

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: 9/12/2013  
API #: 47-017-06098

Farm name: Elton D. Whitehair, et al Operator Well No.: Yoke Unit 2H

LOCATION: Elevation: 1,241' Quadrangle: New Milton 7.5'

District: New Milton County: Doddridge  
Latitude: 7.354' Feet South of 39 Deg. 12 Min. 30 Sec.  
Longitude 222' Feet West of 80 Deg. 40 Min. 00 Sec.

Company: Antero Resources Corporation

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. Class A
Agent: CT Corporation System	13-3/8" 48#	411'	411'	571 Cu. Ft. Class A
Inspector: Douglas Newlon	9-5/8" 36#	2,549'	2,549'	1037 Cu. Ft. Class A
Date Permit Issued: 6/6/2012	5-1/2" 20#	15,855'	15,855'	3931 Cu. Ft. Class H
Date Well Work Commenced: 8/24/2012				
Date Well Work Completed: 2/28/2013	2-3/8" 4.7#	6,213'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7279' TVD (Deepest Point Drilled)				
Total Measured Depth (ft): 15,859' MD, 7265' TVD (BHL)				
Fresh Water Depth (ft.): 350'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 371', 451', 899'				
Void(s) encountered (N/Y) Depth(s) N, N/A				

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

Producing formation Marcellus Pay zone depth (ft) 7,186' (TOP)

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

Final open flow 6,692 MCF/d Final open flow \_\_\_\_\_ Bbl/d

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

Static rock Pressure 3950 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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Office of Oil and Gas  
WV Dept. of Environmental Protection

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.

Kaiti Buck  
Signature

9/12/13  
Date

11/08/2013

17-06098

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

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

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

This is a subsequent well. Antero only runs wireline logs on the first well on a multi-well pad (Crislip Unit 1H AP#47-017-06100). Please reference the wireline logs submitted with Form WR-35 for Crislip 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: 7,479' - 15,791' MD (1,512 holes)

Frac'd w/ 11,500 gals 15% HCL Acid, 221,835 bbls Slick Water carrying 965,540# 100 mesh, 4,848,890# 40/70 sand and 2,535,500# 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>		
Big Lime	est. 2277'	2343'
Big Injun	est. 2344'	2592'
Weir	est. 2593'	2767'
Berea	est. 2768'	2876'
Gantz	est. 2877'	2969'
Gordon	est. 2970'	3325'
Fifth Sand	est. 3326'	3392'
Bayard	est. 3393'	3953'
Speechley	est. 3954'	4790'
Bradford	est. 4791'	5259'
Benson	est. 5260'	5506'
Alexander	est. 5507'	6750'
Sycamore	6751'	6924'
Middlesex Shale	6925'	7062'
Burkett	7063'	7096'
Tully	7097'	7177'
Hamilton	7178'	7185'
Marcellus	7186'	

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Hydraulic Fracturing Fluid Product Component Information Disclosure

17-06098

Fracture Date:	2/21/2013
State:	WV
County:	Doddridge
API Number:	47-017-06098
Operator Name:	Antero Resources
Well Name and Number:	Yoko 2H
Longitude:	-80.6926175
Latitude:	39.2077239
LongLat Projection:	NAD83
Production Type:	Gas
True Vertical Depth (TVD):	7265
Total Water Volume* (gal):	9,317,070

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Compositional or Formulary Components Disclosed	Chemical Abstract Service Number (CAS #) - If applicable	Maximum Component Concentration In Additive (% by mass)**	Maximum Component Concentration In HF Fluid (% by mass)**	Comments
AL300	U.S. Well Services, LLC	Acid Corrosion Inhibitors	2-Butoxyethanol Cinnamaldelyde Ethoxylated Nonyphenol Ethylene Glycol Isopropyl Alcohol N,N-Dimethylformamide Tar bases, quinoline derivs, benzyl chloride-quaternized Triethyl Phosphate Water	111-76-2 104-55-2 68412-54-4 107-21-1 67-53-0 68-12-2 72480-70-7 78-40-0 7732-18-5	7.00% 5.00% 5.00% 31.00% 3.00% 15.00% 13.00% 3.00% 20.00%	0.00001% 0.00001% 0.00008% 0.00001% 0.00003% 0.00003% 0.00001% 0.00066%	
Blockar 2000	U.S. Well Services, LLC	Anti-Bacterial Agent	2,2-dibromo-3-antihlopropionamide Deionized Water	7732-18-5 10222-01-2	20.00% 28.00%	0.00437% 0.00250%	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum Petroleum Distillates Surfactant	9000-30-0 64742-47-8 68439-51-0	50.00% 60.00% 3.00%	0.00514% 0.06887% 0.06887%	
AP One	U.S. Well Services, LLC	Gel Breakers	Suspending agent (solid)	14808-60-7	3.00%	0.06887%	
WFR-405	U.S. Well Services, LLC	Friction Reducer	Ammonium Persulfate Anionic Polyacrylamide Ethoxylated alcohol blend Water	7727-54-0 7732-18-5 64742-47-8 107-21-1	100.00% 5.00% 22.00% 20.00%	0.00147% 0.00274% 0.00970% 0.00939%	
SI-1000	U.S. Well Services, LLC	Scale Inhibitor	Ammonium Chloride Petroleum Distillates Ethylene Glycol Water	7732-18-5 12125-02-9 64742-47-8 107-21-1	40.00% 5.00% 22.00% 20.00%	0.00274% 0.00274% 0.00970% 0.00939%	
Sand	U.S. Well Services, LLC	Proppant	Anionic Copolymer Crystalline Silica, quartz	Proprietary 14808-60-7	Proprietary 100.00%	0.00327% 9.69523%	
HCl Acid (12.5%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Hydrogen Chloride	7641-01-1	18.00%	0.02025%	
Water		Carrier/Base Fluid	Water	7732-18-5	87.50%	0.04867%	
					100.00%	90.13345%	

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

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