

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

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JAN 27 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

API 47 - 017 - 06302 County Doddridge District Grant
Quad Smitburg 7.5' Pad Name Moore Pad Field/Pool Name _____
Farm name Moore, Dwight E. & Tina M. Well Number Gavin Unit 2H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,352,106m Easting 525,869m
Landing Point of Curve Northing 4352049.20m Easting 526284.76m
Bottom Hole Northing 4,350,075m Easting 526,943m

Elevation (ft) 1,237' 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)
Air- Foam & 4% KCL
Mud- Polymer

Date permit issued 07/30/2013 Date drilling commenced 08/06/2013 Date drilling ceased 11/09/2013
Date completion activities began 01/16/2014 Date completion activities ceased 03/25/2014
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 287' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1,250' Void(s) encountered (Y/N) depths None
Coal depth(s) ft 1,290' Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) No

Reviewed by: _____

Smithton Flint Sedalia (aa) 6-6

API 47-017 - 06302 Farm name Moore, Dwight E. & Tina M. Well number Gavin Unit 2H

| 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 | 24" | 20" | 40' | New | 48#; H-40 | N/A | Yes |
| Surface | 17- 1/2" | 13 3/8" | 359' | New | 36#; J-55 | N/A | Yes |
| Coal | | | | | | | |
| Intermediate 1 | 12-1/4" | 9 5/8" | 2,561' | New | 36#; J-55 | N/A | Yes |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | 8-3/4" & 8 1/2" | 5 1/2" | 14,615' | New | 20#; P-110 | N/A | Yes |
| Tubing | | 2 3/8" | 7,358' | | 4.7#; N-80 | N/A | |
| Packer type and depth set | | N/A | | | | | |

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 | 108 sx | 15.6 | 1.18 | 38 | 0' | 8 Hrs. |
| Surface | Class A | 431 sx | 15.6 | 1.18 | 249 | 0' | 8 Hrs. |
| Coal | | | | | | | |
| Intermediate 1 | Class A | 1,013 sx | 15.6 | 1.18 | 802 | 0' | 8 Hrs. |
| Intermediate 2 | | | | | | | |
| Intermediate 3 | | | | | | | |
| Production | Class H | 811 sx (Lead) 856 sx (Tail) | 14.5 (Lead) 15.2 (Tail) | 1.3 (Lead) 1.86 (Tail) | 2,876 | ~500' into Intermediate Casing | 8 Hrs. |
| Tubing | | | | | | | |

Drillers TD (ft) 14615' MD, 7032' TVD (BHL) 7066' TVD (Deepest Point Drilled) Loggers TD (ft) 14,566'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 3,660'

**This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Moore Unit 1H, API #47-017-06128). Please reference the wireline logs submitted with Form WR-35 for the Moore Unit 1H. A Cement Bond Log has been included with this submittal.

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 _____

Conductor- 0
 Surface- 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
 Intermediate- 1 above float joint, 1 above float collar, 1 every 4th joint to surface
 Production- 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

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 EXHIBIT 1 | | | | | |
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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 EXHIBIT 2 | | | | | | | | |
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| <u>PRODUCING FORMATION(S)</u> | <u>DEPTHS</u> | | |
|-------------------------------|---------------------|-----------------|-------------------------------|
| <u>Marcellus</u> | <u>7,029' (Top)</u> | <u>TVD</u> | <u>7,498' (Top)</u> <u>MD</u> |
| <u> </u> | <u> </u> | <u> </u> | <u> </u> |
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Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3550 psi Bottom Hole 3550 psi DURATION OF TEST _____ hrs

OPEN FLOW Gas 10,295 mcfpd Oil 0 bpd NGL _____ bpd Water 586 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) |
|-------------------------|--------------------------------|------------------------------|--------------------------|-----------------------------|--|
| | 0 | | 0 | | |
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*** PLEASE SEE ATTACHED EXHIBIT 3**

Please insert additional pages as applicable.

