

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

API 47-103-03072 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 5H
Operator (as registered with the OOG) Ascent Resources - Marcellus, LLC
Address 3501 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 4385116.50 Easting 533262.4
Landing Point of Curve Northing 4385208 Easting 533259
Bottom Hole Northing 4386812.58 Easting 531052.68

Elevation (ft) 1290' 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

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

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Date permit issued 3/02/2015 Date drilling commenced 5/13/2015 Date drilling ceased 6/01/2015
Date completion activities began 08/08/2015 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

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Reviewed by:

DA/08/2016

API 47- 103 - 03072 Farm name MA Miller Well number Mary Miller GRT WZ 5H

| 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 | J-55 | | Y |
| Surface | 17-1/2" | 13-3/8" | 1305' | New | J-55 | | Y |
| Coal | | | | | | | |
| Intermediate 1 | 12-1/4" | 9-5/8" | 3472' | New | J-55 | | Y |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | 8-3/4" | 5-1/2" | 16801' | 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 H | 1160 | Lead 15.3, Tail 15.6 | Lead 1.25, Tail 1.19 | | 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) 16822' Loggers TD (ft) _____

Deepest formation penetrated Marcellus Plug back to (ft) _____

Plug back procedure _____

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Kick off depth (ft) 6725'

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 11 centralizers placed in the surface casing string, 28 in the intermediate and 150 in the production string.

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 103 - 03072 Farm name MA Miller Well number Mary Miller GRT WZ 5H

| <u>PRODUCING FORMATION(S)</u> | <u>DEPTHS</u> | |
|-------------------------------|------------------|------------------|
| <u>Marcellus</u> | <u>7526'</u> TVD | <u>16822'</u> 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 10376 mcfpd Oil 35 bpd NGL 0 bpd Water 88 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 ₂ S, ETC) |
|-------------------------|--------------------------------|------------------------------|--------------------------|-----------------------------|--|
| Shale | 0 | 1251 | 0 | 1254 | |
| Pittsburgh 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 | 6871 | 6965 | 6897 | 6938 | |
| Shale | 6965 | 7199 | 6938 | 7251 | |
| Middlesex | 7199 | 7319 | 7251 | 7424 | |
| Geneseo | 7319 | 7339 | 7424 | 7457 | |
| Tully | 7339 | 7364 | 7457 | 7506 | |
| Hamilton | 7364 | 7461 | 7506 | 7770 | |
| Marcellus | 7461 | | 7770 | | |

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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
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 _____

Perforations

Mary Miller GRT WZ SH

| Stage # | Date | Top (ftKB) | Btm (ftKB) | Shot Dens (shots/ft) | Entered Shot Total | Com |
|---------|-----------|------------|------------|----------------------|--------------------|----------|
| 59 | 9/1/2015 | 7,758.0 | 7,759.0 | 6.0 | 6 | Stage 59 |
| 59 | 9/1/2015 | 7,788.0 | 7,789.0 | 6.0 | 6 | Stage 59 |
| 59 | 9/1/2015 | 7,818.0 | 7,819.0 | 6.0 | 6 | Stage 59 |
| 59 | 9/1/2015 | 7,848.0 | 7,849.0 | 6.0 | 6 | Stage 59 |
| 59 | 9/1/2015 | 7,878.0 | 7,879.0 | 6.0 | 6 | Stage 59 |
| 58 | 8/31/2015 | 7,908.0 | 7,909.0 | 6.0 | 6 | Stage 58 |
| 58 | 8/31/2015 | 7,938.0 | 7,939.0 | 6.0 | 6 | Stage 58 |
| 58 | 8/31/2015 | 7,968.0 | 7,969.0 | 6.0 | 6 | Stage 58 |
| 58 | 8/31/2015 | 7,998.0 | 7,999.0 | 6.0 | 6 | Stage 58 |
| 58 | 8/31/2015 | 8,028.0 | 8,029.0 | 6.0 | 6 | Stage 58 |
| 57 | 8/31/2015 | 8,058.0 | 8,059.0 | 6.0 | 6 | Stage 57 |
| 57 | 8/31/2015 | 8,088.0 | 8,089.0 | 6.0 | 6 | Stage 57 |
| 57 | 8/31/2015 | 8,118.0 | 8,119.0 | 6.0 | 6 | Stage 57 |
| 57 | 8/31/2015 | 8,148.0 | 8,149.0 | 6.0 | 6 | Stage 57 |
| 57 | 8/31/2015 | 8,178.0 | 8,179.0 | 6.0 | 6 | Stage 57 |
| 56 | 8/31/2015 | 8,208.0 | 8,209.0 | 6.0 | 6 | Stage 56 |
| 56 | 8/31/2015 | 8,238.0 | 8,239.0 | 6.0 | 6 | Stage 56 |
| 56 | 8/31/2015 | 8,268.0 | 8,269.0 | 6.0 | 6 | Stage 56 |
| 56 | 8/31/2015 | 8,298.0 | 8,299.0 | 6.0 | 6 | Stage 56 |
| 56 | 8/31/2015 | 8,328.0 | 8,329.0 | 6.0 | 6 | Stage 56 |
| 55 | 8/30/2015 | 8,358.0 | 8,359.0 | 6.0 | 6 | Stage 55 |
| 55 | 8/30/2015 | 8,388.0 | 8,389.0 | 6.0 | 6 | Stage 55 |
| 55 | 8/30/2015 | 8,418.0 | 8,419.0 | 6.0 | 6 | Stage 55 |
| 55 | 8/30/2015 | 8,448.0 | 8,449.0 | 6.0 | 6 | Stage 55 |
| 55 | 8/30/2015 | 8,478.0 | 8,479.0 | 6.0 | 6 | Stage 55 |
| 54 | 8/30/2015 | 8,508.0 | 8,509.0 | 6.0 | 6 | Stage 54 |
| 54 | 8/30/2015 | 8,538.0 | 8,539.0 | 6.0 | 6 | Stage 54 |
| 54 | 8/30/2015 | 8,568.0 | 8,569.0 | 6.0 | 6 | Stage 54 |
| 54 | 8/30/2015 | 8,598.0 | 8,599.0 | 6.0 | 6 | Stage 54 |
| 54 | 8/30/2015 | 8,628.0 | 8,629.0 | 6.0 | 6 | Stage 54 |
| 53 | 8/30/2015 | 8,658.0 | 8,659.0 | 6.0 | 6 | Stage 53 |
| 53 | 8/30/2015 | 8,688.0 | 8,689.0 | 6.0 | 6 | Stage 53 |
| 53 | 8/30/2015 | 8,718.0 | 8,719.0 | 6.0 | 6 | Stage 53 |
| 53 | 8/30/2015 | 8,748.0 | 8,749.0 | 6.0 | 6 | Stage 53 |
| 53 | 8/30/2015 | 8,778.0 | 8,779.0 | 6.0 | 6 | Stage 53 |
| 52 | 8/29/2015 | 8,808.0 | 8,809.0 | 6.0 | 6 | Stage 52 |
| 52 | 8/29/2015 | 8,838.0 | 8,839.0 | 6.0 | 6 | Stage 52 |
| 52 | 8/29/2015 | 8,868.0 | 8,869.0 | 6.0 | 6 | Stage 52 |
| 52 | 8/29/2015 | 8,898.0 | 8,899.0 | 6.0 | 6 | Stage 52 |
| 52 | 8/29/2015 | 8,928.0 | 8,929.0 | 6.0 | 6 | Stage 52 |
| 51 | 8/29/2015 | 8,958.0 | 8,959.0 | 6.0 | 6 | Stage 51 |
| 51 | 8/29/2015 | 8,988.0 | 8,989.0 | 6.0 | 6 | Stage 51 |
| 51 | 8/29/2015 | 9,018.0 | 9,019.0 | 6.0 | 6 | Stage 51 |
| 51 | 8/29/2015 | 9,048.0 | 9,049.0 | 6.0 | 6 | Stage 51 |
| 51 | 8/29/2015 | 9,078.0 | 9,079.0 | 6.0 | 6 | Stage 51 |
| 50 | 8/28/2015 | 9,108.0 | 9,109.0 | 6.0 | 6 | Stage 50 |
| 50 | 8/28/2015 | 9,138.0 | 9,139.0 | 6.0 | 6 | Stage 50 |
| 50 | 8/28/2015 | 9,168.0 | 9,169.0 | 6.0 | 6 | Stage 50 |
| 50 | 8/28/2015 | 9,198.0 | 9,199.0 | 6.0 | 6 | Stage 50 |
| 50 | 8/28/2015 | 9,228.0 | 9,229.0 | 6.0 | 6 | Stage 50 |
| 49 | 8/28/2015 | 9,258.0 | 9,259.0 | 6.0 | 6 | Stage 49 |
| 49 | 8/28/2015 | 9,288.0 | 9,289.0 | 6.0 | 6 | Stage 49 |
| 49 | 8/28/2015 | 9,318.0 | 9,319.0 | 6.0 | 6 | Stage 49 |
| 49 | 8/28/2015 | 9,348.0 | 9,349.0 | 6.0 | 6 | Stage 49 |
| 49 | 8/28/2015 | 9,378.0 | 9,379.0 | 6.0 | 6 | Stage 49 |
| 48 | 8/27/2015 | 9,408.0 | 9,409.0 | 6.0 | 6 | Stage 48 |
| 48 | 8/27/2015 | 9,438.0 | 9,439.0 | 6.0 | 6 | Stage 48 |
| 48 | 8/27/2015 | 9,468.0 | 9,469.0 | 6.0 | 6 | Stage 48 |
| 48 | 8/27/2015 | 9,498.0 | 9,499.0 | 6.0 | 6 | Stage 48 |
| 48 | 8/27/2015 | 9,528.0 | 9,529.0 | 6.0 | 6 | Stage 48 |
| 47 | 8/27/2015 | 9,558.0 | 9,559.0 | 6.0 | 6 | Stage 47 |
| 47 | 8/27/2015 | 9,588.0 | 9,589.0 | 6.0 | 6 | Stage 47 |
| 47 | 8/27/2015 | 9,618.0 | 9,619.0 | 6.0 | 6 | Stage 47 |

