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

API 47- 103 - 03070 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 1H
Operator (as registered with the OOG) Ascent Resources - Marcellus, LLC
Address 3501 NW 301 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 4385105.41 Easting 533267.48
Landing Point of Curve Northing 4384929 Easting 533173
Bottom Hole Northing 4386582.49 Easting 530855.15

Elevation (ft) ~~1390~~ 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 X Rotary

Drilling Media Surface hole X Air □ Mud □Fresh Water Intermediate hole X Air X 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 3/16/2015 Date drilling ceased 4/1/2015
Date completion activities began 7/02/2015 Date completion activities ceased 10/27/2015
Verbal plugging (Y/N) N Date permission granted Granted by

Received
Office of Oil & Gas
NOV 20 2015

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 - 03070 Farm name MA Miller Well number Mary Miller GRT WZ 1H

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"	95'	New	K-55		Y
Surface	17-1/2"	13-3/8"	1326'	New	J-55		Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	3474'	New	J-55		Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	17137'	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			
Surface	Class A	1210	15.6	1.2		0	
Coal							
Intermediate 1	50-50 Class H-POZ	1150	Lead 13.5, Tail 15.3	Lead 1.51, Tail 1.26		0	
Intermediate 2							
Intermediate 3							
Production	50-50 Class H-POZ	4117	Lead 14.5, Tail 15.2	Lead 1.22, Tail 1.08		0	
Tubing							

Drillers TD (ft) 17176' Loggers TD (ft)

Deepest formation penetrated Marcellus Plug back to (ft)

Plug back procedure

Kick off depth (ft) 6827.2'

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 10 centralizer placed in the surface casing string, 25 in the intermediate and 158 in the production.

WAS WELL COMPLETED AS SHOT HOLE ☐ Yes ■ No DETAILS

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ■ No DETAILS

WERE TRACERS USED ☐ Yes ■ No TYPE OF TRACER(S) USED

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
		Please see	attached		

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
			Please see	attached				

Please insert additional pages as applicable.

WR-35
Rev. 8/23/13

API 47- 103 - 03070 Farm name MA Miller Well number Mary Miller GRT WZ 1H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7509' TVD	17176' MD	

Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ■ Open Flow OIL TEST ■ Flow ☐ Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 10204 mcfpd Oil 21 bpd NGL 0 bpd Water 119 bpd GAS MEASURED BY ☐ Estimated ■ Orifice ☐ Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
Shale	0	1251	0	1254	
Pittsburg Coal	1251	1255	1254	1258	
Shale/Sand	1255	2442	1258	2448	
Big Injun	2442	2670	2448	2676	
Shale	2670	3237	2676	3243	
Gordon Sand	3237	3296	3243	3303	
Shale	3296	6870	3303	6959	
Sonyea Shale	6870	6936	6959	7026	
Shale	6936	7194	7026	7290	
Middlesex	7194	7312	7290	7422	
Geneseo	7312	7332	7422	7449	
Tully	7332	7356	7449	7481	
Hamilton	7356	7449	7481	7653	
Marcellus	7449		7653		

Please insert additional pages as applicable.

Drilling Contractor Nomac Drilling
Address 171 Locust Ave City Mt. Morris State PA Zip 15349

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company O-Tex Pumping, LLC
Address 100 Hope Street City Clarksburg State WV Zip 26301

Stimulating Company Producers Service Corp.
Address 109 Graham Street City Zanesville State OH Zip 43701
Please insert additional pages as applicable.

Completed by Ariel Bravo Telephone 405-607-5529
Signature _____ Title Regulatory Technician Date 11/02/2015

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

Perforations

Mary Miller GRT WZ 1H

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
62	8/5/2015	7,696.0	7,697.0	6.0	6	Stage 62
62	8/5/2015	7,726.0	7,727.0	6.0	6	Stage 62
62	8/5/2015	7,756.0	7,757.0	6.0	6	Stage 62
62	8/5/2015	7,786.0	7,787.0	6.0	6	Stage 62
62	8/5/2015	7,816.0	7,817.0	6.0	6	Stage 62
61	8/5/2015	7,846.0	7,847.0	6.0	6	Stage 61
61	8/5/2015	7,876.0	7,877.0	6.0	6	Stage 61
61	8/5/2015	7,906.0	7,907.0	6.0	6	Stage 61
61	8/5/2015	7,936.0	7,937.0	6.0	6	Stage 61
61	8/5/2015	7,966.0	7,967.0	6.0	6	Stage 61
60	8/5/2015	7,996.0	7,997.0	6.0	6	Stage 60
60	8/5/2015	8,026.0	8,027.0	6.0	6	Stage 60
60	8/5/2015	8,056.0	8,057.0	6.0	6	Stage 60
60	8/5/2015	8,086.0	8,087.0	6.0	6	Stage 60
60	8/5/2015	8,116.0	8,117.0	6.0	6	Stage 60
59	8/4/2015	8,146.0	8,147.0	6.0	6	Stage 59
59	8/4/2015	8,176.0	8,177.0	6.0	6	Stage 59
59	8/4/2015	8,206.0	8,207.0	6.0	6	Stage 59
59	8/4/2015	8,236.0	8,237.0	6.0	6	Stage 59
59	8/4/2015	8,266.0	8,267.0	6.0	6	Stage 59
58	8/4/2015	8,296.0	8,297.0	6.0	6	Stage 58
58	8/4/2015	8,326.0	8,327.0	6.0	6	Stage 58
58	8/4/2015	8,356.0	8,357.0	6.0	6	Stage 58
58	8/4/2015	8,386.0	8,387.0	6.0	6	Stage 58
58	8/4/2015	8,416.0	8,417.0	6.0	6	Stage 58
57	8/3/2015	8,446.0	8,447.0	6.0	6	Stage 57
57	8/3/2015	8,476.0	8,477.0	6.0	6	Stage 57
57	8/3/2015	8,506.0	8,507.0	6.0	6	Stage 57
57	8/3/2015	8,536.0	8,537.0	6.0	6	Stage 57
57	8/3/2015	8,566.0	8,567.0	6.0	6	Stage 57
56	8/3/2015	8,596.0	8,597.0	6.0	6	Stage 56
56	8/3/2015	8,626.0	8,627.0	6.0	6	Stage 56
56	8/3/2015	8,656.0	8,657.0	6.0	6	Stage 56
56	8/3/2015	8,686.0	8,687.0	6.0	6	Stage 56
56	8/3/2015	8,716.0	8,717.0	6.0	6	Stage 56
55	8/3/2015	8,746.0	8,747.0	6.0	6	Stage 55
55	8/3/2015	8,776.0	8,777.0	6.0	6	Stage 55
55	8/3/2015	8,806.0	8,806.0	6.0	6	Stage 55
55	8/3/2015	8,836.0	8,837.0	6.0	6	Stage 55
55	8/3/2015	8,866.0	8,867.0	6.0	6	Stage 55
54	7/31/2015	8,896.0	8,897.0	6.0	6	Stage 54
54	7/31/2015	8,926.0	8,926.0	6.0	6	Stage 54
54	7/31/2015	8,956.0	8,957.0	6.0	6	Stage 54
54	7/31/2015	8,986.0	8,987.0	6.0	6	Stage 54
54	7/31/2015	9,016.0	9,017.0	6.0	6	Stage 54
53	7/31/2015	9,046.0	9,047.0	6.0	6	Stage 53
53	7/31/2015	9,076.0	9,077.0	6.0	6	Stage 53
53	7/31/2015	9,106.0	9,107.0	6.0	6	Stage 53
53	7/31/2015	9,136.0	9,137.0	6.0	6	Stage 53
53	7/31/2015	9,166.0	9,167.0	6.0	6	Stage 53
52	7/30/2015	9,196.0	9,197.0	6.0	6	Stage 52
52	7/30/2015	9,226.0	9,227.0	6.0	6	Stage 52
52	7/30/2015	9,256.0	9,257.0	6.0	6	Stage 52
52	7/30/2015	9,286.0	9,287.0	6.0	6	Stage 52
52	7/30/2015	9,316.0	9,317.0	6.0	6	Stage 52
51	7/30/2015	9,346.0	9,347.0	6.0	6	Stage 51
51	7/30/2015	9,376.0	9,377.0	6.0	6	Stage 51
51	7/30/2015	9,406.0	9,407.0	6.0	6	Stage 51
51	7/30/2015	9,436.0	9,437.0	6.0	6	Stage 51
51	7/30/2015	9,466.0	9,467.0	6.0	6	Stage 51
50	7/30/2015	9,496.0	9,497.0	6.0	6	Stage 50
50	7/30/2015	9,526.0	9,527.0	6.0	6	Stage 50
50	7/30/2015	9,556.0	9,557.0	6.0	6	Stage 50