Drilling Contractor Frontier Drilling LLC
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Rush Wellsite Services
Address 600 Alpha Drive City Canonsburg State PA Zip 15317

Cementing Company Nabors Completion & Production Services, Co.
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Nabors completion & Production Services, Co.
Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Megan Darling Telephone 303-357-7230
Signature Megan C. Darling Title Permitting Agent Date 01/22/2015

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

API 47-017-06302 Farm Name Moore, Dwight E. & Tina M. Well Number Gavin Unit 2H

EXHIBIT 1

| Stage No. | Perforation Date | Perforated from MD ft. | Perforated to MD ft. | Number of Perforations | Formations |
|-----------|------------------|------------------------|----------------------|------------------------|------------|
| 1 | 13-Feb-14 | 14,358 | 14,527 | 60 | Marcellus |
| 2 | 13-Feb-14 | 14,156 | 14,326 | 60 | Marcellus |
| 3 | 13-Feb-14 | 13,955 | 14,125 | 60 | Marcellus |
| 4 | 14-Feb-14 | 13,754 | 13,924 | 60 | Marcellus |
| 5 | 14-Feb-14 | 13,553 | 13,723 | 60 | Marcellus |
| 6 | 14-Feb-14 | 13,352 | 13,521 | 60 | Marcellus |
| 7 | 14-Feb-14 | 13,151 | 13,320 | 60 | Marcellus |
| 8 | 15-Feb-14 | 12,949 | 13,119 | 60 | Marcellus |
| 9 | 15-Feb-14 | 12,748 | 12,918 | 60 | Marcellus |
| 10 | 15-Feb-14 | 12,547 | 12,717 | 60 | Marcellus |
| 11 | 15-Feb-14 | 12,346 | 12,516 | 60 | Marcellus |
| 12 | 16-Feb-14 | 12,145 | 12,314 | 60 | Marcellus |
| 13 | 16-Feb-14 | 11,943 | 12,113 | 60 | Marcellus |
| 14 | 17-Feb-14 | 11,742 | 11,912 | 60 | Marcellus |
| 15 | 17-Feb-14 | 11,541 | 11,711 | 60 | Marcellus |
| 16 | 18-Feb-14 | 11,340 | 11,510 | 60 | Marcellus |
| 17 | 18-Feb-14 | 11,139 | 11,308 | 60 | Marcellus |
| 18 | 18-Feb-14 | 10,938 | 11,107 | 60 | Marcellus |
| 19 | 19-Feb-14 | 10,736 | 10,906 | 60 | Marcellus |
| 20 | 19-Feb-14 | 10,535 | 10,705 | 60 | Marcellus |
| 21 | 19-Feb-14 | 10,334 | 10,504 | 60 | Marcellus |
| 22 | 19-Feb-14 | 10,133 | 10,303 | 60 | Marcellus |
| 23 | 20-Feb-14 | 9,932 | 10,101 | 60 | Marcellus |
| 24 | 20-Feb-14 | 9,731 | 9,900 | 60 | Marcellus |
| 25 | 20-Feb-14 | 9,529 | 9,699 | 60 | Marcellus |
| 26 | 20-Feb-14 | 9,328 | 9,498 | 60 | Marcellus |
| 27 | 20-Feb-14 | 9,127 | 9,297 | 60 | Marcellus |
| 28 | 20-Feb-14 | 8,926 | 9,095 | 60 | Marcellus |
| 29 | 21-Feb-14 | 8,725 | 8,894 | 60 | Marcellus |
| 30 | 21-Feb-14 | 8,523 | 8,693 | 60 | Marcellus |
| 31 | 22-Feb-14 | 8,322 | 8,492 | 60 | Marcellus |
| 32 | 22-Feb-14 | 8,121 | 8,291 | 60 | Marcellus |
| 33 | 22-Feb-14 | 7,920 | 8,090 | 60 | Marcellus |
| 34 | 22-Feb-14 | 7,719 | 7,888 | 60 | Marcellus |
| 35 | 23-Feb-14 | 7,518 | 7,687 | 60 | Marcellus |