Perforations

| Stage # | Date | Top (ftKB) | Btm (ftKB) | Shot Dens (shots/ft) | Entered Shot Total | Com |
|---------|-----------|------------|------------|----------------------|--------------------|----------|
| 47 | 8/27/2015 | 9,648.0 | 9,649.0 | 6.0 | 6 | Stage 47 |
| 47 | 8/27/2015 | 9,678.0 | 9,679.0 | 6.0 | 6 | Stage 47 |
| 46 | 8/26/2015 | 9,708.0 | 9,709.0 | 6.0 | 6 | Stage 46 |
| 46 | 8/26/2015 | 9,738.0 | 9,739.0 | 6.0 | 6 | Stage 46 |
| 46 | 8/26/2015 | 9,768.0 | 9,769.0 | 6.0 | 6 | Stage 46 |
| 46 | 8/26/2015 | 9,798.0 | 9,799.0 | 6.0 | 6 | Stage 46 |
| 46 | 8/26/2015 | 9,828.0 | 9,829.0 | 6.0 | 6 | Stage 46 |
| 45 | 8/26/2015 | 9,858.0 | 9,859.0 | 6.0 | 6 | Stage 45 |
| 45 | 8/26/2015 | 9,888.0 | 9,889.0 | 6.0 | 6 | Stage 45 |
| 45 | 8/26/2015 | 9,918.0 | 9,919.0 | 6.0 | 6 | Stage 45 |
| 45 | 8/26/2015 | 9,948.0 | 9,949.0 | 6.0 | 6 | Stage 45 |
| 45 | 8/26/2015 | 9,978.0 | 9,979.0 | 6.0 | 6 | Stage 45 |
| 44 | 8/25/2015 | 10,008.0 | 10,009.0 | 6.0 | 6 | Stage 44 |
| 44 | 8/25/2015 | 10,038.0 | 10,039.0 | 6.0 | 6 | Stage 44 |
| 44 | 8/25/2015 | 10,068.0 | 10,069.0 | 6.0 | 6 | Stage 44 |
| 44 | 8/25/2015 | 10,098.0 | 10,099.0 | 6.0 | 6 | Stage 44 |
| 44 | 8/25/2015 | 10,128.0 | 10,129.0 | 6.0 | 6 | Stage 44 |
| 43 | 8/25/2015 | 10,158.0 | 10,159.0 | 6.0 | 6 | Stage 43 |
| 43 | 8/25/2015 | 10,188.0 | 10,189.0 | 6.0 | 6 | Stage 43 |
| 43 | 8/25/2015 | 10,218.0 | 10,219.0 | 6.0 | 6 | Stage 43 |
| 43 | 8/25/2015 | 10,248.0 | 10,249.0 | 6.0 | 6 | Stage 43 |
| 43 | 8/25/2015 | 10,278.0 | 10,279.0 | 6.0 | 6 | Stage 43 |
| 42 | 8/25/2015 | 10,308.0 | 10,309.0 | 6.0 | 6 | Stage 42 |
| 42 | 8/25/2015 | 10,338.0 | 10,339.0 | 6.0 | 6 | Stage 42 |
| 42 | 8/25/2015 | 10,368.0 | 10,369.0 | 6.0 | 6 | Stage 42 |
| 42 | 8/25/2015 | 10,398.0 | 10,399.0 | 6.0 | 6 | Stage 42 |
| 42 | 8/25/2015 | 10,428.0 | 10,429.0 | 6.0 | 6 | Stage 42 |
| 41 | 8/24/2015 | 10,458.0 | 10,459.0 | 6.0 | 6 | Stage 41 |
| 41 | 8/24/2015 | 10,488.0 | 10,489.0 | 6.0 | 6 | Stage 41 |
| 41 | 8/24/2015 | 10,518.0 | 10,519.0 | 6.0 | 6 | Stage 41 |
| 41 | 8/24/2015 | 10,548.0 | 10,549.0 | 6.0 | 6 | Stage 41 |
| 41 | 8/24/2015 | 10,578.0 | 10,579.0 | 6.0 | 6 | Stage 41 |
| 40 | 8/24/2015 | 10,608.0 | 10,609.0 | 6.0 | 6 | Stage 40 |
| 40 | 8/24/2015 | 10,638.0 | 10,639.0 | 6.0 | 6 | Stage 40 |
| 40 | 8/24/2015 | 10,668.0 | 10,669.0 | 6.0 | 6 | Stage 40 |
| 40 | 8/24/2015 | 10,698.0 | 10,699.0 | 6.0 | 6 | Stage 40 |
| 40 | 8/24/2015 | 10,728.0 | 10,729.0 | 6.0 | 6 | Stage 40 |
| 39 | 8/24/2015 | 10,758.0 | 10,759.0 | 6.0 | 6 | Stage 39 |
| 39 | 8/24/2015 | 10,788.0 | 10,789.0 | 6.0 | 6 | Stage 39 |
| 39 | 8/24/2015 | 10,818.0 | 10,819.0 | 6.0 | 6 | Stage 39 |
| 39 | 8/24/2015 | 10,848.0 | 10,849.0 | 6.0 | 6 | Stage 39 |
| 39 | 8/24/2015 | 10,878.0 | 10,879.0 | 6.0 | 6 | Stage 39 |
| 38 | 8/23/2015 | 10,908.0 | 10,909.0 | 6.0 | 6 | Stage 38 |
| 38 | 8/23/2015 | 10,938.0 | 10,939.0 | 6.0 | 6 | Stage 38 |
| 38 | 8/23/2015 | 10,968.0 | 10,969.0 | 6.0 | 6 | Stage 38 |
| 38 | 8/23/2015 | 10,998.0 | 10,999.0 | 6.0 | 6 | Stage 38 |
| 38 | 8/23/2015 | 11,028.0 | 11,029.0 | 6.0 | 6 | Stage 38 |
| 37 | 8/23/2015 | 11,058.0 | 11,059.0 | 6.0 | 6 | Stage 37 |
| 37 | 8/23/2015 | 11,088.0 | 11,089.0 | 6.0 | 6 | Stage 37 |
| 37 | 8/23/2015 | 11,118.0 | 11,119.0 | 6.0 | 6 | Stage 37 |
| 37 | 8/23/2015 | 11,148.0 | 11,149.0 | 6.0 | 6 | Stage 37 |
| 37 | 8/23/2015 | 11,178.0 | 11,179.0 | 6.0 | 6 | Stage 37 |
| 36 | 8/23/2015 | 11,208.0 | 11,209.0 | 6.0 | 6 | Stage 36 |
| 36 | 8/23/2015 | 11,238.0 | 11,239.0 | 6.0 | 6 | Stage 36 |
| 36 | 8/23/2015 | 11,268.0 | 11,269.0 | 6.0 | 6 | Stage 36 |
| 36 | 8/23/2015 | 11,298.0 | 11,299.0 | 6.0 | 6 | Stage 36 |
| 36 | 8/23/2015 | 11,328.0 | 11,329.0 | 6.0 | 6 | Stage 36 |
| 35 | 8/22/2015 | 11,358.0 | 11,359.0 | 6.0 | 6 | Stage 35 |
| 35 | 8/22/2015 | 11,388.0 | 11,389.0 | 6.0 | 6 | Stage 35 |
| 35 | 8/22/2015 | 11,418.0 | 11,419.0 | 6.0 | 6 | Stage 35 |
| 35 | 8/22/2015 | 11,448.0 | 11,449.0 | 6.0 | 6 | Stage 35 |
| 35 | 8/22/2015 | 11,478.0 | 11,479.0 | 6.0 | 6 | Stage 35 |
| 34 | 8/22/2015 | 11,508.0 | 11,509.0 | 6.0 | 6 | Stage 34 |

Perforations

| Stage # | Date | Top (ftKB) | Btm (ftKB) | Shot Dens (shots/ft) | Entered Shot Total | Com |
|---------|-----------|------------|------------|----------------------|--------------------|----------|
| 34 | 8/22/2015 | 11,538.0 | 11,539.0 | 6.0 | 6 | Stage 34 |
| 34 | 8/22/2015 | 11,568.0 | 11,569.0 | 6.0 | 6 | Stage 34 |
| 34 | 8/22/2015 | 11,598.0 | 11,599.0 | 6.0 | 6 | Stage 34 |
| 34 | 8/22/2015 | 11,628.0 | 11,629.0 | 6.0 | 6 | Stage 34 |
| 33 | 8/22/2015 | 11,658.0 | 11,659.0 | 6.0 | 6 | Stage 33 |
| 33 | 8/22/2015 | 11,688.0 | 11,689.0 | 6.0 | 6 | Stage 33 |
| 33 | 8/22/2015 | 11,718.0 | 11,719.0 | 6.0 | 6 | Stage 33 |
| 33 | 8/22/2015 | 11,748.0 | 11,749.0 | 6.0 | 6 | Stage 33 |
| 33 | 8/22/2015 | 11,778.0 | 11,779.0 | 6.0 | 6 | Stage 33 |
| 32 | 8/21/2015 | 11,808.0 | 11,809.0 | 6.0 | 6 | Stage 32 |
| 32 | 8/21/2015 | 11,838.0 | 11,839.0 | 6.0 | 6 | Stage 32 |
| 32 | 8/21/2015 | 11,868.0 | 11,869.0 | 6.0 | 6 | Stage 32 |
| 32 | 8/21/2015 | 11,898.0 | 11,899.0 | 6.0 | 6 | Stage 32 |
| 32 | 8/21/2015 | 11,928.0 | 11,929.0 | 6.0 | 6 | Stage 32 |
| 31 | 8/21/2015 | 11,958.0 | 11,959.0 | 6.0 | 6 | Stage 31 |
| 31 | 8/21/2015 | 11,988.0 | 11,989.0 | 6.0 | 6 | Stage 31 |
| 31 | 8/21/2015 | 12,018.0 | 12,019.0 | 6.0 | 6 | Stage 31 |
| 31 | 8/21/2015 | 12,048.0 | 12,049.0 | 6.0 | 6 | Stage 31 |
| 31 | 8/21/2015 | 12,078.0 | 12,079.0 | 6.0 | 6 | Stage 31 |
| 30 | 8/21/2015 | 12,108.0 | 12,109.0 | 6.0 | 6 | Stage 30 |
| 30 | 8/21/2015 | 12,138.0 | 12,139.0 | 6.0 | 6 | Stage 30 |
| 30 | 8/21/2015 | 12,168.0 | 12,169.0 | 6.0 | 6 | Stage 30 |
| 30 | 8/21/2015 | 12,198.0 | 12,199.0 | 6.0 | 6 | Stage 30 |
| 30 | 8/21/2015 | 12,228.0 | 12,229.0 | 6.0 | 6 | Stage 30 |
| 29 | 8/20/2015 | 12,258.0 | 12,259.0 | 6.0 | 6 | Stage 29 |
| 29 | 8/20/2015 | 12,288.0 | 12,289.0 | 6.0 | 6 | Stage 29 |
| 29 | 8/20/2015 | 12,318.0 | 12,319.0 | 6.0 | 6 | Stage 29 |
| 29 | 8/20/2015 | 12,348.0 | 12,349.0 | 6.0 | 6 | Stage 29 |
| 29 | 8/20/2015 | 12,378.0 | 12,379.0 | 6.0 | 6 | Stage 29 |
| 28 | 8/20/2015 | 12,408.0 | 12,409.0 | 6.0 | 6 | Stage 28 |
| 28 | 8/20/2015 | 12,438.0 | 12,439.0 | 6.0 | 6 | Stage 28 |
| 28 | 8/20/2015 | 12,468.0 | 12,469.0 | 6.0 | 6 | Stage 28 |
| 28 | 8/20/2015 | 12,498.0 | 12,499.0 | 6.0 | 6 | Stage 28 |
| 28 | 8/20/2015 | 12,528.0 | 12,529.0 | 6.0 | 6 | Stage 28 |
| 27 | 8/20/2015 | 12,558.0 | 12,559.0 | 6.0 | 6 | Stage 27 |
| 27 | 8/20/2015 | 12,588.0 | 12,589.0 | 6.0 | 6 | Stage 27 |
| 27 | 8/20/2015 | 12,618.0 | 12,619.0 | 6.0 | 6 | Stage 27 |
| 27 | 8/20/2015 | 12,648.0 | 12,649.0 | 6.0 | 6 | Stage 27 |
| 27 | 8/20/2015 | 12,678.0 | 12,679.0 | 6.0 | 6 | Stage 27 |
| 26 | 8/19/2015 | 12,708.0 | 12,709.0 | 6.0 | 6 | Stage 26 |
| 26 | 8/19/2015 | 12,738.0 | 12,739.0 | 6.0 | 6 | Stage 26 |
| 26 | 8/19/2015 | 12,768.0 | 12,769.0 | 6.0 | 6 | Stage 26 |
| 26 | 8/19/2015 | 12,798.0 | 12,799.0 | 6.0 | 6 | Stage 26 |
| 26 | 8/19/2015 | 12,828.0 | 12,829.0 | 6.0 | 6 | Stage 26 |
| 25 | 8/19/2015 | 12,858.0 | 12,859.0 | 6.0 | 6 | Stage 25 |
| 25 | 8/19/2015 | 12,888.0 | 12,889.0 | 6.0 | 6 | Stage 25 |
| 25 | 8/19/2015 | 12,918.0 | 12,919.0 | 6.0 | 6 | Stage 25 |
| 25 | 8/19/2015 | 12,948.0 | 12,949.0 | 6.0 | 6 | Stage 25 |
| 25 | 8/19/2015 | 12,978.0 | 12,979.0 | 6.0 | 6 | Stage 25 |
| 24 | 8/18/2015 | 13,008.0 | 13,009.0 | 6.0 | 6 | Stage 24 |
| 24 | 8/18/2015 | 13,038.0 | 13,039.0 | 6.0 | 6 | Stage 24 |
| 24 | 8/18/2015 | 13,068.0 | 13,069.0 | 6.0 | 6 | Stage 24 |
| 24 | 8/18/2015 | 13,098.0 | 13,099.0 | 6.0 | 6 | Stage 24 |
| 24 | 8/18/2015 | 13,128.0 | 13,129.0 | 6.0 | 6 | Stage 24 |
| 23 | 8/18/2015 | 13,158.0 | 13,159.0 | 6.0 | 6 | Stage 23 |
| 23 | 8/18/2015 | 13,188.0 | 13,189.0 | 6.0 | 6 | Stage 23 |
| 23 | 8/18/2015 | 13,218.0 | 13,219.0 | 6.0 | 6 | Stage 23 |
| 23 | 8/18/2015 | 13,248.0 | 13,249.0 | 6.0 | 6 | Stage 23 |
| 23 | 8/18/2015 | 13,278.0 | 13,279.0 | 6.0 | 6 | Stage 23 |
| 22 | 8/15/2015 | 13,308.0 | 13,309.0 | 6.0 | 6 | Stage 22 |
| 22 | 8/15/2015 | 13,338.0 | 13,339.0 | 6.0 | 6 | Stage 22 |
| 22 | 8/15/2015 | 13,368.0 | 13,369.0 | 6.0 | 6 | Stage 22 |
| 22 | 8/15/2015 | 13,398.0 | 13,399.0 | 6.0 | 6 | Stage 22 |