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
50	7/30/2015	9,586.0	9,587.0	6.0	6	Stage 50
50	7/30/2015	9,616.0	9,617.0	6.0	6	Stage 50
49	7/29/2015	9,646.0	9,647.0	6.0	6	Stage 49
49	7/29/2015	9,676.0	9,677.0	6.0	6	Stage 49
49	7/29/2015	9,706.0	9,707.0	6.0	6	Stage 49
49	7/29/2015	9,736.0	9,737.0	6.0	6	Stage 49
49	7/29/2015	9,766.0	9,767.0	6.0	6	Stage 49
48	7/29/2015	9,796.0	9,797.0	6.0	6	Stage 48
48	7/29/2015	9,826.0	9,827.0	6.0	6	Stage 48
48	7/29/2015	9,856.0	9,857.0	6.0	6	Stage 48
48	7/29/2015	9,886.0	9,887.0	6.0	6	Stage 48
48	7/29/2015	9,916.0	9,917.0	6.0	6	Stage 48
47	7/29/2015	9,946.0	9,947.0	6.0	6	Stage 47
47	7/29/2015	9,976.0	9,977.0	6.0	6	Stage 47
47	7/29/2015	10,006.0	10,007.0	6.0	6	Stage 47
47	7/29/2015	10,036.0	10,037.0	6.0	6	Stage 47
47	7/29/2015	10,066.0	10,067.0	6.0	6	Stage 47
46	7/28/2015	10,096.0	10,097.0	6.0	6	Stage 46
46	7/28/2015	10,126.0	10,127.0	6.0	6	Stage 46
46	7/28/2015	10,156.0	10,157.0	6.0	6	Stage 46
46	7/28/2015	10,186.0	10,187.0	6.0	6	Stage 46
46	7/28/2015	10,216.0	10,217.0	6.0	6	Stage 46
45	7/28/2015	10,246.0	10,247.0	6.0	6	Stage 45
45	7/28/2015	10,276.0	10,277.0	6.0	6	Stage 45
45	7/28/2015	10,306.0	10,307.0	6.0	6	Stage 45
45	7/28/2015	10,336.0	10,337.0	6.0	6	Stage 45
45	7/28/2015	10,366.0	10,367.0	6.0	6	Stage 45
44	7/28/2015	10,396.0	10,397.0	6.0	6	Stage 44
44	7/28/2015	10,426.0	10,427.0	6.0	6	Stage 44
44	7/28/2015	10,456.0	10,457.0	6.0	6	Stage 44
44	7/28/2015	10,486.0	10,487.0	6.0	6	Stage 44
44	7/28/2015	10,516.0	10,517.0	6.0	6	Stage 44
43	7/27/2015	10,546.0	10,547.0	6.0	6	Stage 43
43	7/27/2015	10,576.0	10,577.0	6.0	6	Stage 43
43	7/27/2015	10,606.0	10,607.0	6.0	6	Stage 43
43	7/27/2015	10,636.0	10,637.0	6.0	6	Stage 43
43	7/27/2015	10,666.0	10,667.0	6.0	6	Stage 43
42	7/27/2015	10,696.0	10,697.0	6.0	6	Stage 42
42	7/27/2015	10,726.0	10,727.0	6.0	6	Stage 42
42	7/27/2015	10,756.0	10,757.0	6.0	6	Stage 42
42	7/27/2015	10,786.0	10,787.0	6.0	6	Stage 42
42	7/27/2015	10,816.0	10,817.0	6.0	6	Stage 42
41	7/26/2015	10,846.0	10,847.0	6.0	6	Stage 41
41	7/26/2015	10,876.0	10,877.0	6.0	6	Stage 41
41	7/26/2015	10,906.0	10,907.0	6.0	6	Stage 41
41	7/26/2015	10,936.0	10,937.0	6.0	6	Stage 41
41	7/26/2015	10,966.0	10,967.0	6.0	6	Stage 41
40	7/26/2015	10,996.0	10,997.0	6.0	6	Stage 40
40	7/26/2015	11,026.0	11,027.0	6.0	6	Stage 40
40	7/26/2015	11,056.0	11,057.0	6.0	6	Stage 40
40	7/26/2015	11,086.0	11,087.0	5.0	6	Stage 40
40	7/26/2015	11,116.0	11,117.0	5.0	6	Stage 40
39	7/26/2015	11,146.0	11,147.0	6.0	6	Stage 39
39	7/26/2015	11,176.0	11,177.0	6.0	6	Stage 39
39	7/26/2015	11,206.0	11,207.0	6.0	6	Stage 39
39	7/26/2015	11,236.0	11,237.0	6.0	6	Stage 39
39	7/26/2015	11,266.0	11,267.0	6.0	6	Stage 39
38	7/25/2015	11,296.0	11,297.0	6.0	6	Stage 38
38	7/25/2015	11,326.0	11,327.0	6.0	6	Stage 38
38	7/25/2015	11,356.0	11,357.0	6.0	6	Stage 38
38	7/25/2015	11,386.0	11,387.0	6.0	6	Stage 38
38	7/25/2015	11,416.0	11,417.0	6.0	6	Stage 38
37	7/25/2015	11,446.0	11,447.0	6.0	6	Stage 37