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EXHIBIT 2

| Stage No. | Stimulations Date | Avg Pump Rate | Avg Treatment Pressure (PSI) | Max Breakdown Pressure (PSI) | ISIP (PSI) | Amount of Proppant (lbs) | Amount of Water (bbls) | Amount of Nitrogen/ other (units) |
|-----------|-------------------|---------------|------------------------------|------------------------------|--------------|--------------------------|------------------------|-----------------------------------|
| 1 | 13-Feb-14 | 44.4 | 8,765 | N/A | 5,494 | 3,400 | 6,267 | N/A |
| 2 | 13-Feb-14 | 73.1 | 7,642 | 6,166 | 5,286 | 228,400 | 6,331 | N/A |
| 3 | 13-Feb-14 | 73.0 | 7,221 | 5,616 | 5,270 | 225,500 | 6,183 | N/A |
| 4 | 14-Feb-14 | 75.2 | 7,445 | 5,640 | 5,354 | 231,000 | 6,108 | N/A |
| 5 | 14-Feb-14 | 74.5 | 7,571 | 5,927 | 5,570 | 228,700 | 6,071 | N/A |
| 6 | 14-Feb-14 | 73.0 | 7,041 | 5,972 | 5,015 | 132,700 | 6,462 | N/A |
| 7 | 14-Feb-14 | 76.3 | 7,062 | 5,890 | 5,174 | 225,400 | 6,064 | N/A |
| 8 | 15-Feb-14 | 78.7 | 7,112 | 5,931 | 4,971 | 229,300 | 6,065 | N/A |
| 9 | 15-Feb-14 | 76.7 | 7,322 | 6,174 | 5,284 | 229,600 | 6,109 | N/A |
| 10 | 15-Feb-14 | 74.9 | 7,039 | 6,079 | 5,167 | 224,100 | 6,282 | N/A |
| 11 | 15-Feb-14 | 75.5 | 6,832 | 5,972 | 5,274 | 224,900 | 6,005 | N/A |
| 12 | 16-Feb-14 | 77.4 | 6,938 | 5,876 | 5,030 | 225,200 | 5,998 | N/A |
| 13 | 16-Feb-14 | 73.4 | 7,119 | 5,794 | 4,754 | 190,100 | 6,377 | N/A |
| 14 | 17-Feb-14 | 73.6 | 7,278 | 5,969 | 5,120 | 225,400 | 6,217 | N/A |
| 15 | 17-Feb-14 | 77.4 | 7,056 | 6,123 | 5,301 | 224,100 | 5,920 | N/A |
| 16 | 18-Feb-14 | 76.2 | 6,979 | 6,027 | 5,824 | 226,500 | 6,537 | N/A |
| 17 | 18-Feb-14 | 76.0 | 6,996 | 5,748 | 5,671 | 196,700 | 5,881 | N/A |
| 18 | 18-Feb-14 | 77.4 | 6,737 | 5,818 | 5,465 | 228,500 | 5,912 | N/A |
| 19 | 19-Feb-14 | 79.5 | 6,696 | 5,779 | 5,523 | 224,200 | 6,022 | N/A |
| 20 | 19-Feb-14 | 80.3 | 6,827 | 5,772 | 5,124 | 227,300 | 5,959 | N/A |
| 21 | 19-Feb-14 | 81.2 | 6,945 | 5,682 | 5,658 | 230,600 | 5,970 | N/A |
| 22 | 19-Feb-14 | 74.5 | 6,766 | 5,583 | 5,319 | 227,700 | 5,861 | N/A |
| 23 | 20-Feb-14 | 76.7 | 6,886 | 5,689 | 5,445 | 224,000 | 5,858 | N/A |
| 24 | 20-Feb-14 | 79.5 | 6,867 | 5,471 | 5,350 | 223,300 | 5,927 | N/A |
| 25 | 20-Feb-14 | 72.4 | 7,450 | 5,298 | 5,019 | 168,900 | 6,476 | N/A |
| 26 | 20-Feb-14 | 77.9 | 7,047 | 5,332 | 5,220 | 228,300 | 5,843 | N/A |
| 27 | 20-Feb-14 | 77.4 | 6,758 | 5,393 | 5,650 | 228,300 | 5,777 | N/A |
| 28 | 20-Feb-14 | 76.3 | 7,045 | 5,392 | 5,284 | 225,600 | 5,824 | N/A |
| 29 | 21-Feb-14 | 77.2 | 7,134 | 5,326 | 5,449 | 225,600 | 5,681 | N/A |
| 30 | 21-Feb-14 | 77.6 | 7,413 | 5,730 | 5,841 | 225,300 | 5,878 | N/A |
| 31 | 22-Feb-14 | 76.2 | 7,299 | 5,595 | 5,184 | 227,600 | 6,274 | N/A |
| 32 | 22-Feb-14 | 76.7 | 7,033 | 5,339 | 5,168 | 231,100 | 5,800 | N/A |
| 33 | 22-Feb-14 | 74.5 | 7,009 | 5,784 | 5,128 | 187,400 | 6,242 | N/A |
| 34 | 22-Feb-14 | 75.4 | 6,709 | 5,490 | 4,945 | 230,500 | 5,588 | N/A |
| 35 | 23-Feb-14 | 74.3 | 6,447 | 6,812 | 4,455 | 230,600 | 6,146 | N/A |
| AVG= | | 75 | 7,100 | 5,770 | 5,280 | 7,465,800 | 211,915 | TOTAL |