Perforations

| Stage # | Date | Top (ftKB) | Btm (ftKB) | Shot Dens (shots/ft) | Entered Shot Total | Com |
|---------|-----------|------------|------------|----------------------|--------------------|----------|
| 22 | 8/15/2015 | 13,428.0 | 13,429.0 | 6.0 | 6 | Stage 22 |
| 21 | 8/15/2015 | 13,458.0 | 13,459.0 | 6.0 | 6 | Stage 21 |
| 21 | 8/15/2015 | 13,488.0 | 13,489.0 | 6.0 | 6 | Stage 21 |
| 21 | 8/15/2015 | 13,518.0 | 13,519.0 | 6.0 | 6 | Stage 21 |
| 21 | 8/15/2015 | 13,548.0 | 13,549.0 | 6.0 | 6 | Stage 21 |
| 21 | 8/15/2015 | 13,578.0 | 13,579.0 | 6.0 | 6 | Stage 21 |
| 20 | 8/14/2015 | 13,608.0 | 13,609.0 | 6.0 | 6 | Stage 20 |
| 20 | 8/14/2015 | 13,638.0 | 13,639.0 | 6.0 | 6 | Stage 20 |
| 20 | 8/14/2015 | 13,668.0 | 13,669.0 | 6.0 | 6 | Stage 20 |
| 20 | 8/14/2015 | 13,698.0 | 13,699.0 | 6.0 | 6 | Stage 20 |
| 20 | 8/14/2015 | 13,728.0 | 13,729.0 | 6.0 | 6 | Stage 20 |
| 19 | 8/14/2015 | 13,758.0 | 13,759.0 | 6.0 | 6 | Stage 19 |
| 19 | 8/14/2015 | 13,788.0 | 13,789.0 | 6.0 | 6 | Stage 19 |
| 19 | 8/14/2015 | 13,818.0 | 13,819.0 | 6.0 | 6 | Stage 19 |
| 19 | 8/14/2015 | 13,848.0 | 13,849.0 | 6.0 | 6 | Stage 19 |
| 19 | 8/14/2015 | 13,878.0 | 13,879.0 | 6.0 | 6 | Stage 19 |
| 18 | 8/13/2015 | 13,908.0 | 13,909.0 | 6.0 | 6 | Stage 18 |
| 18 | 8/13/2015 | 13,938.0 | 13,939.0 | 6.0 | 6 | Stage 18 |
| 18 | 8/13/2015 | 13,968.0 | 13,969.0 | 6.0 | 6 | Stage 18 |
| 18 | 8/13/2015 | 13,998.0 | 13,999.0 | 6.0 | 6 | Stage 18 |
| 18 | 8/13/2015 | 14,028.0 | 14,029.0 | 6.0 | 6 | Stage 18 |
| 17 | 8/13/2015 | 14,058.0 | 14,059.0 | 6.0 | 6 | Stage 17 |
| 17 | 8/13/2015 | 14,088.0 | 14,089.0 | 6.0 | 6 | Stage 17 |
| 17 | 8/13/2015 | 14,118.0 | 14,119.0 | 6.0 | 6 | Stage 17 |
| 17 | 8/13/2015 | 14,148.0 | 14,149.0 | 6.0 | 6 | Stage 17 |
| 17 | 8/13/2015 | 14,178.0 | 14,179.0 | 6.0 | 6 | Stage 17 |
| 16 | 8/12/2015 | 14,208.0 | 14,209.0 | 6.0 | 6 | Stage 16 |
| 16 | 8/12/2015 | 14,238.0 | 14,239.0 | 6.0 | 6 | Stage 16 |
| 16 | 8/12/2015 | 14,268.0 | 14,269.0 | 6.0 | 6 | Stage 16 |
| 16 | 8/12/2015 | 14,298.0 | 14,299.0 | 6.0 | 6 | Stage 16 |
| 16 | 8/12/2015 | 14,328.0 | 14,329.0 | 6.0 | 6 | Stage 16 |
| 15 | 8/12/2015 | 14,358.0 | 14,359.0 | 6.0 | 6 | Stage 15 |
| 15 | 8/12/2015 | 14,388.0 | 14,389.0 | 6.0 | 6 | Stage 15 |
| 15 | 8/12/2015 | 14,418.0 | 14,419.0 | 6.0 | 6 | Stage 15 |
| 15 | 8/12/2015 | 14,448.0 | 14,449.0 | 6.0 | 6 | Stage 15 |
| 15 | 8/12/2015 | 14,478.0 | 14,479.0 | 6.0 | 6 | Stage 15 |
| 14 | 8/12/2015 | 14,508.0 | 14,509.0 | 6.0 | 6 | Stage 14 |
| 14 | 8/12/2015 | 14,538.0 | 14,539.0 | 6.0 | 6 | Stage 14 |
| 14 | 8/12/2015 | 14,568.0 | 14,569.0 | 6.0 | 6 | Stage 14 |
| 14 | 8/12/2015 | 14,598.0 | 14,599.0 | 6.0 | 6 | Stage 14 |
| 14 | 8/12/2015 | 14,628.0 | 14,629.0 | 6.0 | 6 | Stage 14 |
| 13 | 8/11/2015 | 14,658.0 | 14,659.0 | 6.0 | 6 | Stage 13 |
| 13 | 8/11/2015 | 14,688.0 | 14,689.0 | 6.0 | 6 | Stage 13 |
| 13 | 8/11/2015 | 14,718.0 | 14,719.0 | 6.0 | 6 | Stage 13 |
| 13 | 8/11/2015 | 14,748.0 | 14,749.0 | 6.0 | 6 | Stage 13 |
| 13 | 8/11/2015 | 14,778.0 | 14,779.0 | 6.0 | 6 | Stage 13 |
| 12 | 8/11/2015 | 14,808.0 | 14,809.0 | 6.0 | 6 | Stage 12 |
| 12 | 8/11/2015 | 14,838.0 | 14,839.0 | 6.0 | 6 | Stage 12 |
| 12 | 8/11/2015 | 14,868.0 | 14,869.0 | 6.0 | 6 | Stage 12 |
| 12 | 8/11/2015 | 14,898.0 | 14,899.0 | 6.0 | 6 | Stage 12 |
| 12 | 8/11/2015 | 14,928.0 | 14,929.0 | 6.0 | 6 | Stage 12 |
| 11 | 8/11/2015 | 14,958.0 | 14,959.0 | 6.0 | 6 | Stage 11 |
| 11 | 8/11/2015 | 14,988.0 | 14,989.0 | 6.0 | 6 | Stage 11 |
| 11 | 8/11/2015 | 15,018.0 | 15,019.0 | 6.0 | 6 | Stage 11 |
| 11 | 8/11/2015 | 15,048.0 | 15,049.0 | 6.0 | 6 | Stage 11 |
| 11 | 8/11/2015 | 15,078.0 | 15,079.0 | 6.0 | 6 | Stage 11 |
| 10 | 8/10/2015 | 15,108.0 | 15,109.0 | 6.0 | 6 | Stage 10 |
| 10 | 8/10/2015 | 15,138.0 | 15,139.0 | 6.0 | 6 | Stage 10 |
| 10 | 8/10/2015 | 15,168.0 | 15,169.0 | 6.0 | 6 | Stage 10 |
| 10 | 8/10/2015 | 15,198.0 | 15,199.0 | 6.0 | 6 | Stage 10 |
| 10 | 8/10/2015 | 15,228.0 | 15,229.0 | 6.0 | 6 | Stage 10 |
| 9 | 8/10/2015 | 15,258.0 | 15,259.0 | 6.0 | 6 | Stage 9 |
| 9 | 8/10/2015 | 15,288.0 | 15,289.0 | 6.0 | 6 | Stage 9 |