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
37	7/25/2015	11,476.0	11,477.0	6.0	6	Stage 37
37	7/25/2015	11,506.0	11,507.0	6.0	6	Stage 37
37	7/25/2015	11,536.0	11,537.0	6.0	6	Stage 37
37	7/25/2015	11,566.0	11,567.0	6.0	6	Stage 37
36	7/25/2015	11,596.0	11,597.0	6.0	6	Stage 36
36	7/25/2015	11,626.0	11,627.0	6.0	6	Stage 36
36	7/25/2015	11,656.0	11,657.0	6.0	6	Stage 36
36	7/25/2015	11,686.0	11,687.0	6.0	6	Stage 36
36	7/25/2015	11,716.0	11,717.0	6.0	6	Stage 36
35	7/24/2015	11,746.0	11,747.0	6.0	6	Stage 35
35	7/24/2015	11,776.0	11,777.0	6.0	6	Stage 35
35	7/24/2015	11,806.0	11,807.0	6.0	6	Stage 35
35	7/24/2015	11,836.0	11,837.0	6.0	6	Stage 35
35	7/24/2015	11,866.0	11,867.0	6.0	6	Stage 35
34	7/24/2015	11,896.0	11,896.0	6.0	6	Stage 34
34	7/24/2015	11,926.0	11,927.0	6.0	6	Stage 34
34	7/24/2015	11,956.0	11,957.0	6.0	6	Stage 34
34	7/24/2015	11,986.0	11,987.0	6.0	6	Stage 34
34	7/24/2015	12,016.0	12,017.0	6.0	6	Stage 34
33	7/24/2015	12,046.0	12,047.0	6.0	6	Stage 33
33	7/24/2015	12,076.0	12,077.0	6.0	6	Stage 33
33	7/24/2015	12,106.0	12,107.0	6.0	6	Stage 33
33	7/24/2015	12,136.0	12,137.0	6.0	6	Stage 33
33	7/24/2015	12,166.0	12,167.0	6.0	6	Stage 33
32	7/23/2015	12,196.0	12,197.0	6.0	6	Stage 32
32	7/23/2015	12,226.0	12,227.0	6.0	6	Stage 32
32	7/23/2015	12,256.0	12,257.0	6.0	6	Stage 32
32	7/23/2015	12,286.0	12,287.0	6.0	6	Stage 32
32	7/23/2015	12,316.0	12,317.0	6.0	6	Stage 32
31	7/23/2015	12,346.0	12,347.0	6.0	6	Stage 31
31	7/23/2015	12,376.0	12,377.0	6.0	6	Stage 31
31	7/23/2015	12,406.0	12,407.0	6.0	6	Stage 31
31	7/23/2015	12,436.0	12,437.0	6.0	6	Stage 31
31	7/23/2015	12,466.0	12,467.0	6.0	6	Stage 31
30	7/22/2015	12,496.0	12,497.0	6.0	6	Stage 30
30	7/22/2015	12,526.0	12,527.0	6.0	6	Stage 30
30	7/22/2015	12,556.0	12,557.0	6.0	6	Stage 30
30	7/22/2015	12,586.0	12,587.0	6.0	6	Stage 30
30	7/22/2015	12,616.0	12,617.0	6.0	6	Stage 30
29	7/22/2015	12,646.0	12,647.0	6.0	6	Stage 29
29	7/22/2015	12,676.0	12,677.0	6.0	6	Stage 29
29	7/22/2015	12,706.0	12,707.0	6.0	6	Stage 29
29	7/22/2015	12,736.0	12,737.0	6.0	6	Stage 29
29	7/22/2015	12,766.0	12,767.0	6.0	6	Stage 29
28	7/22/2015	12,796.0	12,797.0	6.0	6	Stage 28
28	7/22/2015	12,826.0	12,827.0	6.0	6	Stage 28
28	7/22/2015	12,856.0	12,857.0	6.0	6	Stage 28
28	7/22/2015	12,886.0	12,887.0	6.0	6	Stage 28
28	7/22/2015	12,916.0	12,917.0	6.0	6	Stage 28
27	7/21/2015	12,946.0	12,947.0	6.0	6	Stage 27
27	7/21/2015	12,976.0	12,977.0	6.0	6	Stage 27
27	7/21/2015	13,006.0	13,007.0	6.0	6	Stage 27
27	7/21/2015	13,036.0	13,037.0	6.0	6	Stage 27
27	7/21/2015	13,066.0	13,067.0	6.0	6	Stage 27
26	7/21/2015	13,096.0	13,097.0	6.0	6	Stage 26
26	7/21/2015	13,126.0	13,127.0	6.0	6	Stage 26
26	7/21/2015	13,156.0	13,157.0	6.0	6	Stage 26
26	7/21/2015	13,186.0	13,187.0	6.0	6	Stage 26
26	7/21/2015	13,216.0	13,217.0	6.0	6	Stage 26
25	7/21/2015	13,246.0	13,247.0	6.0	6	Stage 25
25	7/21/2015	13,276.0	13,276.0	6.0	6	Stage 25
25	7/21/2015	13,306.0	13,307.0	6.0	6	Stage 25
25	7/21/2015	13,336.0	13,337.0	6.0	6	Stage 25

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
25	7/21/2015	13,366.0	13,367.0	6.0	6	Stage 25
24	7/20/2015	13,396.0	13,397.0	6.0	6	Stage 24
24	7/20/2015	13,426.0	13,427.0	6.0	6	Stage 24
24	7/20/2015	13,456.0	13,457.0	6.0	6	Stage 24
24	7/20/2015	13,486.0	13,487.0	6.0	6	Stage 24
24	7/20/2015	13,516.0	13,517.0	6.0	6	Stage 24
23	7/19/2015	13,546.0	13,547.0	6.0	6	Stage 23
23	7/19/2015	13,576.0	13,577.0	6.0	6	Stage 23
23	7/19/2015	13,606.0	13,607.0	6.0	6	Stage 23
23	7/19/2015	13,636.0	13,637.0	6.0	6	Stage 23
23	7/19/2015	13,666.0	13,667.0	6.0	6	Stage 23
22	7/19/2015	13,696.0	13,697.0	6.0	6	Stage 22
22	7/19/2015	13,726.0	13,727.0	6.0	6	Stage 22
22	7/19/2015	13,756.0	13,757.0	6.0	6	Stage 22
22	7/19/2015	13,786.0	13,787.0	6.0	6	Stage 22
22	7/19/2015	13,816.0	13,817.0	6.0	6	Stage 22
21	7/16/2015	13,846.0	13,847.0	6.0	6	Stage 21
21	7/16/2015	13,876.0	13,877.0	6.0	6	Stage 21
21	7/16/2015	13,906.0	13,907.0	6.0	6	Stage 21
21	7/16/2015	13,936.0	13,937.0	6.0	6	Stage 21
21	7/16/2015	13,966.0	13,967.0	6.0	6	Stage 21
20	7/16/2015	13,995.0	13,996.0	6.0	6	Stage 20
20	7/16/2015	14,032.0	14,033.0	6.0	6	Stage 20
20	7/16/2015	14,069.0	14,070.0	6.0	6	Stage 20
20	7/16/2015	14,106.0	14,107.0	6.0	6	Stage 20
19	7/15/2015	14,145.0	14,146.0	6.0	6	Stage 19
19	7/15/2015	14,182.0	14,183.0	6.0	6	Stage 19
19	7/15/2015	14,219.0	14,220.0	6.0	6	Stage 19
19	7/15/2015	14,256.0	14,257.0	6.0	6	Stage 19
18	7/15/2015	14,295.0	14,296.0	6.0	6	Stage 18
18	7/15/2015	14,332.0	14,333.0	6.0	6	Stage 18
18	7/15/2015	14,369.0	14,370.0	6.0	6	Stage 18
18	7/15/2015	14,406.0	14,407.0	6.0	6	Stage 18
17	7/15/2015	14,445.0	14,446.0	6.0	6	Stage 17
17	7/15/2015	14,482.0	14,483.0	6.0	6	Stage 17
17	7/15/2015	14,519.0	14,520.0	6.0	6	Stage 17
17	7/15/2015	14,556.0	14,557.0	6.0	6	Stage 17
16	7/14/2015	14,595.0	14,596.0	6.0	6	Stage 16
16	7/14/2015	14,632.0	14,633.0	6.0	6	Stage 16
16	7/14/2015	14,669.0	14,670.0	6.0	6	Stage 16
16	7/14/2015	14,706.0	14,707.0	6.0	6	Stage 16
15	7/14/2015	14,745.0	14,746.0	6.0	6	Stage 15
15	7/14/2015	14,782.0	14,783.0	6.0	6	Stage 15
15	7/14/2015	14,819.0	14,820.0	6.0	6	Stage 15
15	7/14/2015	14,856.0	14,857.0	6.0	6	Stage 15
14	7/14/2015	14,895.0	14,896.0	6.0	6	Stage 14
14	7/14/2015	14,932.0	14,933.0	6.0	6	Stage 14
14	7/14/2015	14,969.0	14,970.0	6.0	6	Stage 14
14	7/14/2015	15,006.0	15,007.0	6.0	6	Stage 14
13	7/13/2015	15,045.0	15,046.0	6.0	6	Stage 13
13	7/13/2015	15,082.0	15,083.0	6.0	6	Stage 13
13	7/13/2015	15,119.0	15,120.0	6.0	6	Stage 13
13	7/13/2015	15,156.0	15,157.0	6.0	6	Stage 13
12	7/13/2015	15,195.0	15,196.0	6.0	6	Stage 12
12	7/13/2015	15,232.0	15,233.0	6.0	6	Stage 12
12	7/13/2015	15,269.0	15,270.0	6.0	6	Stage 12
12	7/13/2015	15,306.0	15,307.0	6.0	6	Stage 12
11	7/13/2015	15,345.0	15,346.0	6.0	6	Stage 11
11	7/13/2015	15,382.0	15,383.0	6.0	6	Stage 11
11	7/13/2015	15,419.0	15,420.0	6.0	6	Stage 11
11	7/13/2015	15,456.0	15,457.0	6.0	6	Stage 11
10	7/12/2015	15,496.0	15,497.0	6.0	6	Stage 10
10	7/12/2015	15,526.0	15,527.0	6.0	6	Stage 10