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EXHIBIT 3

| LITHOLOGY/ FORMATION | TOP DEPTH (TVD) | BOTTOM DEPTH (TVD) | TOP DEPTH (MD) | BOTTOM DEPTH (MD) | ROCK TYPE | FLUID PRODUCED |
|-----------------------------------|-----------------------|--------------------------|----------------------|----------------------|-----------|----------------|
| Undifferentiated Pennsylvanian | 0' | 2048' | 0' | 2051' | Limestone | |
| Big Lime | est. 2049' | 2165' | est. 2052' | 2168' | Limestone | |
| Big Injun | est. 2166' | 2596' | est. 2169' | 2599' | Sandstone | |
| Gantz Sand | est. 2597' | 2730' | est. 2600' | 2733' | Sandstone | |
| Fifty Foot Sandstone | est. 2731' | 2799' | est. 2734' | 2802' | Sandstone | |
| Gordon | est. 2800' | 3142' | est. 2803' | 3145' | Sandstone | |
| Fifth Sandstone | est. 3143' | 3156' | est. 3146' | 3159' | Sandstone | |
| Bayard | est. 3157' | 3887' | est. 3160' | 3888' | Sandstone | |
| Speechley | est. 3886' | 4146' | est. 3889' | 4149' | Sandstone | |
| Baltown | est. 4147' | 4662' | est. 4150' | 4665' | Sandstone | |
| Bradford | est. 4663' | 5165' | est. 4666' | 5168' | Sandstone | |
| Benson | est. 5166' | 5434' | est. 5169' | 5437' | Sandstone | |
| Alexander | est. 5435' | 5628' | est. 5438' | 5628' | Sandstone | |
| Elk | 5626' | 6189' | 5629' | 6192' | Sandstone | |
| Rhinestreet | est. 6190' | 6549' | est. 6193' | 6563' | Sandstone | |
| Sycamore | est. 6550' | 6779' | est. 6564' | 6779' | Sandstone | |
| Middlesex | 6780' | 6922' | 6780' | 7238' | Shale | |
| Burkett | 6923' | 6950' | 7239' | 7294' | Shale | Gas |
| Tully | 6951' | 7017' | 7295' | 7307' | Limestone | N/A |
| Hamilton | est. 7018' | 7028' | est. 7308' | 7497' | Shale | N/A |
| Marcellus | 7029' | 7066' | 7498' | 7784' | Shale | Gas |

*Please note Antero determines formation tops based on wireline logs that are only run on the initial well (Please referenece Moore Unit 1H API #47-017-06128). The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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