Perforations

| Stage # | Date | Top (ftKB) | Btm (ftKB) | Shot Dens (shots/ft) | Entered Shot Total | Com |
|---------|-----------|------------|------------|----------------------|--------------------|---------|
| 9 | 8/10/2015 | 15,318.0 | 15,319.0 | 6.0 | 6 | Stage 9 |
| 9 | 8/10/2015 | 15,348.0 | 15,349.0 | 6.0 | 6 | Stage 9 |
| 9 | 8/10/2015 | 15,378.0 | 15,379.0 | 6.0 | 6 | Stage 9 |
| 8 | 8/10/2015 | 15,408.0 | 15,409.0 | 6.0 | 6 | Stage 8 |
| 8 | 8/10/2015 | 15,438.0 | 15,439.0 | 6.0 | 6 | Stage 8 |
| 8 | 8/10/2015 | 15,468.0 | 15,469.0 | 6.0 | 6 | Stage 8 |
| 8 | 8/10/2015 | 15,498.0 | 15,499.0 | 6.0 | 6 | Stage 8 |
| 8 | 8/10/2015 | 15,528.0 | 15,529.0 | 6.0 | 6 | Stage 8 |
| 7 | 8/9/2015 | 15,558.0 | 15,559.0 | 6.0 | 6 | Stage 7 |
| 7 | 8/9/2015 | 15,588.0 | 15,589.0 | 6.0 | 6 | Stage 7 |
| 7 | 8/9/2015 | 15,618.0 | 15,619.0 | 6.0 | 6 | Stage 7 |
| 7 | 8/9/2015 | 15,648.0 | 15,649.0 | 6.0 | 6 | Stage 7 |
| 7 | 8/9/2015 | 15,678.0 | 15,679.0 | 6.0 | 6 | Stage 7 |
| 6 | 8/9/2015 | 15,708.0 | 15,709.0 | 6.0 | 6 | Stage 6 |
| 6 | 8/9/2015 | 15,738.0 | 15,739.0 | 6.0 | 6 | Stage 6 |
| 6 | 8/9/2015 | 15,768.0 | 15,769.0 | 6.0 | 6 | Stage 6 |
| 6 | 8/9/2015 | 15,798.0 | 15,799.0 | 6.0 | 6 | Stage 6 |
| 6 | 8/9/2015 | 15,828.0 | 15,829.0 | 6.0 | 6 | Stage 6 |
| 5 | 8/9/2015 | 15,858.0 | 15,859.0 | 6.0 | 6 | Stage 5 |
| 5 | 8/9/2015 | 15,888.0 | 15,889.0 | 6.0 | 6 | Stage 5 |
| 5 | 8/9/2015 | 15,918.0 | 15,919.0 | 6.0 | 6 | Stage 5 |
| 5 | 8/9/2015 | 15,948.0 | 15,949.0 | 6.0 | 6 | Stage 5 |
| 5 | 8/9/2015 | 15,978.0 | 15,979.0 | 6.0 | 6 | Stage 5 |
| 4 | 8/8/2015 | 16,008.0 | 16,009.0 | 6.0 | 6 | Stage 4 |
| 4 | 8/8/2015 | 16,038.0 | 16,039.0 | 6.0 | 6 | Stage 4 |
| 4 | 8/8/2015 | 16,068.0 | 16,069.0 | 6.0 | 6 | Stage 4 |
| 4 | 8/8/2015 | 16,098.0 | 16,099.0 | 6.0 | 6 | Stage 4 |
| 4 | 8/8/2015 | 16,128.0 | 16,129.0 | 6.0 | 6 | Stage 4 |
| 3 | 8/8/2015 | 16,158.0 | 16,159.0 | 6.0 | 6 | Stage 3 |
| 3 | 8/8/2015 | 16,188.0 | 16,189.0 | 6.0 | 6 | Stage 3 |
| 3 | 8/8/2015 | 16,218.0 | 16,219.0 | 6.0 | 6 | Stage 3 |
| 3 | 8/8/2015 | 16,248.0 | 16,249.0 | 6.0 | 6 | Stage 3 |
| 3 | 8/8/2015 | 16,278.0 | 16,279.0 | 6.0 | 6 | Stage 3 |
| 2 | 8/8/2015 | 16,308.0 | 16,309.0 | 6.0 | 6 | Stage 2 |
| 2 | 8/8/2015 | 16,338.0 | 16,339.0 | 6.0 | 6 | Stage 2 |
| 2 | 8/8/2015 | 16,368.0 | 16,369.0 | 6.0 | 6 | Stage 2 |
| 2 | 8/8/2015 | 16,398.0 | 16,399.0 | 6.0 | 6 | Stage 2 |
| 2 | 8/8/2015 | 16,428.0 | 16,429.0 | 6.0 | 6 | Stage 2 |
| 1 | 7/16/2015 | 16,458.0 | 16,459.0 | 6.0 | 6 | Stage 1 |
| 1 | 7/16/2015 | 16,488.0 | 16,489.0 | 6.0 | 6 | Stage 1 |
| 1 | 7/16/2015 | 16,518.0 | 16,519.0 | 6.0 | 6 | Stage 1 |
| 1 | 7/16/2015 | 16,548.0 | 16,549.0 | 6.0 | 6 | Stage 1 |
| 1 | 7/16/2015 | 16,578.0 | 16,579.0 | 6.0 | 6 | Stage 1 |

| | | | | | | | | |
|---------------------------------------|-----------------------|----------------------------|---------------------------|------------------------|------------------|-----------------------------|---------------------|-----------|
| Well Name MARY MILLER GRT WZ 5H | API 47103030720000 | Property Number 1470019 | Well Status PRODUCTION | State WEST VIRGINIA | County WETZEL | Well Spud Date 5/13/2015 | RR Date 6/1/2015 | Comp Date |
|---------------------------------------|-----------------------|----------------------------|---------------------------|------------------------|------------------|-----------------------------|---------------------|-----------|

Perforations

| Stage # | Date | Top (TVD) (ftKB) | Btm (TVD) (ftKB) | Shots Plan | Current Status | Com |
|---------|-----------|---------------------|---------------------|---------------|----------------|----------|
| 59 | 9/1/2015 | 7,459.8 | 7,460.0 | | | Stage 59 |
| 59 | 9/1/2015 | 7,466.2 | 7,466.4 | | | Stage 59 |
| 59 | 9/1/2015 | 7,471.4 | 7,471.6 | | | Stage 59 |
| 59 | 9/1/2015 | 7,475.5 | 7,475.6 | | | Stage 59 |
| 59 | 9/1/2015 | 7,479.0 | 7,479.1 | | | Stage 59 |
| 58 | 8/31/2015 | 7,481.9 | 7,482.0 | | | Stage 58 |
| 58 | 8/31/2015 | 7,484.3 | 7,484.4 | | | Stage 58 |
| 58 | 8/31/2015 | 7,486.2 | 7,486.3 | | | Stage 58 |
| 58 | 8/31/2015 | 7,487.8 | 7,487.8 | | | Stage 58 |
| 58 | 8/31/2015 | 7,488.9 | 7,489.0 | | | Stage 58 |
| 57 | 8/31/2015 | 7,489.6 | 7,489.6 | | | Stage 57 |
| 57 | 8/31/2015 | 7,489.8 | 7,489.8 | | | Stage 57 |
| 57 | 8/31/2015 | 7,489.5 | 7,489.5 | | | Stage 57 |
| 57 | 8/31/2015 | 7,489.0 | 7,488.9 | | | Stage 57 |
| 57 | 8/31/2015 | 7,488.4 | 7,488.3 | | | Stage 57 |
| 56 | 8/31/2015 | 7,487.7 | 7,487.7 | | | Stage 56 |
| 56 | 8/31/2015 | 7,487.0 | 7,486.9 | | | Stage 56 |
| 56 | 8/31/2015 | 7,486.0 | 7,486.0 | | | Stage 56 |
| 56 | 8/31/2015 | 7,484.9 | 7,484.9 | | | Stage 56 |
| 56 | 8/31/2015 | 7,483.8 | 7,483.7 | | | Stage 56 |
| 55 | 8/30/2015 | 7,482.8 | 7,482.8 | | | Stage 55 |
| 55 | 8/30/2015 | 7,482.2 | 7,482.2 | | | Stage 55 |
| 55 | 8/30/2015 | 7,481.9 | 7,481.9 | | | Stage 55 |
| 55 | 8/30/2015 | 7,482.2 | 7,482.2 | | | Stage 55 |
| 55 | 8/30/2015 | 7,483.2 | 7,483.2 | | | Stage 55 |
| 54 | 8/30/2015 | 7,484.8 | 7,484.8 | | | Stage 54 |
| 54 | 8/30/2015 | 7,486.5 | 7,486.5 | | | Stage 54 |
| 54 | 8/30/2015 | 7,488.2 | 7,488.2 | | | Stage 54 |
| 54 | 8/30/2015 | 7,489.9 | 7,489.9 | | | Stage 54 |
| 54 | 8/30/2015 | 7,491.5 | 7,491.6 | | | Stage 54 |
| 53 | 8/30/2015 | 7,493.2 | 7,493.2 | | | Stage 53 |
| 53 | 8/30/2015 | 7,494.8 | 7,494.9 | | | Stage 53 |
| 53 | 8/30/2015 | 7,496.2 | 7,496.2 | | | Stage 53 |
| 53 | 8/30/2015 | 7,497.1 | 7,497.1 | | | Stage 53 |
| 53 | 8/30/2015 | 7,497.5 | 7,497.5 | | | Stage 53 |
| 52 | 8/29/2015 | 7,497.6 | 7,497.6 | | | Stage 52 |
| 52 | 8/29/2015 | 7,497.7 | 7,497.7 | | | Stage 52 |
| 52 | 8/29/2015 | 7,497.9 | 7,497.9 | | | Stage 52 |
| 52 | 8/29/2015 | 7,498.1 | 7,498.1 | | | Stage 52 |
| 52 | 8/29/2015 | 7,498.4 | 7,498.4 | | | Stage 52 |
| 51 | 8/29/2015 | 7,498.7 | 7,498.7 | | | Stage 51 |
| 51 | 8/29/2015 | 7,499.0 | 7,499.0 | | | Stage 51 |
| 51 | 8/29/2015 | 7,499.3 | 7,499.3 | | | Stage 51 |
| 51 | 8/29/2015 | 7,499.7 | 7,499.7 | | | Stage 51 |

