	107-21-1	20.00000	0.00026	None
			Methyl Alcohol	67-56-1	20.00000	0.00026	None
			Nonyl Phenol Ethoxylate, Branched	127087-87-0	15.00000	0.00020	None
			Propargyl Alcohol	107-19-7	15.00000	0.00020	None
			Coco alkyldimethylamines	61788-93-0	2.50000	0.00003	None
PRO BREAKER 4	Producers Service Corp	Breaker					
			Sucrose	57-50-1	40.00000	0.00001	None
			Ethylene Glycol	107-21-1	40.00000	0.00001	None
			Polyether Polyol	9003-11-6	1.00000	0.00000	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None
			Hexamethylenetetramine	100-97-0	1.00000	0.00000	None
			Sodium Bicarbonate	144-55-8	1.00000	0.00000	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* 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%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

Received
 Office of Oil & Gas
 NOV 20 2015

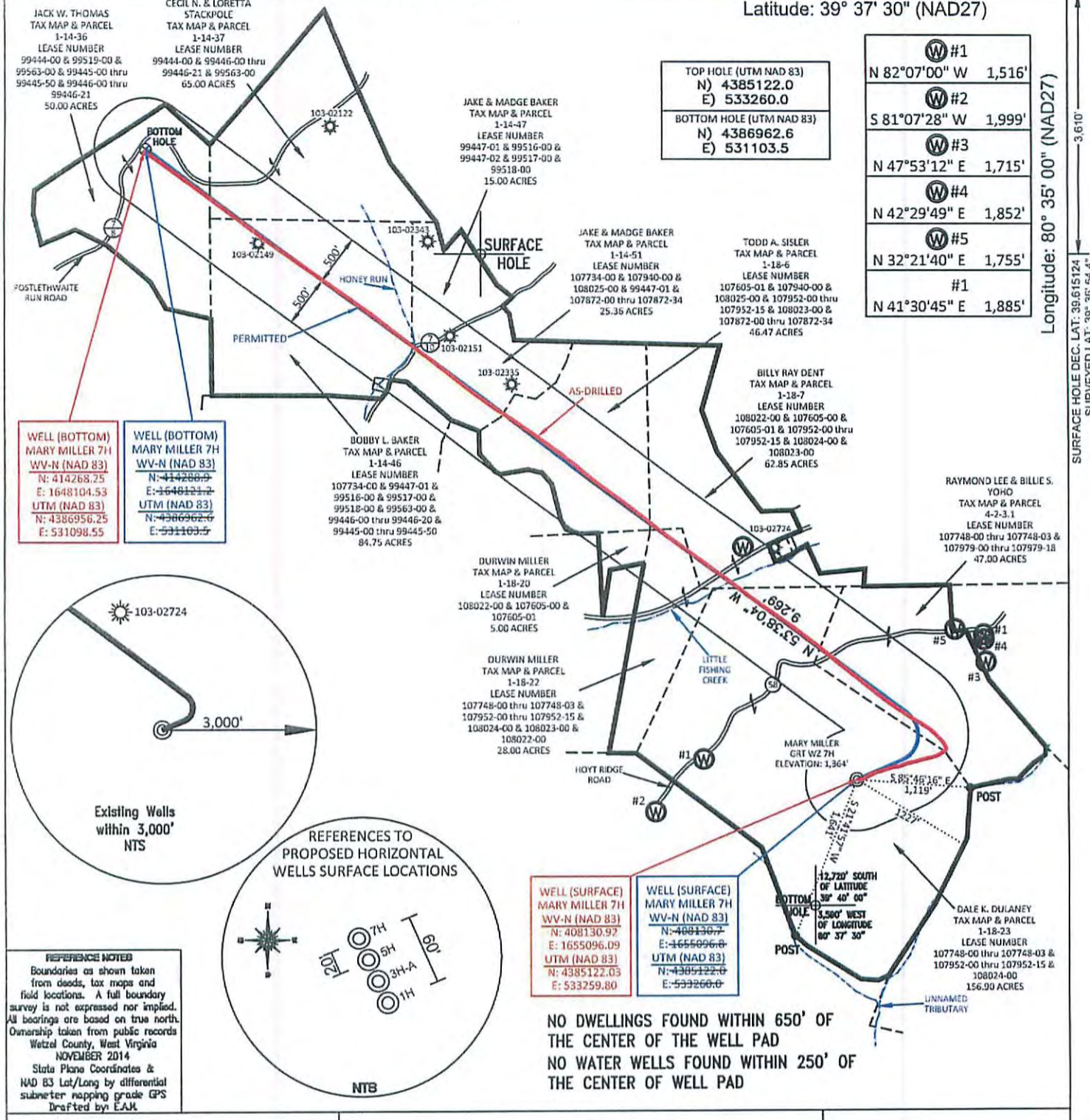
SURFACE HOLE DEC. LONG: 80.612709
SURVEYED LONG: 80° 36' 45.8"