Perforations

Stage #	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Com
10	7/12/2015	15,556.0	15,557.0	6.0	6	Stage 10
10	7/12/2015	15,586.0	15,587.0	6.0	6	Stage 10
10	7/12/2015	15,616.0	15,617.0	6.0	6	Stage 10
9	7/12/2015	15,646.0	15,647.0	6.0	6	Stage 9
9	7/12/2015	15,676.0	15,677.0	6.0	6	Stage 9
9	7/12/2015	15,706.0	15,707.0	6.0	6	Stage 9
9	7/12/2015	15,736.0	15,737.0	6.0	6	Stage 9
9	7/12/2015	15,766.0	15,767.0	6.0	6	Stage 9
8	7/11/2015	15,796.0	15,797.0	6.0	6	Stage 8
8	7/11/2015	15,826.0	15,827.0	6.0	6	Stage 8
8	7/11/2015	15,856.0	15,857.0	6.0	6	Stage 8
8	7/11/2015	15,886.0	15,887.0	6.0	6	Stage 8
8	7/11/2015	15,916.0	15,917.0	6.0	6	Stage 8
7	7/11/2015	15,946.0	15,947.0	6.0	6	Stage 7
7	7/11/2015	15,976.0	15,977.0	6.0	6	Stage 7
7	7/11/2015	16,006.0	16,007.0	6.0	6	Stage 7
7	7/11/2015	16,036.0	16,037.0	6.0	6	Stage 7
7	7/11/2015	16,066.0	16,067.0	6.0	6	Stage 7
6	7/10/2015	16,096.0	16,097.0	6.0	6	Stage 6
6	7/10/2015	16,126.0	16,127.0	6.0	6	Stage 6
6	7/10/2015	16,156.0	16,157.0	6.0	6	Stage 6
6	7/10/2015	16,186.0	16,187.0	6.0	6	Stage 6
6	7/10/2015	16,216.0	16,217.0	6.0	6	Stage 6
5	7/10/2015	16,246.0	16,247.0	6.0	6	Stage 5
5	7/10/2015	16,276.0	16,277.0	6.0	6	Stage 5
5	7/10/2015	16,306.0	16,307.0	6.0	6	Stage 5
5	7/10/2015	16,336.0	16,337.0	6.0	6	Stage 5
5	7/10/2015	16,366.0	16,367.0	6.0	6	Stage 5
4	7/10/2015	16,396.0	16,397.0	6.0	6	Stage 4
4	7/10/2015	16,426.0	16,427.0	6.0	6	Stage 4
4	7/10/2015	16,456.0	16,457.0	6.0	6	Stage 4
4	7/10/2015	16,486.0	16,487.0	6.0	6	Stage 4
4	7/10/2015	16,516.0	16,517.0	6.0	6	Stage 4
3	7/9/2015	16,546.0	16,547.0	6.0	6	Stage 3
3	7/9/2015	16,576.0	16,577.0	6.0	6	Stage 3
3	7/9/2015	16,606.0	16,607.0	6.0	6	Stage 3
3	7/9/2015	16,636.0	16,637.0	6.0	6	Stage 3
3	7/9/2015	16,666.0	16,667.0	6.0	6	Stage 3
2	7/9/2015	16,696.0	16,697.0	6.0	6	Stage 2
2	7/9/2015	16,726.0	16,727.0	6.0	6	Stage 2
2	7/9/2015	16,756.0	16,757.0	6.0	6	Stage 2
2	7/9/2015	16,786.0	16,787.0	6.0	6	Stage 2
2	7/9/2015	16,816.0	16,817.0	6.0	6	Stage 2
1	7/5/2015	16,846.0	16,847.0	6.0	6	Stage 1
1	7/5/2015	16,876.0	16,877.0	6.0	6	Stage 1
1	7/5/2015	16,906.0	16,907.0	6.0	6	Stage 1
1	7/5/2015	16,936.0	16,937.0	6.0	6	Stage 1
1	7/5/2015	16,966.0	16,967.0	6.0	6	Stage 1

Well Name	API	Property Number	Well Status	State	County	Well Spud Date	RR Date	Comp Date
MARY MILLER GRT WZ 1H	47103030700000	1470006	PRODUCTION	WEST VIRGINIA	WETZEL	3/16/2015	4/1/2015	

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
62	8/5/2015	7,464.2	7,464.4			Stage 62
62	8/5/2015	7,471.1	7,471.3			Stage 62
62	8/5/2015	7,476.0	7,476.1			Stage 62
62	8/5/2015	7,478.9	7,478.9			Stage 62
62	8/5/2015	7,480.3	7,480.4			Stage 62
61	8/5/2015	7,481.2	7,481.3			Stage 61
61	8/5/2015	7,481.5	7,481.5			Stage 61
61	8/5/2015	7,481.4	7,481.4			Stage 61
61	8/5/2015	7,481.4	7,481.4			Stage 61
61	8/5/2015	7,481.3	7,481.3			Stage 61
60	8/5/2015	7,481.4	7,481.4			Stage 60
60	8/5/2015	7,481.4	7,481.4			Stage 60
60	8/5/2015	7,481.5	7,481.5			Stage 60
60	8/5/2015	7,481.5	7,481.5			Stage 60
60	8/5/2015	7,481.5	7,481.5			Stage 60
59	8/4/2015	7,481.5	7,481.5			Stage 59
59	8/4/2015	7,481.4	7,481.4			Stage 59
59	8/4/2015	7,481.3	7,481.2			Stage 59
59	8/4/2015	7,481.1	7,481.1			Stage 59
59	8/4/2015	7,481.0	7,481.0			Stage 59
58	8/4/2015	7,480.8	7,480.8			Stage 58
58	8/4/2015	7,480.7	7,480.7			Stage 58
58	8/4/2015	7,480.6	7,480.6			Stage 58
58	8/4/2015	7,480.4	7,480.4			Stage 58
58	8/4/2015	7,480.3	7,480.3			Stage 58
57	8/3/2015	7,480.3	7,480.3			Stage 57
57	8/3/2015	7,480.2	7,480.2			Stage 57
57	8/3/2015	7,480.0	7,480.0			Stage 57
57	8/3/2015	7,479.9	7,479.9			Stage 57
57	8/3/2015	7,479.6	7,479.6			Stage 57
56	8/3/2015	7,479.4	7,479.4			Stage 56
56	8/3/2015	7,479.2	7,479.2			Stage 56
56	8/3/2015	7,479.1	7,479.1			Stage 56
56	8/3/2015	7,478.9	7,478.9			Stage 56
56	8/3/2015	7,478.8	7,478.8			Stage 56
55	8/3/2015	7,478.6	7,478.6			Stage 55
55	8/3/2015	7,478.4	7,478.3			Stage 55
55	8/3/2015	7,478.0	7,478.0			Stage 55
55	8/3/2015	7,477.7	7,477.6			Stage 55
55	8/3/2015	7,477.4	7,477.4			Stage 55
54	7/31/2015	7,477.4	7,477.4			Stage 54
54	7/31/2015	7,477.6	7,477.6			Stage 54
54	7/31/2015	7,478.1	7,478.1			Stage 54
54	7/31/2015	7,478.5	7,478.6			Stage 54