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

| Stage # | Date | Top (TVD) (ftKB) | Btm (TVD) (ftKB) | Shots Plan | Current Status | Com |
|---------|-----------|---------------------|---------------------|---------------|----------------|----------|
| 51 | 8/29/2015 | 7,500.0 | 7,500.0 | | | Stage 51 |
| 50 | 8/28/2015 | 7,500.2 | 7,500.2 | | | Stage 50 |
| 50 | 8/28/2015 | 7,500.0 | 7,500.0 | | | Stage 50 |
| 50 | 8/28/2015 | 7,499.7 | 7,499.6 | | | Stage 50 |
| 50 | 8/28/2015 | 7,499.2 | 7,499.2 | | | Stage 50 |
| 50 | 8/28/2015 | 7,498.9 | 7,498.9 | | | Stage 50 |
| 49 | 8/28/2015 | 7,498.6 | 7,498.6 | | | Stage 49 |
| 49 | 8/28/2015 | 7,498.3 | 7,498.3 | | | Stage 49 |
| 49 | 8/28/2015 | 7,498.1 | 7,498.1 | | | Stage 49 |
| 49 | 8/28/2015 | 7,498.0 | 7,498.0 | | | Stage 49 |
| 49 | 8/28/2015 | 7,497.9 | 7,497.9 | | | Stage 49 |
| 48 | 8/27/2015 | 7,497.9 | 7,497.9 | | | Stage 48 |
| 48 | 8/27/2015 | 7,497.8 | 7,497.8 | | | Stage 48 |
| 48 | 8/27/2015 | 7,497.7 | 7,497.7 | | | Stage 48 |
| 48 | 8/27/2015 | 7,497.3 | 7,497.3 | | | Stage 48 |
| 48 | 8/27/2015 | 7,496.5 | 7,496.4 | | | Stage 48 |
| 47 | 8/27/2015 | 7,495.4 | 7,495.3 | | | Stage 47 |
| 47 | 8/27/2015 | 7,494.6 | 7,494.6 | | | Stage 47 |
| 47 | 8/27/2015 | 7,494.3 | 7,494.2 | | | Stage 47 |
| 47 | 8/27/2015 | 7,494.3 | 7,494.3 | | | Stage 47 |
| 47 | 8/27/2015 | 7,494.4 | 7,494.4 | | | Stage 47 |
| 46 | 8/26/2015 | 7,494.4 | 7,494.4 | | | Stage 46 |
| 46 | 8/26/2015 | 7,494.3 | 7,494.3 | | | Stage 46 |
| 46 | 8/26/2015 | 7,494.3 | 7,494.3 | | | Stage 46 |
| 46 | 8/26/2015 | 7,494.3 | 7,494.3 | | | Stage 46 |
| 46 | 8/26/2015 | 7,494.4 | 7,494.4 | | | Stage 46 |
| 45 | 8/26/2015 | 7,494.8 | 7,494.8 | | | Stage 45 |
| 45 | 8/26/2015 | 7,495.5 | 7,495.6 | | | Stage 45 |
| 45 | 8/26/2015 | 7,496.7 | 7,496.7 | | | Stage 45 |
| 45 | 8/26/2015 | 7,498.0 | 7,498.1 | | | Stage 45 |
| 45 | 8/26/2015 | 7,499.3 | 7,499.4 | | | Stage 45 |
| 44 | 8/25/2015 | 7,500.6 | 7,500.6 | | | Stage 44 |
| 44 | 8/25/2015 | 7,501.7 | 7,501.8 | | | Stage 44 |
| 44 | 8/25/2015 | 7,502.9 | 7,502.9 | | | Stage 44 |
| 44 | 8/25/2015 | 7,504.0 | 7,504.1 | | | Stage 44 |
| 44 | 8/25/2015 | 7,505.2 | 7,505.2 | | | Stage 44 |
| 43 | 8/25/2015 | 7,506.5 | 7,506.5 | | | Stage 43 |
| 43 | 8/25/2015 | 7,507.8 | 7,507.9 | | | Stage 43 |
| 43 | 8/25/2015 | 7,509.3 | 7,509.4 | | | Stage 43 |
| 43 | 8/25/2015 | 7,510.6 | 7,510.6 | | | Stage 43 |
| 43 | 8/25/2015 | 7,511.4 | 7,511.5 | | | Stage 43 |
| 42 | 8/25/2015 | 7,512.0 | 7,512.0 | | | Stage 42 |
| 42 | 8/25/2015 | 7,512.5 | 7,512.5 | | | Stage 42 |
| 42 | 8/25/2015 | 7,513.0 | 7,513.0 | | | Stage 42 |
| 42 | 8/25/2015 | 7,513.7 | 7,513.7 | | | Stage 42 |
| 42 | 8/25/2015 | 7,514.1 | 7,514.2 | | | Stage 42 |

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

| Stage # | Date | Top (TVD) (ftKB) | Btm (TVD) (ftKB) | Shots Plan | Current Status | Com |
|---------|-----------|---------------------|---------------------|---------------|----------------|----------|
| 41 | 8/24/2015 | 7,514.2 | 7,514.2 | | | Stage 41 |
| 41 | 8/24/2015 | 7,513.9 | 7,513.9 | | | Stage 41 |
| 41 | 8/24/2015 | 7,513.2 | 7,513.2 | | | Stage 41 |
| 41 | 8/24/2015 | 7,512.5 | 7,512.5 | | | Stage 41 |
| 41 | 8/24/2015 | 7,511.7 | 7,511.7 | | | Stage 41 |
| 40 | 8/24/2015 | 7,510.9 | 7,510.9 | | | Stage 40 |
| 40 | 8/24/2015 | 7,510.0 | 7,510.0 | | | Stage 40 |
| 40 | 8/24/2015 | 7,509.1 | 7,509.1 | | | Stage 40 |
| 40 | 8/24/2015 | 7,508.2 | 7,508.2 | | | Stage 40 |
| 40 | 8/24/2015 | 7,507.6 | 7,507.6 | | | Stage 40 |
| 39 | 8/24/2015 | 7,507.3 | 7,507.3 | | | Stage 39 |
| 39 | 8/24/2015 | 7,507.3 | 7,507.3 | | | Stage 39 |
| 39 | 8/24/2015 | 7,507.6 | 7,507.6 | | | Stage 39 |
| 39 | 8/24/2015 | 7,507.9 | 7,507.9 | | | Stage 39 |
| 39 | 8/24/2015 | 7,508.5 | 7,508.5 | | | Stage 39 |
| 38 | 8/23/2015 | 7,509.1 | 7,509.1 | | | Stage 38 |
| 38 | 8/23/2015 | 7,509.8 | 7,509.8 | | | Stage 38 |
| 38 | 8/23/2015 | 7,510.5 | 7,510.5 | | | Stage 38 |
| 38 | 8/23/2015 | 7,511.4 | 7,511.4 | | | Stage 38 |
| 38 | 8/23/2015 | 7,512.4 | 7,512.4 | | | Stage 38 |
| 37 | 8/23/2015 | 7,513.5 | 7,513.6 | | | Stage 37 |
| 37 | 8/23/2015 | 7,514.7 | 7,514.8 | | | Stage 37 |
| 37 | 8/23/2015 | 7,515.8 | 7,515.8 | | | Stage 37 |
| 37 | 8/23/2015 | 7,516.7 | 7,516.7 | | | Stage 37 |
| 37 | 8/23/2015 | 7,517.4 | 7,517.4 | | | Stage 37 |
| 36 | 8/23/2015 | 7,517.8 | 7,517.8 | | | Stage 36 |
| 36 | 8/23/2015 | 7,517.7 | 7,517.7 | | | Stage 36 |
| 36 | 8/23/2015 | 7,517.3 | 7,517.3 | | | Stage 36 |
| 36 | 8/23/2015 | 7,516.9 | 7,516.9 | | | Stage 36 |
| 36 | 8/23/2015 | 7,516.7 | 7,516.7 | | | Stage 36 |
| 35 | 8/22/2015 | 7,516.6 | 7,516.6 | | | Stage 35 |
| 35 | 8/22/2015 | 7,516.8 | 7,516.8 | | | Stage 35 |
| 35 | 8/22/2015 | 7,517.3 | 7,517.4 | | | Stage 35 |
| 35 | 8/22/2015 | 7,518.3 | 7,518.3 | | | Stage 35 |
| 35 | 8/22/2015 | 7,519.2 | 7,519.2 | | | Stage 35 |
| 34 | 8/22/2015 | 7,519.8 | 7,519.8 | | | Stage 34 |
| 34 | 8/22/2015 | 7,520.1 | 7,520.1 | | | Stage 34 |
| 34 | 8/22/2015 | 7,520.4 | 7,520.4 | | | Stage 34 |
| 34 | 8/22/2015 | 7,521.0 | 7,521.0 | | | Stage 34 |
| 34 | 8/22/2015 | 7,521.8 | 7,521.9 | | | Stage 34 |
| 33 | 8/22/2015 | 7,522.8 | 7,522.8 | | | Stage 33 |
| 33 | 8/22/2015 | 7,523.5 | 7,523.5 | | | Stage 33 |
| 33 | 8/22/2015 | 7,523.9 | 7,523.9 | | | Stage 33 |
| 33 | 8/22/2015 | 7,524.1 | 7,524.1 | | | Stage 33 |
| 33 | 8/22/2015 | 7,524.4 | 7,524.4 | | | Stage 33 |
| 32 | 8/21/2015 | 7,524.8 | 7,524.8 | | | Stage 32 |

Received
Office of Oil & Gas
 NOV 20 2015

Perforations

| Stage # | Date | Top (TVD) (ftKB) | Btm (TVD) (ftKB) | Shots Plan | Current Status | Com |
|---------|-----------|---------------------|---------------------|---------------|----------------|----------|
| 32 | 8/21/2015 | 7,525.4 | 7,525.4 | | | Stage 32 |
| 32 | 8/21/2015 | 7,525.9 | 7,525.9 | | | Stage 32 |
| 32 | 8/21/2015 | 7,526.3 | 7,526.3 | | | Stage 32 |
| 32 | 8/21/2015 | 7,526.7 | 7,526.7 | | | Stage 32 |
| 31 | 8/21/2015 | 7,527.3 | 7,527.4 | | | Stage 31 |
| 31 | 8/21/2015 | 7,528.3 | 7,528.3 | | | Stage 31 |
| 31 | 8/21/2015 | 7,529.5 | 7,529.5 | | | Stage 31 |
| 31 | 8/21/2015 | 7,530.7 | 7,530.8 | | | Stage 31 |
| 31 | 8/21/2015 | 7,531.7 | 7,531.7 | | | Stage 31 |
| 30 | 8/21/2015 | 7,532.5 | 7,532.5 | | | Stage 30 |
| 30 | 8/21/2015 | 7,533.0 | 7,533.0 | | | Stage 30 |
| 30 | 8/21/2015 | 7,533.2 | 7,533.2 | | | Stage 30 |
| 30 | 8/21/2015 | 7,533.1 | 7,533.1 | | | Stage 30 |
| 30 | 8/21/2015 | 7,532.9 | 7,532.9 | | | Stage 30 |
| 29 | 8/20/2015 | 7,532.8 | 7,532.8 | | | Stage 29 |
| 29 | 8/20/2015 | 7,532.7 | 7,532.7 | | | Stage 29 |
| 29 | 8/20/2015 | 7,532.7 | 7,532.7 | | | Stage 29 |
| 29 | 8/20/2015 | 7,532.6 | 7,532.6 | | | Stage 29 |
| 29 | 8/20/2015 | 7,532.5 | 7,532.4 | | | Stage 29 |
| 28 | 8/20/2015 | 7,532.2 | 7,532.2 | | | Stage 28 |
| 28 | 8/20/2015 | 7,532.0 | 7,532.0 | | | Stage 28 |
| 28 | 8/20/2015 | 7,531.7 | 7,531.7 | | | Stage 28 |
| 28 | 8/20/2015 | 7,531.3 | 7,531.3 | | | Stage 28 |
| 28 | 8/20/2015 | 7,530.8 | 7,530.8 | | | Stage 28 |
| 27 | 8/20/2015 | 7,530.1 | 7,530.1 | | | Stage 27 |
| 27 | 8/20/2015 | 7,529.3 | 7,529.3 | | | Stage 27 |
| 27 | 8/20/2015 | 7,528.6 | 7,528.6 | | | Stage 27 |
| 27 | 8/20/2015 | 7,528.4 | 7,528.4 | | | Stage 27 |
| 27 | 8/20/2015 | 7,528.6 | 7,528.6 | | | Stage 27 |
| 26 | 8/19/2015 | 7,529.0 | 7,529.0 | | | Stage 26 |
| 26 | 8/19/2015 | 7,529.2 | 7,529.2 | | | Stage 26 |
| 26 | 8/19/2015 | 7,529.2 | 7,529.2 | | | Stage 26 |
| 26 | 8/19/2015 | 7,529.1 | 7,529.1 | | | Stage 26 |
| 26 | 8/19/2015 | 7,528.8 | 7,528.8 | | | Stage 26 |
| 25 | 8/19/2015 | 7,528.4 | 7,528.4 | | | Stage 25 |
| 25 | 8/19/2015 | 7,527.9 | 7,527.9 | | | Stage 25 |
| 25 | 8/19/2015 | 7,527.7 | 7,527.7 | | | Stage 25 |
| 25 | 8/19/2015 | 7,527.8 | 7,527.8 | | | Stage 25 |
| 25 | 8/19/2015 | 7,528.2 | 7,528.2 | | | Stage 25 |
| 24 | 8/18/2015 | 7,528.5 | 7,528.5 | | | Stage 24 |
| 24 | 8/18/2015 | 7,528.6 | 7,528.6 | | | Stage 24 |
| 24 | 8/18/2015 | 7,528.7 | 7,528.7 | | | Stage 24 |
| 24 | 8/18/2015 | 7,528.6 | 7,528.6 | | | Stage 24 |
| 24 | 8/18/2015 | 7,528.4 | 7,528.3 | | | Stage 24 |
| 23 | 8/18/2015 | 7,528.0 | 7,528.0 | | | Stage 23 |
| 23 | 8/18/2015 | 7,527.7 | 7,527.7 | | | Stage 23 |

