

WR-35  
Rev (9-11)

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

DATE: 1/14/2013  
API #: 47-095-02039

Farm name: Moore, Forest C. Jr. & Brenda Operator Well No.: Ed Arnold Unit 2H

LOCATION: Elevation: 749' Quadrangle: Center Point 7.5'

District: McElroy County: Tyler  
Latitude: 8987' Feet South of 39 Deg. 25 Min. 00 Sec.  
Longitude 7558' Feet West of 80 Deg. 42 Min. 30 Sec.

Company: Antero Resources Appalachian Corp

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
1625 17th Street Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft.
Agent: CT Corporation System	13 3/8" 48#	544'	544'	756 Cu. Ft. Class A
Inspector: Joe Taylor	9 5/8" 36#	2833'	2833'	1153 Cu. Ft. Class A
Date Permit Issued: 12/22/2011	5 1/2" 20#	15396'	15396'	3734 Cu. Ft. Class H
Date Well Work Commenced: 4/6/2012				
Date Well Work Completed: 8/6/2012				
Verbal Plugging: N/A				
Date Permission granted on: N/A	2 3/8" 4.7#	6966'		
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7275' TVD				
Total Measured Depth (ft): 15396' MD				
Fresh Water Depth (ft.): 120', 291'				
Salt Water Depth (ft.): None available				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): est. 672', 747'				
Void(s) encountered (N/Y) Depth(s) None				

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

Producing formation Marcellus Pay zone depth (ft) 6545' TVD (Top)

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow N/A Bbl/d

Final open flow 6033 MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests N/A Hours

Static rock Pressure 3550 psig (surface pressure) after \_\_\_\_\_ Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_

Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d

Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d

Time of open flow between initial and final tests \_\_\_\_\_ Hours

Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

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I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Shauna Pedit

Signature

1/14/13

Date

Were core samples taken? Yes \_\_\_\_\_ No **X**

Were cuttings caught during drilling? Yes **X** No \_\_\_\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list **Yes - CBL,**

This is a subsequent well. Antaro only runs wireline logs on the first well on a multi-well pad (Ed Arnold Unit 1H APM47-095-02038). Please reference the wireline logs submitted with Form WR-35 for Ed Arnold Unit 1H.

**NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.**

Perforated Intervals, Fracturing, or Stimulating:

Perforations: 7106'-15232' (1420 holes)

Frac'd w/ 12,500 gals 15% HCL Acid, 171,189 bbls Slick Water carrying 943,127# 100 mesh, 3,272,127# 40/70 and 1,881,550# 20/40 sand.

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

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Gantz Sand est.	2678'	2803'
Fifty Foot Sand est.	2804'	2918'
Gordon est.	2919'	3122'
Fifth Sandstone est.	3123'	3153'
Bayard est.	3154'	3526'
Warren est.	3527'	4836'
Benson est.	4837'	5090'
Alexander est.	5091'	5283'
Elk est.	5284'	5901'
Rhinestreet est.	5902'	6169'
Sycamore est.	6170'	6205'
Sonyea	6206'	6317'
Middlesex	6318'	6369'
West River Shale	6370'	6458'
Burket	6459'	6487'
Tully	6488'	6544'
Marcellus	6545'	7275' TVD

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WELL NAME: Ed Arnold 2H

API #: 47-095-02039

## List of Additives Used for Fracturing Or Stimulating Well

<b>ADDITIVES</b>	<b>CHEMICAL ABSTRACT SERVICE NUMBER (CAS #)</b>
Sodium Chloride	7647-14-5
Ammonium Chloride	12125-02-9
Petroleum Distillate Hydrotreated	64742-47-8
Alcohols, C12-16, Ethoxylated	68551-12-2
Ethylene Glycol	107-21-1
Sodium Polyacrylate Copolymer	25987-30-8
Bioclear 2000 (2,2-Dibromo-3-Nitrilopropionamide)	10222-01-2
API-1 (Ammonium Persulfate)	7727-54-0
Hydrochloric Acid	7647-01-0
Water	7732-18-5
Ethylene Glycol	107-21-1
Ethoxylated Nonylphenol	68412-54-4
Isopropanol (Isopropyl Alcohol)	67-63-0
1-Decanol	112-30-1
1-Octanol	111-87-5
2-Butoxyethanol	111-76-2
Triethyl Phosphate	78-40-0
Cinnamaldehyde	104-55-2
N,N-Dimethylformamide	68-12-2
Tar Bases, Quinoline Derivs, benzyl chloride-quaternized	72480-70-7
Guar Gum	9000-30-0
Petroleum Distillate	64742-80-9
Surfactant	68439-51-0
Clay	14808-60-7

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