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
54	7/31/2015	7,479.1	7,479.1			Stage 54
53	7/31/2015	7,479.6	7,479.6			Stage 53
53	7/31/2015	7,480.2	7,480.2			Stage 53
53	7/31/2015	7,480.8	7,480.8			Stage 53
53	7/31/2015	7,481.4	7,481.4			Stage 53
53	7/31/2015	7,482.1	7,482.1			Stage 53
52	7/30/2015	7,482.9	7,482.9			Stage 52
52	7/30/2015	7,483.7	7,483.7			Stage 52
52	7/30/2015	7,484.3	7,484.4			Stage 52
52	7/30/2015	7,484.8	7,484.8			Stage 52
52	7/30/2015	7,485.0	7,485.0			Stage 52
51	7/30/2015	7,485.0	7,485.0			Stage 51
51	7/30/2015	7,485.1	7,485.1			Stage 51
51	7/30/2015	7,485.1	7,485.1			Stage 51
51	7/30/2015	7,485.1	7,485.1			Stage 51
51	7/30/2015	7,485.1	7,485.1			Stage 51
50	7/30/2015	7,485.2	7,485.2			Stage 50
50	7/30/2015	7,485.3	7,485.3			Stage 50
50	7/30/2015	7,485.2	7,485.2			Stage 50
50	7/30/2015	7,484.9	7,484.9			Stage 50
50	7/30/2015	7,484.4	7,484.4			Stage 50
49	7/29/2015	7,484.0	7,484.0			Stage 49
49	7/29/2015	7,483.6	7,483.6			Stage 49
49	7/29/2015	7,483.2	7,483.2			Stage 49
49	7/29/2015	7,482.9	7,482.9			Stage 49
49	7/29/2015	7,482.6	7,482.6			Stage 49
48	7/29/2015	7,482.4	7,482.4			Stage 48
48	7/29/2015	7,482.6	7,482.6			Stage 48
48	7/29/2015	7,483.1	7,483.1			Stage 48
48	7/29/2015	7,484.0	7,484.0			Stage 48
48	7/29/2015	7,485.0	7,485.1			Stage 48
47	7/29/2015	7,486.0	7,486.0			Stage 47
47	7/29/2015	7,486.8	7,486.8			Stage 47
47	7/29/2015	7,487.6	7,487.6			Stage 47
47	7/29/2015	7,488.4	7,488.5			Stage 47
47	7/29/2015	7,489.3	7,489.3			Stage 47
46	7/28/2015	7,490.2	7,490.2			Stage 46
46	7/28/2015	7,491.1	7,491.1			Stage 46
46	7/28/2015	7,491.9	7,492.0			Stage 46
46	7/28/2015	7,492.8	7,492.8			Stage 46
46	7/28/2015	7,493.6	7,493.6			Stage 46
45	7/28/2015	7,494.4	7,494.4			Stage 45
45	7/28/2015	7,495.1	7,495.2			Stage 45
45	7/28/2015	7,495.9	7,495.9			Stage 45
45	7/28/2015	7,496.7	7,496.7			Stage 45
45	7/28/2015	7,497.4	7,497.5			Stage 45

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
44	7/28/2015	7,498.2	7,498.2			Stage 44
44	7/28/2015	7,499.0	7,499.0			Stage 44
44	7/28/2015	7,499.8	7,499.8			Stage 44
44	7/28/2015	7,500.5	7,500.5			Stage 44
44	7/28/2015	7,501.2	7,501.2			Stage 44
43	7/27/2015	7,501.7	7,501.7			Stage 43
43	7/27/2015	7,502.2	7,502.2			Stage 43
43	7/27/2015	7,502.6	7,502.6			Stage 43
43	7/27/2015	7,503.0	7,503.0			Stage 43
43	7/27/2015	7,503.3	7,503.3			Stage 43
42	7/27/2015	7,503.5	7,503.5			Stage 42
42	7/27/2015	7,503.8	7,503.8			Stage 42
42	7/27/2015	7,504.0	7,504.0			Stage 42
42	7/27/2015	7,504.2	7,504.2			Stage 42
42	7/27/2015	7,504.5	7,504.5			Stage 42
41	7/26/2015	7,504.7	7,504.7			Stage 41
41	7/26/2015	7,505.0	7,505.0			Stage 41
41	7/26/2015	7,505.3	7,505.3			Stage 41
41	7/26/2015	7,505.6	7,505.6			Stage 41
41	7/26/2015	7,505.9	7,505.9			Stage 41
40	7/26/2015	7,506.1	7,506.1			Stage 40
40	7/26/2015	7,506.4	7,506.4			Stage 40
40	7/26/2015	7,506.4	7,506.4			Stage 40
40	7/26/2015	7,506.3	7,506.3			Stage 40
40	7/26/2015	7,506.0	7,506.0			Stage 40
39	7/26/2015	7,505.6	7,505.6			Stage 39
39	7/26/2015	7,505.2	7,505.1			Stage 39
39	7/26/2015	7,504.7	7,504.7			Stage 39
39	7/26/2015	7,504.2	7,504.2			Stage 39
39	7/26/2015	7,503.7	7,503.7			Stage 39
38	7/25/2015	7,503.2	7,503.2			Stage 38
38	7/25/2015	7,502.6	7,502.6			Stage 38
38	7/25/2015	7,502.1	7,502.1			Stage 38
38	7/25/2015	7,501.5	7,501.5			Stage 38
38	7/25/2015	7,501.0	7,501.0			Stage 38
37	7/25/2015	7,500.5	7,500.5			Stage 37
37	7/25/2015	7,500.1	7,500.1			Stage 37
37	7/25/2015	7,499.6	7,499.6			Stage 37
37	7/25/2015	7,499.3	7,499.3			Stage 37
37	7/25/2015	7,499.2	7,499.2			Stage 37
36	7/25/2015	7,499.2	7,499.2			Stage 36
36	7/25/2015	7,499.1	7,499.1			Stage 36
36	7/25/2015	7,499.1	7,499.1			Stage 36
36	7/25/2015	7,498.9	7,498.9			Stage 36
36	7/25/2015	7,498.8	7,498.8			Stage 36
35	7/24/2015	7,498.7	7,498.7			Stage 35

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
35	7/24/2015	7,498.7	7,498.8			Stage 35
35	7/24/2015	7,498.8	7,498.8			Stage 35
35	7/24/2015	7,498.9	7,498.9			Stage 35
35	7/24/2015	7,499.1	7,499.1			Stage 35
34	7/24/2015	7,499.3	7,499.3			Stage 34
34	7/24/2015	7,499.6	7,499.6			Stage 34
34	7/24/2015	7,500.1	7,500.1			Stage 34
34	7/24/2015	7,500.6	7,500.7			Stage 34
34	7/24/2015	7,501.2	7,501.2			Stage 34
33	7/24/2015	7,501.8	7,501.8			Stage 33
33	7/24/2015	7,502.4	7,502.4			Stage 33
33	7/24/2015	7,503.0	7,503.0			Stage 33
33	7/24/2015	7,503.6	7,503.6			Stage 33
33	7/24/2015	7,504.3	7,504.3			Stage 33
32	7/23/2015	7,504.9	7,504.9			Stage 32
32	7/23/2015	7,505.5	7,505.5			Stage 32
32	7/23/2015	7,506.1	7,506.2			Stage 32
32	7/23/2015	7,506.7	7,506.7			Stage 32
32	7/23/2015	7,507.0	7,507.0			Stage 32
31	7/23/2015	7,507.1	7,507.1			Stage 31
31	7/23/2015	7,507.1	7,507.1			Stage 31
31	7/23/2015	7,507.2	7,507.2			Stage 31
31	7/23/2015	7,507.2	7,507.2			Stage 31
31	7/23/2015	7,507.2	7,507.2			Stage 31
30	7/22/2015	7,507.3	7,507.3			Stage 30
30	7/22/2015	7,507.3	7,507.3			Stage 30
30	7/22/2015	7,507.4	7,507.4			Stage 30
30	7/22/2015	7,507.5	7,507.5			Stage 30
30	7/22/2015	7,507.5	7,507.5			Stage 30
29	7/22/2015	7,507.5	7,507.5			Stage 29
29	7/22/2015	7,507.4	7,507.4			Stage 29
29	7/22/2015	7,507.1	7,507.1			Stage 29
29	7/22/2015	7,506.7	7,506.7			Stage 29
29	7/22/2015	7,506.2	7,506.2			Stage 29
28	7/22/2015	7,505.8	7,505.7			Stage 28
28	7/22/2015	7,505.3	7,505.3			Stage 28
28	7/22/2015	7,504.9	7,504.9			Stage 28
28	7/22/2015	7,504.8	7,504.7			Stage 28
28	7/22/2015	7,504.8	7,504.8			Stage 28
27	7/21/2015	7,504.9	7,504.9			Stage 27
27	7/21/2015	7,504.9	7,504.9			Stage 27
27	7/21/2015	7,504.9	7,504.9			Stage 27
27	7/21/2015	7,504.7	7,504.7			Stage 27
27	7/21/2015	7,504.5	7,504.5			Stage 27
26	7/21/2015	7,504.2	7,504.2			Stage 26
26	7/21/2015	7,503.9	7,503.9			Stage 26