Received
Office of Oil & Gas
 NOV 20 2015

Perforations

| Stage # | Date | Top (TVD) (ftKB) | Btm (TVD) (ftKB) | Shots Plan | Current Status | Com |
|---------|-----------|---------------------|---------------------|---------------|----------------|----------|
| 23 | 8/18/2015 | 7,527.6 | 7,527.6 | | | Stage 23 |
| 23 | 8/18/2015 | 7,527.7 | 7,527.7 | | | Stage 23 |
| 23 | 8/18/2015 | 7,527.8 | 7,527.8 | | | Stage 23 |
| 22 | 8/15/2015 | 7,527.9 | 7,527.9 | | | Stage 22 |
| 22 | 8/15/2015 | 7,527.9 | 7,527.9 | | | Stage 22 |
| 22 | 8/15/2015 | 7,527.8 | 7,527.8 | | | Stage 22 |
| 22 | 8/15/2015 | 7,527.8 | 7,527.9 | | | Stage 22 |
| 22 | 8/15/2015 | 7,528.0 | 7,528.0 | | | Stage 22 |
| 21 | 8/15/2015 | 7,528.3 | 7,528.3 | | | Stage 21 |
| 21 | 8/15/2015 | 7,528.5 | 7,528.5 | | | Stage 21 |
| 21 | 8/15/2015 | 7,528.8 | 7,528.8 | | | Stage 21 |
| 21 | 8/15/2015 | 7,529.0 | 7,529.0 | | | Stage 21 |
| 21 | 8/15/2015 | 7,529.2 | 7,529.2 | | | Stage 21 |
| 20 | 8/14/2015 | 7,529.2 | 7,529.2 | | | Stage 20 |
| 20 | 8/14/2015 | 7,529.1 | 7,529.1 | | | Stage 20 |
| 20 | 8/14/2015 | 7,529.0 | 7,529.0 | | | Stage 20 |
| 20 | 8/14/2015 | 7,529.1 | 7,529.1 | | | Stage 20 |
| 20 | 8/14/2015 | 7,529.4 | 7,529.4 | | | Stage 20 |
| 19 | 8/14/2015 | 7,529.7 | 7,529.7 | | | Stage 19 |
| 19 | 8/14/2015 | 7,530.0 | 7,530.0 | | | Stage 19 |
| 19 | 8/14/2015 | 7,530.2 | 7,530.2 | | | Stage 19 |
| 19 | 8/14/2015 | 7,530.3 | 7,530.3 | | | Stage 19 |
| 19 | 8/14/2015 | 7,530.0 | 7,529.9 | | | Stage 19 |
| 18 | 8/13/2015 | 7,529.1 | 7,529.1 | | | Stage 18 |
| 18 | 8/13/2015 | 7,528.0 | 7,528.0 | | | Stage 18 |
| 18 | 8/13/2015 | 7,526.8 | 7,526.7 | | | Stage 18 |
| 18 | 8/13/2015 | 7,525.5 | 7,525.5 | | | Stage 18 |
| 18 | 8/13/2015 | 7,524.2 | 7,524.1 | | | Stage 18 |
| 17 | 8/13/2015 | 7,522.7 | 7,522.6 | | | Stage 17 |
| 17 | 8/13/2015 | 7,521.0 | 7,520.9 | | | Stage 17 |
| 17 | 8/13/2015 | 7,519.2 | 7,519.1 | | | Stage 17 |
| 17 | 8/13/2015 | 7,517.8 | 7,517.8 | | | Stage 17 |
| 17 | 8/13/2015 | 7,517.0 | 7,517.0 | | | Stage 17 |
| 16 | 8/12/2015 | 7,516.8 | 7,516.8 | | | Stage 16 |
| 16 | 8/12/2015 | 7,516.8 | 7,516.8 | | | Stage 16 |
| 16 | 8/12/2015 | 7,516.8 | 7,516.8 | | | Stage 16 |
| 16 | 8/12/2015 | 7,517.0 | 7,517.0 | | | Stage 16 |
| 16 | 8/12/2015 | 7,517.0 | 7,517.0 | | | Stage 16 |
| 15 | 8/12/2015 | 7,516.9 | 7,516.9 | | | Stage 15 |
| 15 | 8/12/2015 | 7,516.7 | 7,516.7 | | | Stage 15 |
| 15 | 8/12/2015 | 7,516.3 | 7,516.3 | | | Stage 15 |
| 15 | 8/12/2015 | 7,515.8 | 7,515.8 | | | Stage 15 |
| 15 | 8/12/2015 | 7,515.2 | 7,515.2 | | | Stage 15 |
| 14 | 8/12/2015 | 7,514.7 | 7,514.7 | | | Stage 14 |
| 14 | 8/12/2015 | 7,514.4 | 7,514.4 | | | Stage 14 |
| 14 | 8/12/2015 | 7,514.3 | 7,514.3 | | | Stage 14 |

Received
Office of Oil & Gas
 NOV 20 2015

Perforations

| Stage # | Date | Top (TVD) (ftKB) | Btm (TVD) (ftKB) | Shots Plan | Current Status | Com |
|---------|-----------|---------------------|---------------------|---------------|----------------|----------|
| 14 | 8/12/2015 | 7,514.5 | 7,514.5 | | | Stage 14 |
| 14 | 8/12/2015 | 7,514.9 | 7,514.9 | | | Stage 14 |
| 13 | 8/11/2015 | 7,515.4 | 7,515.4 | | | Stage 13 |
| 13 | 8/11/2015 | 7,516.1 | 7,516.1 | | | Stage 13 |
| 13 | 8/11/2015 | 7,516.7 | 7,516.8 | | | Stage 13 |
| 13 | 8/11/2015 | 7,517.4 | 7,517.4 | | | Stage 13 |
| 13 | 8/11/2015 | 7,518.1 | 7,518.1 | | | Stage 13 |
| 12 | 8/11/2015 | 7,518.6 | 7,518.6 | | | Stage 12 |
| 12 | 8/11/2015 | 7,518.7 | 7,518.7 | | | Stage 12 |
| 12 | 8/11/2015 | 7,518.6 | 7,518.6 | | | Stage 12 |
| 12 | 8/11/2015 | 7,518.2 | 7,518.2 | | | Stage 12 |
| 12 | 8/11/2015 | 7,517.6 | 7,517.6 | | | Stage 12 |
| 11 | 8/11/2015 | 7,516.8 | 7,516.8 | | | Stage 11 |
| 11 | 8/11/2015 | 7,515.9 | 7,515.9 | | | Stage 11 |
| 11 | 8/11/2015 | 7,515.0 | 7,515.0 | | | Stage 11 |
| 11 | 8/11/2015 | 7,514.1 | 7,514.1 | | | Stage 11 |
| 11 | 8/11/2015 | 7,513.5 | 7,513.5 | | | Stage 11 |
| 10 | 8/10/2015 | 7,513.2 | 7,513.2 | | | Stage 10 |
| 10 | 8/10/2015 | 7,513.3 | 7,513.3 | | | Stage 10 |
| 10 | 8/10/2015 | 7,513.5 | 7,513.5 | | | Stage 10 |
| 10 | 8/10/2015 | 7,513.9 | 7,513.9 | | | Stage 10 |
| 10 | 8/10/2015 | 7,514.4 | 7,514.5 | | | Stage 10 |
| 9 | 8/10/2015 | 7,515.0 | 7,515.0 | | | Stage 9 |
| 9 | 8/10/2015 | 7,515.6 | 7,515.6 | | | Stage 9 |
| 9 | 8/10/2015 | 7,516.2 | 7,516.2 | | | Stage 9 |
| 9 | 8/10/2015 | 7,516.7 | 7,516.8 | | | Stage 9 |
| 9 | 8/10/2015 | 7,517.3 | 7,517.3 | | | Stage 9 |
| 8 | 8/10/2015 | 7,517.9 | 7,517.9 | | | Stage 8 |
| 8 | 8/10/2015 | 7,518.5 | 7,518.5 | | | Stage 8 |
| 8 | 8/10/2015 | 7,519.1 | 7,519.1 | | | Stage 8 |
| 8 | 8/10/2015 | 7,519.6 | 7,519.6 | | | Stage 8 |
| 8 | 8/10/2015 | 7,520.2 | 7,520.3 | | | Stage 8 |
| 7 | 8/9/2015 | 7,521.0 | 7,521.0 | | | Stage 7 |
| 7 | 8/9/2015 | 7,521.9 | 7,521.9 | | | Stage 7 |
| 7 | 8/9/2015 | 7,522.9 | 7,522.9 | | | Stage 7 |
| 7 | 8/9/2015 | 7,523.9 | 7,524.0 | | | Stage 7 |
| 7 | 8/9/2015 | 7,525.0 | 7,525.0 | | | Stage 7 |
| 6 | 8/9/2015 | 7,526.0 | 7,526.1 | | | Stage 6 |
| 6 | 8/9/2015 | 7,527.1 | 7,527.2 | | | Stage 6 |
| 6 | 8/9/2015 | 7,528.4 | 7,528.4 | | | Stage 6 |
| 6 | 8/9/2015 | 7,529.7 | 7,529.7 | | | Stage 6 |
| 6 | 8/9/2015 | 7,530.9 | 7,531.0 | | | Stage 6 |
| 5 | 8/9/2015 | 7,531.9 | 7,532.0 | | | Stage 5 |
| 5 | 8/9/2015 | 7,532.7 | 7,532.8 | | | Stage 5 |
| 5 | 8/9/2015 | 7,533.4 | 7,533.4 | | | Stage 5 |
| 5 | 8/9/2015 | 7,534.0 | 7,534.0 | | | Stage 5 |