8.280'

Latitude: 39° 37' 30" (NAD27)

Longitude: 80° 35' 00" (NAD27)

SURFACE HOLE DEC. LAT: 39.615124
SURVEYED LAT: 39° 36' 54.4"



WELL (BOTTOM)
MARY MILLER 7H
WV-N (NAD 83)
N: 414268.25
E: 1648104.53
UTM (NAD 83)
N: 4386956.25
E: 531098.55

WELL (BOTTOM)
MARY MILLER 7H
WV-N (NAD 83)
N: 414288.9
E: 1648121.2
UTM (NAD 83)
N: 4386962.9
E: 531103.5

WELL (SURFACE)
MARY MILLER 7H
WV-N (NAD 83)
N: 408130.97
E: 1655096.09
UTM (NAD 83)
N: 4385122.03
E: 533259.80

WELL (SURFACE)
MARY MILLER 7H
WV-N (NAD 83)
N: 408136.7
E: 1655096.0
UTM (NAD 83)
N: 4385122.0
E: 533260.0

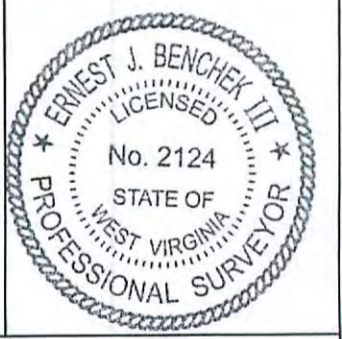
W#1	N 82°07'00" W	1,516'
W#2	S 81°07'28" W	1,999'
W#3	N 47°53'12" E	1,715'
W#4	N 42°29'49" E	1,852'
W#5	N 32°21'40" E	1,755'
#1	N 41°30'45" E	1,885'

REFERENCE NOTES
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Wetzel County, West Virginia NOVEMBER 2014
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: EAJ

NO DWELLINGS FOUND WITHIN 650' OF THE CENTER OF THE WELL PAD
NO WATER WELLS FOUND WITHIN 250' OF THE CENTER OF WELL PAD

FILE #: AE001
DRAWING #: 2457
SCALE: PLAT - 1" = 1400'
TICK MARK - 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/200
PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
Signed: *[Signature]*
L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP
Office of Oil & Gas DATE: NOVEMBER 18, 2015
601 57TH STREET NOV 20 2015
CHARLESTON, WV 25304 OPERATOR'S WELL #: MARY MILLER GRT WZ 7H AS-DRILLED
Well Type: Oil Waste Dipsal Production Deep
 Gas Liquid Injection Storage Shallow
WATERSHED: FISHING CREEK ASBUILT ELEVATION: 1,364'
COUNTY/DISTRICT: WETZEL / CENTER QUADRANGLE: BIG RUN, WV
SURFACE OWNER: DALE K. DULANEY ACREAGE: 156.90 +/-
OIL & GAS ROYALTY OWNER: PATSY C. FISH, ARTHUR R. & JOAN E. MILLER, CONNIE S. WHITE, KEITH R. MOORE ACREAGE: 564.33 +/-
LEASE NUMBERS:
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):
TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 7,531.20' TMD: 17,064'
WELL OPERATOR: American Energy-Marcellus LLC. DESIGNATED AGENT: Eric B. Gillespie
ADDRESS: 3501 NW 63rd Street ADDRESS: 103 Taryn Lane
CITY: Oklahoma City STATE: OK ZIP CODE: 73116 CITY: Cross Lanes STATE: WV ZIP CODE: 25313