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
26	7/21/2015	7,503.5	7,503.5			Stage 26
26	7/21/2015	7,503.0	7,503.0			Stage 26
26	7/21/2015	7,502.5	7,502.5			Stage 26
25	7/21/2015	7,502.0	7,502.0			Stage 25
25	7/21/2015	7,501.5	7,501.5			Stage 25
25	7/21/2015	7,501.0	7,501.0			Stage 25
25	7/21/2015	7,500.5	7,500.4			Stage 25
25	7/21/2015	7,499.9	7,499.9			Stage 25
24	7/20/2015	7,499.4	7,499.4			Stage 24
24	7/20/2015	7,499.0	7,499.0			Stage 24
24	7/20/2015	7,498.7	7,498.7			Stage 24
24	7/20/2015	7,498.7	7,498.7			Stage 24
24	7/20/2015	7,498.7	7,498.7			Stage 24
23	7/19/2015	7,498.7	7,498.7			Stage 23
23	7/19/2015	7,498.7	7,498.7			Stage 23
23	7/19/2015	7,498.7	7,498.7			Stage 23
23	7/19/2015	7,498.7	7,498.7			Stage 23
23	7/19/2015	7,498.6	7,498.6			Stage 23
22	7/19/2015	7,498.6	7,498.6			Stage 22
22	7/19/2015	7,498.6	7,498.6			Stage 22
22	7/19/2015	7,498.6	7,498.6			Stage 22
22	7/19/2015	7,498.7	7,498.7			Stage 22
22	7/19/2015	7,498.7	7,498.7			Stage 22
21	7/16/2015	7,498.7	7,498.7			Stage 21
21	7/16/2015	7,498.7	7,498.7			Stage 21
21	7/16/2015	7,498.8	7,498.8			Stage 21
21	7/16/2015	7,498.8	7,498.8			Stage 21
21	7/16/2015	7,498.9	7,498.9			Stage 21
20	7/16/2015	7,498.9	7,498.9			Stage 20
20	7/16/2015	7,498.9	7,498.9			Stage 20
20	7/16/2015	7,498.9	7,498.9			Stage 20
20	7/16/2015	7,498.9	7,498.9			Stage 20
19	7/15/2015	7,498.9	7,498.9			Stage 19
19	7/15/2015	7,498.9	7,498.9			Stage 19
19	7/15/2015	7,499.1	7,499.1			Stage 19
19	7/15/2015	7,499.3	7,499.3			Stage 19
18	7/15/2015	7,499.7	7,499.7			Stage 18
18	7/15/2015	7,500.0	7,500.0			Stage 18
18	7/15/2015	7,500.4	7,500.4			Stage 18
18	7/15/2015	7,500.7	7,500.7			Stage 18
17	7/15/2015	7,501.1	7,501.1			Stage 17
17	7/15/2015	7,501.4	7,501.4			Stage 17
17	7/15/2015	7,501.7	7,501.7			Stage 17
17	7/15/2015	7,502.1	7,502.1			Stage 17
16	7/14/2015	7,502.4	7,502.4			Stage 16
16	7/14/2015	7,502.7	7,502.7			Stage 16

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
16	7/14/2015	7,503.0	7,503.0			Stage 16
16	7/14/2015	7,503.3	7,503.3			Stage 16
15	7/14/2015	7,503.6	7,503.6			Stage 15
15	7/14/2015	7,503.9	7,504.0			Stage 15
15	7/14/2015	7,504.3	7,504.3			Stage 15
15	7/14/2015	7,504.7	7,504.7			Stage 15
14	7/14/2015	7,504.9	7,504.9			Stage 14
14	7/14/2015	7,505.0	7,505.0			Stage 14
14	7/14/2015	7,505.0	7,505.0			Stage 14
14	7/14/2015	7,505.0	7,505.0			Stage 14
13	7/13/2015	7,505.0	7,505.0			Stage 13
13	7/13/2015	7,505.0	7,505.0			Stage 13
13	7/13/2015	7,505.0	7,505.0			Stage 13
13	7/13/2015	7,505.1	7,505.1			Stage 13
12	7/13/2015	7,505.1	7,505.1			Stage 12
12	7/13/2015	7,505.2	7,505.2			Stage 12
12	7/13/2015	7,505.3	7,505.3			Stage 12
12	7/13/2015	7,505.4	7,505.4			Stage 12
11	7/13/2015	7,505.6	7,505.6			Stage 11
11	7/13/2015	7,505.6	7,505.6			Stage 11
11	7/13/2015	7,505.7	7,505.7			Stage 11
11	7/13/2015	7,505.7	7,505.7			Stage 11
10	7/12/2015	7,505.7	7,505.7			Stage 10
10	7/12/2015	7,505.7	7,505.7			Stage 10
10	7/12/2015	7,505.7	7,505.7			Stage 10
10	7/12/2015	7,505.7	7,505.7			Stage 10
10	7/12/2015	7,505.7	7,505.7			Stage 10
9	7/12/2015	7,505.7	7,505.7			Stage 9
9	7/12/2015	7,505.7	7,505.7			Stage 9
9	7/12/2015	7,505.7	7,505.7			Stage 9
9	7/12/2015	7,505.6	7,505.6			Stage 9
9	7/12/2015	7,505.4	7,505.4			Stage 9
8	7/11/2015	7,505.2	7,505.2			Stage 8
8	7/11/2015	7,504.9	7,504.9			Stage 8
8	7/11/2015	7,504.7	7,504.7			Stage 8
8	7/11/2015	7,504.5	7,504.5			Stage 8
8	7/11/2015	7,504.3	7,504.3			Stage 8
7	7/11/2015	7,504.1	7,504.1			Stage 7
7	7/11/2015	7,503.9	7,503.9			Stage 7
7	7/11/2015	7,503.7	7,503.7			Stage 7
7	7/11/2015	7,503.5	7,503.5			Stage 7
7	7/11/2015	7,503.2	7,503.2			Stage 7
6	7/10/2015	7,503.1	7,503.1			Stage 6
6	7/10/2015	7,503.0	7,503.0			Stage 6
6	7/10/2015	7,502.9	7,502.9			Stage 6
6	7/10/2015	7,503.0	7,503.0			Stage 6

Perforations

Stage #	Date	Top (TVD) (ftKB)	Btm (TVD) (ftKB)	Shots Plan	Current Status	Com
6	7/10/2015	7,503.2	7,503.2			Stage 6
5	7/10/2015	7,503.5	7,503.5			Stage 5
5	7/10/2015	7,503.8	7,503.8			Stage 5
5	7/10/2015	7,504.1	7,504.1			Stage 5
5	7/10/2015	7,504.4	7,504.4			Stage 5
5	7/10/2015	7,504.8	7,504.8			Stage 5
4	7/10/2015	7,505.1	7,505.1			Stage 4
4	7/10/2015	7,505.4	7,505.4			Stage 4
4	7/10/2015	7,505.6	7,505.6			Stage 4
4	7/10/2015	7,505.8	7,505.8			Stage 4
4	7/10/2015	7,506.0	7,506.0			Stage 4
3	7/9/2015	7,506.0	7,506.0			Stage 3
3	7/9/2015	7,506.1	7,506.1			Stage 3
3	7/9/2015	7,506.1	7,506.1			Stage 3
3	7/9/2015	7,506.2	7,506.2			Stage 3
3	7/9/2015	7,506.3	7,506.3			Stage 3
2	7/9/2015	7,506.5	7,506.5			Stage 2
2	7/9/2015	7,506.7	7,506.7			Stage 2
2	7/9/2015	7,507.0	7,507.0			Stage 2
2	7/9/2015	7,507.3	7,507.3			Stage 2
2	7/9/2015	7,507.6	7,507.6			Stage 2
1	7/5/2015	7,508.0	7,508.0			Stage 1
1	7/5/2015	7,508.3	7,508.3			Stage 1
1	7/5/2015	7,508.6	7,508.6			Stage 1
1	7/5/2015	7,508.8	7,508.9			Stage 1
1	7/5/2015	7,509.0	7,509.0			Stage 1