Received
 Office of Oil & Gas
 NOV 20 2015

Perforations

| Stage # | Date | Top (TVD) (ftKB) | Btm (TVD) (ftKB) | Shots Plan | Current Status | Com |
|---------|-----------|---------------------|---------------------|---------------|----------------|---------|
| 5 | 8/9/2015 | 7,534.4 | 7,534.4 | | | Stage 5 |
| 4 | 8/8/2015 | 7,534.7 | 7,534.7 | | | Stage 4 |
| 4 | 8/8/2015 | 7,534.7 | 7,534.7 | | | Stage 4 |
| 4 | 8/8/2015 | 7,534.3 | 7,534.3 | | | Stage 4 |
| 4 | 8/8/2015 | 7,533.6 | 7,533.5 | | | Stage 4 |
| 4 | 8/8/2015 | 7,532.6 | 7,532.6 | | | Stage 4 |
| 3 | 8/8/2015 | 7,531.4 | 7,531.4 | | | Stage 3 |
| 3 | 8/8/2015 | 7,530.1 | 7,530.0 | | | Stage 3 |
| 3 | 8/8/2015 | 7,528.9 | 7,528.9 | | | Stage 3 |
| 3 | 8/8/2015 | 7,528.0 | 7,528.0 | | | Stage 3 |
| 3 | 8/8/2015 | 7,527.3 | 7,527.3 | | | Stage 3 |
| 2 | 8/8/2015 | 7,526.8 | 7,526.7 | | | Stage 2 |
| 2 | 8/8/2015 | 7,526.2 | 7,526.2 | | | Stage 2 |
| 2 | 8/8/2015 | 7,525.6 | 7,525.6 | | | Stage 2 |
| 2 | 8/8/2015 | 7,525.3 | 7,525.3 | | | Stage 2 |
| 2 | 8/8/2015 | 7,525.3 | 7,525.3 | | | Stage 2 |
| 1 | 7/16/2015 | 7,525.8 | 7,525.8 | | | Stage 1 |
| 1 | 7/16/2015 | 7,526.4 | 7,526.4 | | | Stage 1 |
| 1 | 7/16/2015 | 7,527.0 | 7,527.0 | | | Stage 1 |
| 1 | 7/16/2015 | 7,527.5 | 7,527.5 | | | Stage 1 |
| 1 | 7/16/2015 | 7,527.8 | 7,527.8 | | | Stage 1 |

Received
Office of Oil & Gas
 NOV 20 2015

| | | | | | | | | |
|---------------------------------------|-----------------------|----------------------------|---------------------------|------------------------|------------------|-----------------------------|---------------------|-----------|
| Well Name MARY MILLER GRT WZ 5H | API 47103030720000 | Property Number 1470019 | Well Status PRODUCTION | State WEST VIRGINIA | County WETZEL | Well Spud Date 5/13/2015 | RR Date 6/1/2015 | Comp Date |
|---------------------------------------|-----------------------|----------------------------|---------------------------|------------------------|------------------|-----------------------------|---------------------|-----------|

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 | 8/8/2015 | 78 | 8,169.0 | 6,067.0 | 4,397.0 | 230,000 | 0.00 |
| 2 | 8/8/2015 | 74 | 8,140.0 | 5,612.0 | 4,528.0 | 230,000 | 0.00 |
| 3 | 8/8/2015 | 75 | 8,407.0 | 6,367.0 | 4,730.0 | 230,000 | 0.00 |
| 4 | 8/9/2015 | 75 | 8,580.0 | 6,646.0 | 4,904.0 | 230,000 | 0.00 |
| 4 | 8/9/2015 | 75 | 8,580.0 | 6,646.0 | 4,904.0 | 230,000 | 0.00 |
| 5 | 8/9/2015 | 78 | 8,785.0 | 7,213.0 | 4,468.0 | 230,000 | 0.00 |
| 6 | 8/9/2015 | 75 | 8,473.0 | 6,285.0 | 4,709.0 | 230,000 | 0.00 |
| 7 | 8/10/2015 | 74 | 8,467.0 | 7,117.0 | 4,648.0 | 230,000 | 0.00 |
| 8 | 8/10/2015 | 73 | 8,561.0 | 6,970.0 | 5,004.0 | 230,000 | 0.00 |
| 9 | 8/10/2015 | 71 | 8,695.0 | 7,251.0 | 4,668.0 | 230,000 | 0.00 |
| 10 | 8/11/2015 | 70 | 8,779.0 | 7,043.0 | 4,349.0 | 230,000 | 0.00 |
| 11 | 8/11/2015 | 71 | 8,484.0 | 6,372.0 | 4,435.0 | 230,000 | 0.00 |
| 12 | 8/11/2015 | 74 | 8,522.0 | 6,493.0 | 5,010.0 | 230,000 | 0.00 |
| 13 | 8/12/2015 | 72 | 8,516.0 | 7,162.0 | 5,125.0 | 223,500 | 0.00 |
| 14 | 8/12/2015 | 77 | 8,474.0 | 6,806.0 | 4,801.0 | 230,000 | 0.00 |
| 15 | 8/12/2015 | 78 | 8,312.0 | 6,720.0 | 4,540.0 | 230,000 | 0.00 |
| 16 | 8/13/2015 | 78 | 8,511.0 | 7,452.0 | 5,130.0 | 230,000 | 0.00 |
| 17 | 8/13/2015 | 75 | 8,266.0 | 6,890.0 | 4,847.0 | 230,000 | 0.00 |
| 18 | 8/14/2015 | 77 | 8,351.0 | 7,368.0 | 4,874.0 | 230,000 | 0.00 |
| 19 | 8/14/2015 | 77 | 8,362.0 | 7,180.0 | 5,073.0 | 230,000 | 0.00 |
| 20 | 8/15/2015 | 75 | 8,472.0 | 7,417.0 | 4,999.0 | 230,000 | 0.00 |
| 21 | 8/15/2015 | 76 | 8,292.0 | 7,477.0 | 4,964.0 | 230,000 | 0.00 |
| 22 | 8/18/2015 | 76 | 8,576.0 | 7,308.0 | 5,142.0 | 230,000 | 0.00 |
| 23 | 8/18/2015 | 75 | 8,377.0 | 7,481.0 | 4,978.0 | 230,000 | 0.00 |
| 24 | 8/19/2015 | 74 | 8,501.0 | 7,046.0 | 5,852.0 | 230,000 | 0.00 |
| 25 | 8/19/2015 | 75 | 8,427.0 | 7,187.0 | 4,775.0 | 230,000 | 0.00 |
| 26 | 8/20/2015 | 78 | 8,390.0 | 6,912.0 | 4,817.0 | 230,000 | 0.00 |
| 27 | 8/20/2015 | 77 | 8,218.0 | 6,968.0 | 5,074.0 | 230,000 | 0.00 |
| 28 | 8/20/2015 | 78 | 8,244.0 | 6,884.0 | 4,812.0 | 230,000 | 0.00 |
| 29 | 8/21/2015 | 76 | 8,195.0 | 6,811.0 | 5,290.0 | 230,000 | 0.00 |
| 30 | 8/21/2015 | 76 | 8,213.0 | 6,607.0 | 4,790.0 | 230,000 | 0.00 |
| 31 | 8/21/2015 | 76 | 8,329.0 | 7,075.0 | 4,974.0 | 230,000 | 0.00 |
| 32 | 8/22/2015 | 78 | 8,312.0 | 6,547.0 | 5,088.0 | 230,000 | 0.00 |
| 33 | 8/22/2015 | 77 | 8,098.0 | 6,955.0 | 6,032.0 | 230,000 | 0.00 |
| 34 | 8/22/2015 | 78 | 8,104.0 | 6,450.0 | 4,437.0 | 230,000 | 0.00 |
| 35 | 8/23/2015 | 78 | 8,027.0 | 6,008.0 | 4,645.0 | 230,000 | 0.00 |
| 36 | 8/23/2015 | 81 | 8,101.0 | 6,404.0 | 4,980.0 | 230,000 | 0.00 |
| 37 | 8/23/2015 | 79 | 8,247.0 | 6,594.0 | 4,840.0 | 230,000 | 0.00 |
| 38 | 8/24/2015 | 80 | 8,167.0 | 6,020.0 | 4,994.0 | 230,000 | 0.00 |
| 39 | 8/24/2015 | 70 | 8,535.0 | 6,802.0 | 5,934.0 | 207,700 | 0.00 |
| 40 | 8/24/2015 | 73 | 7,903.0 | 6,387.0 | 4,748.0 | 230,000 | 0.00 |
| 41 | 8/25/2015 | 68 | 8,580.0 | 5,836.0 | 4,424.0 | 230,000 | 0.00 |
| 42 | 8/25/2015 | 78 | 7,635.0 | 6,461.0 | 4,700.0 | 230,000 | 0.00 |
| 43 | 8/25/2015 | 78 | 7,766.0 | 6,488.0 | 4,815.0 | 230,000 | 0.00 |

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Office of Oil & Gas
8/23/2015

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) |
|---------|------------|---------------------------|-------------------|-------------------|------------|------------------|------------------------|
| 44 | 8/26/2015 | 77 | 8,001.0 | 6,180.0 | 4,450.0 | 230,000 | 0.00 |
| 45 | 8/26/2015 | 79 | 7,908.0 | 6,383.0 | 4,974.0 | 230,000 | 0.00 |
| 46 | 8/27/2015 | 79 | 7,764.0 | 6,640.0 | 4,952.0 | 230,000 | 0.00 |
| 47 | 8/27/2015 | 67 | 8,231.0 | 6,842.0 | 4,754.0 | 230,000 | 0.00 |
| 48 | 8/28/2015 | 79 | 7,778.0 | 6,331.0 | 4,629.0 | 230,000 | 0.00 |
| 49 | 8/28/2015 | 81 | 7,769.0 | 6,619.0 | 4,984.0 | 230,000 | 0.00 |
| 50 | 8/29/2015 | 80 | 7,903.0 | 6,425.0 | 4,769.0 | 230,000 | 0.00 |
| 51 | 8/29/2015 | 78 | 7,877.0 | 7,020.0 | 4,873.0 | 230,000 | 0.00 |
| 52 | 8/30/2015 | 79 | 7,900.0 | 6,641.0 | 4,623.0 | 230,000 | 0.00 |
| 53 | 8/30/2015 | 80 | 7,743.0 | 6,741.0 | 4,757.0 | 230,000 | 0.00 |
| 54 | 8/30/2015 | 81 | 7,940.0 | 6,583.0 | 4,880.0 | 230,000 | 0.00 |
| 55 | 8/31/2015 | 78 | 8,000.0 | 7,384.0 | 4,750.0 | 230,000 | 0.00 |
| 56 | 8/31/2015 | 77 | 7,900.0 | 6,682.0 | 4,522.0 | 230,000 | 0.00 |
| 57 | 8/31/2015 | 75 | 7,823.0 | 6,600.0 | 4,721.0 | 230,000 | 0.00 |
| 58 | 9/1/2015 | 77 | 7,585.0 | 7,486.0 | 4,666.0 | 230,000 | 0.00 |
| 59 | 9/1/2015 | 76 | 7,699.0 | 6,515.0 | 4,297.0 | 228,700 | 0.00 |

Received
Office of Oil & Gas
NOV 20 2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

| | |
|--------------------------------|-----------------------------------|
| Job Start Date: | 8/8/2015 |
| Job End Date: | 9/1/2015 |
| State: | West Virginia |
| County: | Wetzel |
| API Number: | 47-103-03072-00-00 |
| Operator Name: | Ascent Resources - Marcellus, LLC |
| Well Name and Number: | Mary Miller GRT WZ 5H |
| Longitude: | -80.61241700 |
| Latitude: | 39.61505400 |
| Datum: | NAD27 |
| Federal/Tribal Well: | NO |
| True Vertical Depth: | 7,513 |
| Total Base Water Volume (gal): | 11,392,164 |
| Total Base Non Water Volume: | 0 |



NOV 20 2015
 Office of Oil & Gas
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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 | 86.16528 | None |
| Sand (Proppant) | PSC | Proppant | Silica Substrate | 14808-60-7 | 100.00000 | 12.29339 | None |
| Hydrochloric Acid (15%) | Producers Service Corp | Acidizing | Hydrochloric Acid | 7647-01-0 | 10.00000 | 0.14325 | None |
| FRA 408 | Producers Service Corp | Friction Reducer | Petroleum Distillates | 64742-47-8 | 40.00000 | 0.02858 | None |
| | | | Polyacrylamide salt | Proprietary | 30.00000 | 0.02144 | None |
| | | | Ammonium Chloride | 12125-02-9 | 5.00000 | 0.00357 | None |
| | | | Ethoxylate Alcohol | Proprietary | 5.00000 | 0.00357 | None |
| | | | Sodium Chloride | 7647-14-5 | 5.00000 | 0.00357 | None |
| | | | Tall oil | Proprietary | 2.00000 | 0.00143 | 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 | 0.00956 | None |
| | | | Guar Gum | 9000-30-0 | 50.00000 | 0.00735 | None |

| | | | | | | | |
|---------------------|------------------------|-----------------|--|-------------|----------|---------|------|
| | | | Nonionic Surfactant | 60828-78-6 | 5.00000 | 0.00074 | None |
| | | | Nonylphenol, Ethoxylate | 9016-45-9 | 5.00000 | 0.00074 | None |
| | | | Nonionic Surfactant | 60828-78-6 | 5.00000 | 0.00074 | None |
| PRO SCALE CLEAR 112 | Producers Service Corp | Scale Inhibitor | | | | | |
| | | | Polymer | Proprietary | 50.00000 | 0.00632 | None |
| | | | ethylene glycol | 107-21-1 | 40.00000 | 0.00506 | None |
| BIO CLEAR 2000 | Producers Service Corp | Biocide | | | | | |
| | | | Polyether | 25322-68-3 | 48.00000 | 0.00419 | None |
| | | | 2,2-dibromo-3-nitrilopropionamide | 10222-01-2 | 20.00000 | 0.00174 | 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, diquatarnary ammonium salt | 68607-28-3 | 40.00000 | 0.00052 | None |
| | | | Methyl Alcohol | 67-56-1 | 20.00000 | 0.00026 | None |
| | | | Ethylene Glycol | 107-21-1 | 20.00000 | 0.00026 | None |
| | | | 2-Butoxyethanol | 111-76-2 | 20.00000 | 0.00026 | None |
| | | | Nonyl Phenol Ethoxylate, Branched | 127087-87-0 | 15.00000 | 0.00019 | None |
| | | | Propargyl Alcohol | 107-19-7 | 15.00000 | 0.00019 | None |
| | | | Coco alkyl dimethylamines | 61788-93-0 | 2.50000 | 0.00003 | None |
| PRO BREAKER 4 | Producers Service Corp | Breaker | | | | | |
| | | | Ethylene Glycol | 107-21-1 | 40.00000 | 0.00002 | None |
| | | | Sucrose | 57-50-1 | 40.00000 | 0.00002 | None |
| | | | Sodium Bicarbonate | 144-55-8 | 1.00000 | 0.00000 | None |
| | | | Proprietary Ingredient | Proprietary | 1.00000 | 0.00000 | None |
| | | | Polyether Polyol | 9003-11-6 | 1.00000 | 0.00000 | None |
| | | | Hexamethylenetetramine | 100-97-0 | 1.00000 | 0.00000 | None |
| | | | Proprietary Ingredient | Proprietary | 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)

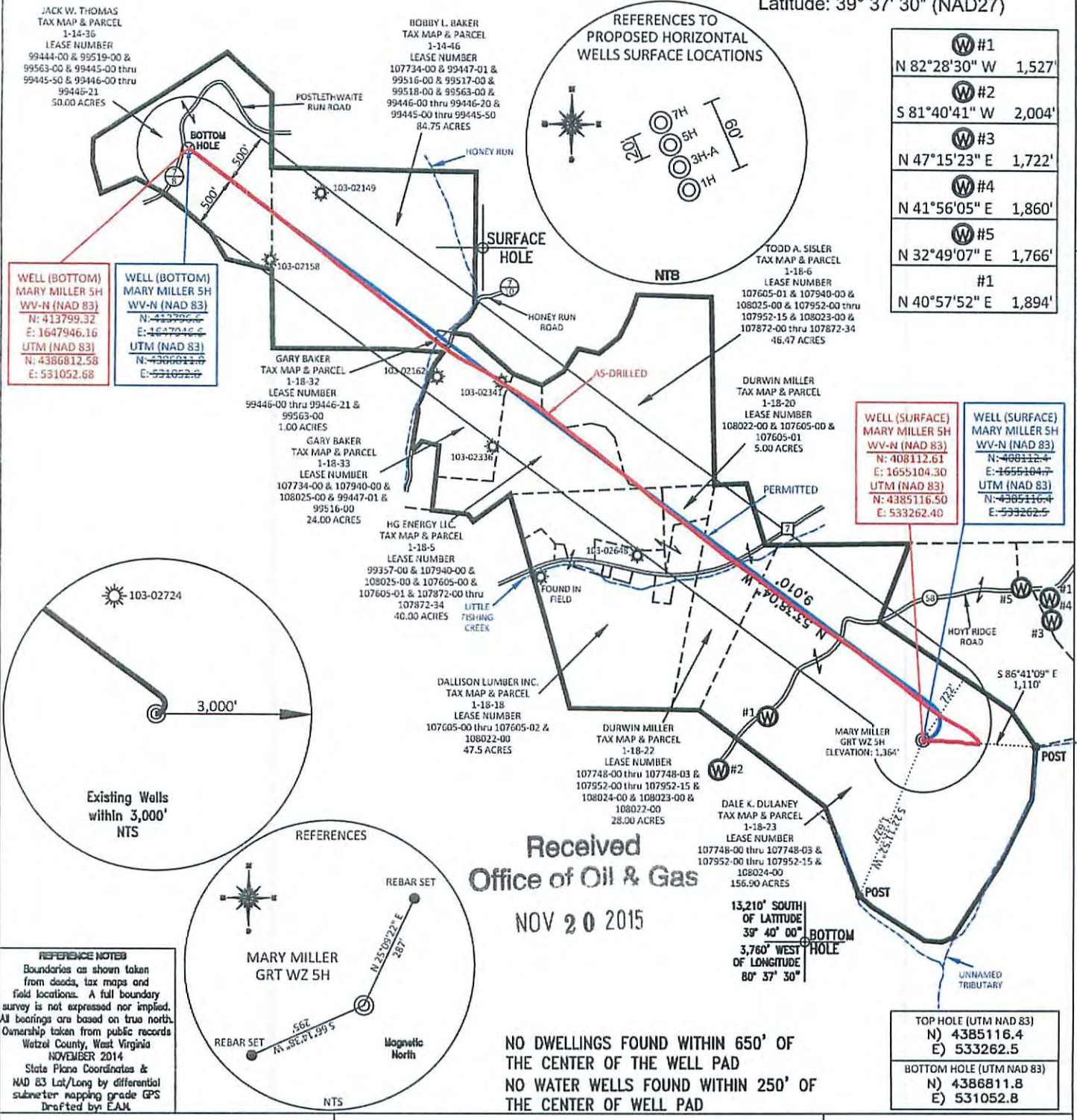
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 Office of Oil & Gas
 NOV 20 2015

SURFACE HOLE DEC. LONG: 80.612680
 SURVEYED LONG: 80° 36' 45.7"

8,270'

Latitude: 39° 37' 30" (NAD27)

SURFACE HOLE DEC. LAT: 39.615074
 SURVEYED LAT: 39° 36' 54.3"

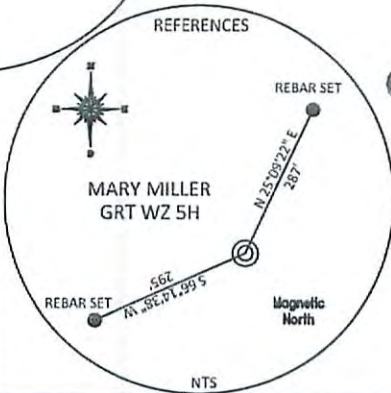
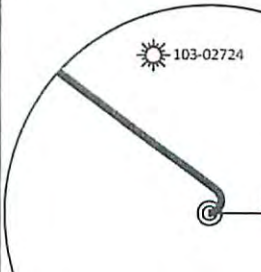


WELL (BOTTOM) MARY MILLER 5H
 WV-N (NAD 83)
 N: 413799.32
 E: 1647946.16
 UTM (NAD 83)
 N: 4386812.58
 E: 531052.68

WELL (BOTTOM) MARY MILLER 5H
 WV-N (NAD 83)
 N: 413799.32
 E: 1647946.16
 UTM (NAD 83)
 N: 4386812.58
 E: 531052.68

WELL (SURFACE) MARY MILLER 5H
 WV-N (NAD 83)
 N: 408112.61
 E: 1655104.30
 UTM (NAD 83)
 N: 4385116.50
 E: 533262.40

WELL (SURFACE) MARY MILLER 5H
 WV-N (NAD 83)
 N: 408112.61
 E: 1655104.30
 UTM (NAD 83)
 N: 4385116.50
 E: 533262.50



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

TOP HOLE (UTM NAD 83)
 N) 4385116.4
 E) 533262.5
 BOTTOM HOLE (UTM NAD 83)
 N) 4386811.8
 E) 531052.8

FILE #: AE001
 DRAWING #: 2456
 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
 601 57TH STREET
 CHARLESTON, WV 25304
 Well Type: Oil Waste Diposal Production Deep
 Gas Liquid Injection Storage Shallow
 WATERSHED: FISHING CREEK
 COUNTY/DISTRICT: WETZEL / CENTER
 SURFACE OWNER: DALE K. DULANEY
 OIL & GAS ROYALTY OWNER: PATSY C. FISH, ARTHUR R. & JOAN E. MILLER, CONNIE S. WHITE, KEITH R. MOORE
 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
 WELL OPERATOR: Ascent Resources—Marcellus LLC.
 ADDRESS: 3501 NW 63rd Street
 CITY: Oklahoma City STATE: OK ZIP CODE: 73116

DATE: NOVEMBER 18, 2015
 OPERATOR'S WELL #: MARY MILLER GRT WZ 5H AS-DRILLED
 API WELL #: 47 103
 STATE COUNTY PERMIT
 ASBUILT ELEVATION: 1,364'
 QUADRANGLE: BIG RUN, WV
 ACREAGE: 156.90 +/- 01/08/2016
 ACRES: 479.62 +/-
 ESTIMATED DEPTH: TVD: 7,526.50' TMD: 16,822'
 DESIGNATED AGENT: Eric B. Gillespie
 ADDRESS: 103 Taryn Lane
 CITY: Cross Lanes STATE: WV ZIP CODE: 25313