Well Name	API	Property Number	Well Status	State	County	Well Spud Date	RR Date	Comp Date
MARY MILLER GRT WZ 1H	47103030700000	1470006	PRODUCTION	WEST VIRGINIA	WETZEL	3/16/2015	4/1/2015	

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)
1	7/9/2015	75	8,213.0	6,768.0	4,484.0	230,000	0.00
2	7/9/2015	74	8,556.0	6,740.0	4,402.0	230,000	0.00
3	7/10/2015	78	8,675.0	7,985.0	4,306.0	230,000	0.00
4	7/10/2015	75	8,619.0	6,404.0	4,292.0	230,000	0.00
5	7/10/2015	70	8,763.0	6,516.0	0.0	129,500	0.00
6	7/11/2015	67	8,421.0	6,605.0	6,360.0	230,000	0.00
7	7/11/2015	70	8,998.0	6,238.0	4,391.0	230,000	0.00
8	7/12/2015	71	8,799.0	6,812.0	4,347.0	230,000	0.00
9	7/12/2015	68	8,561.0	6,431.0	3,976.0	230,000	0.00
10	7/13/2015	78	8,564.0	6,815.0	4,459.0	230,000	0.00
10	7/13/2015	78	8,564.0	6,815.0	4,459.0	230,000	0.00
11	7/13/2015	63	9,204.0	6,406.0	4,762.0	129,500	0.00
12	7/13/2015	70	8,859.0	6,362.0	4,719.0	184,000	0.00
13	7/14/2015	70	9,008.0	6,400.0	5,456.0	184,000	0.00
14	7/14/2015	54	9,096.0	6,767.0	6,630.0	66,000	0.00
15	7/14/2015	70	8,885.0	6,352.0	4,230.0	184,000	0.00
16	7/15/2015	66	8,922.0	6,959.0	4,878.0	142,200	0.00
17	7/15/2015	71	8,412.0	6,876.0	4,567.0	184,000	0.00
18	7/15/2015	70	8,327.0	6,582.0	4,466.0	184,000	0.00
19	7/16/2015	70	8,601.0	6,543.0	4,578.0	184,000	0.00
20	7/16/2015	70	8,580.0	6,648.0	4,501.0	184,000	0.00
21	7/19/2015	75	8,738.0	6,668.0	4,468.0	230,000	0.00
22	7/19/2015	72	8,450.0	6,479.0	4,359.0	230,000	0.00
22	7/19/2015	72	8,450.0	6,479.0	4,359.0	230,000	0.00
23	7/20/2015	75	8,460.0	6,778.0	9,578.0	98,000	0.00
24	7/21/2015	77	8,340.0	6,205.0	4,988.0	230,000	0.00
25	7/21/2015	76	8,454.0	6,680.0	4,942.0	230,000	0.00
26	7/21/2015	78	8,129.0	6,519.0	4,446.0	230,000	0.00
27	7/22/2015	77	8,239.0	6,748.0	4,939.0	230,000	0.00
28	7/22/2015	75	8,482.0	7,019.0	4,626.0	230,000	0.00
29	7/22/2015	72	8,378.0	7,034.0	4,430.0	230,000	0.00
30	7/23/2015	72	8,541.0	6,977.0	4,758.0	230,000	0.00
31	7/23/2015	76	8,056.0	6,538.0	4,774.0	230,000	0.00
32	7/24/2015	77	8,322.0	7,040.0	5,368.0	230,000	0.00
33	7/24/2015	75	8,867.0	6,568.0	4,608.0	181,400	0.00
34	7/24/2015	74	8,305.0	6,424.0	4,586.0	230,000	0.00
35	7/25/2015	80	8,220.0	6,773.0	4,411.0	230,000	0.00
36	7/25/2015	76	8,392.0	6,406.0	5,471.0	136,800	0.00
37	7/25/2015	70	8,253.0	5,932.0	4,136.0	230,000	0.00
38	7/26/2015	79	8,235.0	6,005.0	4,298.0	230,000	0.00
39	7/26/2015	78	7,879.0	6,110.0	4,342.0	230,000	0.00
40	7/26/2015	70	7,682.0	6,727.0	4,185.0	230,000	0.00
41	7/27/2015	77	8,139.0	5,932.0	4,410.0	230,000	0.00
42	7/27/2015	76	8,031.0	6,924.0	4,686.0	230,000	0.00

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)
43	7/27/2015	74	8,411.0	5,900.0	0.0	66,900	0.00
44	7/28/2015	76	7,777.0	6,163.0	4,974.0	230,000	0.00
45	7/28/2015	78	7,778.0	6,693.0	4,496.0	230,000	0.00
46	7/29/2015	78	8,921.0	6,061.0	4,411.0	230,000	0.00
47	7/29/2015	69	8,280.0	6,580.0	4,356.0	230,000	0.00
48	7/29/2015	75	8,267.0	6,838.0	4,350.0	230,000	0.00
49	7/30/2015	79	7,669.0	5,999.0	4,812.0	230,000	0.00
50	7/30/2015	80	7,714.0	6,583.0	4,486.0	230,000	0.00
50	7/30/2015	80	7,714.0	6,583.0	4,486.0	230,000	0.00
51	7/30/2015	75	8,064.0	6,652.0	4,381.0	230,000	0.00
52	7/31/2015	76	8,156.0	6,457.0	4,455.0	230,000	0.00
53	7/31/2015	77	7,932.0	6,424.0	4,699.0	230,000	0.00
54	8/3/2015	80	7,798.0	6,839.0	4,531.0	230,000	0.00
55	8/3/2015	79	7,741.0	6,644.0	4,574.0	230,000	0.00
56	8/3/2015	80	7,677.0	7,045.0	4,445.0	230,000	0.00
57	8/4/2015	77	8,086.0	6,508.0	4,224.0	230,000	0.00
58	8/4/2015	81	7,819.0	6,251.0	4,484.0	230,000	0.00
59	8/4/2015	77	8,074.0	6,651.0	0.0	148,900	0.00
60	8/5/2015	81	7,461.0	6,338.0	4,502.0	230,000	0.00
61	8/5/2015	77	7,531.0	6,974.0	4,334.0	230,000	0.00
61	8/5/2015	77	7,531.0	6,974.0	4,334.0	230,000	0.00
62	8/6/2015	80	7,563.0	6,627.0	4,637.0	230,000	0.00

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/9/2015
Job End Date:	8/6/2015
State:	West Virginia
County:	Wetzel
API Number:	47-103-03070-00-00
Operator Name:	Ascent Resources - Marcellus, LLC
Well Name and Number:	Mary Miller GRT WZ 1H
Longitude:	-80.61380000
Latitude:	39.61490000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,494
Total Base Water Volume (gal):	11,619,132
Total Base Non Water Volume:	0

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Interstate Oil & Gas Compact Commission

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	86.69865	None
Sand (Proppant)	PSC	Proppant					
			Silica Substrate	14808-60-7	100.00000	11.67801	None
Hydrochloric Acid (15%)	Producers Service Corp	Acidizing					
			Hydrochloric Acid	7647-01-0	10.00000	0.14850	None
FRA 408	Producers Service Corp	Friction Reducer					
			Petroleum Distillates	64742-47-8	40.00000	0.03007	None
			Polyacrylamide salt	Proprietary	30.00000	0.02255	None
			Ethoxylate Alcohol	Proprietary	5.00000	0.00376	None
			Ammonium Chloride	12125-02-9	5.00000	0.00376	None
			Sodium Chloride	7647-14-5	5.00000	0.00376	None
			Tall oil	Proprietary	2.00000	0.00150	None
			Proprietary Ingredient	Proprietary	1.00000	0.00075	None
PRO GEL 4.0L	Producers Service Corp	Gelling Agent					
			Distillates (Petroleum), hydrotreated light	64742-47-8	65.00000	0.02436	None
			Guar Gum	9000-30-0	50.00000	0.01874	None

			Nonionic Surfactant	60828-78-6	5.00000	0.00187	None
			Nonionic Surfactant	60828-78-6	5.00000	0.00187	None
			Nonylphenol, Ethoxylate	9016-45-9	5.00000	0.00187	None
PRO SCALE CLEAR 112	Producers Service Corp	Scale Inhibitor					
			Polymer	Proprietary	50.00000	0.00608	None
			ethylene glycol	107-21-1	40.00000	0.00487	None
PRO SCALE CLEAR 112	Producers Service Corp	Scale Inhibitor					
			Polymer	Proprietary	50.00000	0.00608	None
			ethylene glycol	107-21-1	40.00000	0.00487	None
BIO CLEAR 2000	Producers Service Corp	Biocide					
			Polyether	25322-68-3	48.00000	0.00578	None
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00241	None
			Proprietary Ingredient	Proprietary	2.00000	0.00024	None
			Proprietary Ingredient	Proprietary	1.00000	0.00012	None
PROHIB II	Producers Service Corp	Inhibitor					
			Dimethylcocoamine, bis (chloroethyl) ether, diquaternary ammonium salt	68607-28-3	40.00000	0.00054	None
			Methyl Alcohol	67-56-1	20.00000	0.00027	None
			Ethylene Glycol	107-21-1	20.00000	0.00027	None
			2-Butoxyethanol	111-76-2	20.00000	0.00027	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	0.00004	None
			Ethylene Glycol	107-21-1	40.00000	0.00004	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None
			Polyether Polyol	9003-11-6	1.00000	0.00000	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None
			Sodium Bicarbonate	144-55-8	1.00000	0.00000	None
			Hexamethylenetetramine	100-97-0	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)

SURFACE HOLE DEC. LONG: 80.612622
SURVEYED LONG: 80° 36' 45.4"

8,250'

Latitude: 39° 37' 30" (NAD27)

Longitude: 80° 35' 00" (NAD27)

SURFACE HOLE DEC. LAT: 39.614974
SURVEYED LAT: 39° 36' 53.9"

3,660'

	PROPERTY OWNER	ACRES	LEASE NUMBER	PARCEL ID
A.	DANIEL & DELLANN R. BOGGESS	0.610	107605-00 thru 107605-01	1-18-18.4
B.	PEARL L. YOHO	0.390	107605-00 thru 107605-01	1-18-18.6
C.	DAVID C. & JOELLEN L. MARLOW	1.270	107605-00 thru 107605-01	1-18-18.2
D.	HG ENERGY LLC.	20.48	107605-00 thru 107605-01	1-18-17
E.	THOMAS D. MCBEE	3.750	99357-00 & 107734-00	1-18-03
F.	GARY BAKER	24.00	107734-00	1-18-33

REFERENCES
REBAR SET
MARY MILLER GRT WZ 1H
N 19°31'43" E 315'
S 37°57'44" W 298'
REBAR SET
Magnetic North
NTS

WELL (BOTTOM)
MARY MILLER 1H
WV-N (NAD 83)
N: 413055.11
E: 1647285.36
UTM (NAD 83)
N: 4386582.49
E: 530855.15

DAVID D. MOORE
TAX MAP & PARCEL
1-14-45.1
LEASE NUMBER
99445-00 thru 99445-50
& 108053-00 & 99519-00
5.89 ACRES

SURFACE HOLE

103-02724
3,000'
Existing Wells
within 3,000'
NTS

W #1	
N 80°10'35" W	1,549'
W #2	
S 80°48'48" W	2,015'
W #3	
N 45°58'06" E	1,736'
W #4	
N 40°47'16" E	1,878'
W #5	
N 31°43'05" E	1,790'
#1	
N 39°50'49" E	1,912'

103-02149
BOBBY L. BAKER
TAX MAP & PARCEL
1-14-46
LEASE NUMBER
107734-00 & 99447-01 &
99516-00 & 99517-00 &
99518-00 & 99563-00 &
99446-00 thru 99446-20 &
99445-00 thru 99445-50
84.75 ACRES

BOTTOM HOLE
AS-DRILLED
500'
500'
HONEY RUN ROAD
103-02157
103-02063
103-02229
103-02162
103-02341
103-02218
103-02220
103-02219
103-02227
103-02336
103-02156
103-00960
103-02230
103-02226
103-02235
103-02234
103-01913
103-02221

HG ENERGY LLC.
TAX MAP & PARCEL
1-18-5
LEASE NUMBER
99357-00 & 107940-00 &
108025-00 & 107605-00 &
107605-01 & 107872-00 thru
107872-34
40.00 ACRES

DURWIN MILLER
TAX MAP & PARCEL
1-18-22
LEASE NUMBER
107748-00 thru 107748-03 &
107952-00 thru 107952-15 &
108024-00 & 108023-00 &
108022-00
28.00 ACRES

WELL (BOTTOM)
MARY MILLER 1H
WV-N (NAD 83)
N: ~~413046.3~~
E: ~~1655129.6~~
UTM (NAD 83)
N: ~~4386579.8~~
E: ~~538853.3~~

WELL (SURFACE)
MARY MILLER 1H
WV-N (NAD 83)
N: 408075.96
E: 1655120.37
UTM (NAD 83)
N: 4385105.41
E: 533267.48

WELL (SURFACE)
MARY MILLER 1H
WV-N (NAD 83)
N: ~~408075.7~~
E: ~~1655120.6~~
UTM (NAD 83)
N: ~~4385105.3~~
E: ~~533267.5~~

RANDY W. LEMASTERS
TAX MAP & PARCEL
1-14-45
LEASE NUMBER
99445-00 thru 99445-50
& 108053-00 & 99519-00 &
107734-00
64.11 ACRES

MOUNTAINEER HIGHWAY

JOYCE M. LONG &
DONNA STRAIGHT
TAX MAP & PARCEL
1-18-02
LEASE NUMBER
107734-00
105.78 ACRES

HONEY RUN
LITTLE FISHING CREEK

FOUND IN FIELD
FOUND IN FIELD

PERMITTED

MARY MILLER
GRT WZ 1H
ELEVATION: 1,364'

N 53°38'04" W 9,221'

S 88°33'36" W 1092'

74'

POST

DALLISON LUMBER INC.
TAX MAP & PARCEL
1-18-18
LEASE NUMBER
107605-00 thru 107605-02 &
108022-00
47.5 ACRES

HOYT RIDGE ROAD

13,970' SOUTH OF LATITUDE 39° 40' 00"
4,420' WEST OF LONGITUDE 80° 37' 30"
BOTTOM HOLE

POST

S 23°13'17" W 1660'

DALE K. DULANEY
TAX MAP & PARCEL
1-18-23
LEASE NUMBER
107748-00 thru 107748-03 &
107952-00 thru 107952-15 &
108024-00
156.90 ACRES

UNNAMED TRIBUTARY

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

REFERENCES TO
PROPOSED HORIZONTAL
WELLS SURFACE LOCATIONS
7H
5H
3H-A
1H
20'
60'
NTS

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: E.A.H.

TOP HOLE (UTM NAD 83)	
N)	4385105.3
E)	533267.5
BOTTOM HOLE (UTM NAD 83)	
N)	4386579.8
E)	530853.3

FILE #: AE001
DRAWING #: 2454
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:

L.L.S. #2124 : Ernest J. Benchek III

ERNEST J. BENCHEK III
LICENSED
No. 2124
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

Received
Office of Oil & Gas
NOV 20 2015

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

DATE: NOVEMBER 18, 2015

OPERATOR'S WELL #: MARY MILLER GRT WZ 1H AS-DRILLED

API WELL #: 47 (STATE) 103 (COUNTY) ____ (PERMIT)

Well Type: ☐ Oil ☐ Waste Disposal ☐ 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: 583.43 +/-
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: 7,509.30' TMD: 17,176'
WELL OPERATOR: Ascent Resources–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