

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: 1/11/2013
API #: 47-033-05665

Farm name: Jones, John R. & Catherine V. Operator Well No.: Hurst-Zirk Unit 1H

LOCATION: Elevation: 1176' Quadrangle: Wolf Summit

District: Sardis County: Harrison
Latitude: 12.679° Feet South of 39 Deg. 20 Min. 00 Sec.
Longitude 5647' Feet West of 80 Deg. 22 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#	74'	74'	71 Cu. Ft.
Agent: CT Corporation System	13 3/8" 48#	374'	374'	520 Cu. Ft. Class A
Inspector: Tristan Jenkins	9 5/8" 36#	2626'	2626'	1069 Cu. Ft. Class A
Date Permit Issued: 8/14/2012	5 1/2" 20#	13955'	13955'	3400 Cu. Ft. Class H
Date Well Work Commenced: 9/1/2012				
Date Well Work Completed: 11/4/2012				
Verbal Plugging: N/A				
Date Permission granted on: N/A	2 3/8" 4.6#	7302'		
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7113' TVD (deepest point drilled)				
Total Measured Depth (ft): 7086' TVD (BHL), 13955' MD				
Fresh Water Depth (ft.): est. 230'				
Salt Water Depth (ft.): est. 685', 1060'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): Pad constructed on reclaimed PHG coal bench				
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) 7067' TVD (Top)

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

Final open flow 5931 MCF/d Final open flow N/A Bbl/d

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

Static rock Pressure 3300 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.

Shawn Peas
Signature

1/24/13
Date

Were core samples taken? Yes _____ No

Were cuttings caught during drilling? Yes _____ No

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

This is a subsequent well. Ariano only runs wireline logs on the first well on a multi-well pad (Hurst Unit 1H, API# 47-033-05626). Please reference the wireline logs submitted with Form WR-35 for Hurst 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: 7328'-13889' (1100 holes)

Frac'd w/ 10,080 gals 15% HCL Acid, 139,632 bbls Slick Water carrying 721,760# 100 mesh, 2,776,420# 40/70 and 1,657,110# 20/40 sand.

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

Formations Encountered: <u>Surface:</u>	Top Depth	/	Bottom Depth
Big Lime est.	1436'		1486'
Big Injun est.	1487'		2028'
Fifty Foot Sandstone est.	2029'		2210'
Gordon est.	2211'		2455'
Fifth Sandstone est.	2456'		2487'
Bayard est.	2488'		3146'
Speechley est.	3147'		3370'
Balltown est.	3371'		3908'
Bradford est.	3909'		4476'
Benson est.	4477'		4864'
Alexander est.	4865'		5140'
Elk est.	5141'		6645'
Middlesex	6646'		6649'
Sonyea	6650'		6820'
Burket	6821'		6843'
Tully	6844'		7066'
Marcellus	7067'		7113' TVD

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	10/16/2012
State:	WV
County:	Harrison
API Number:	47-833-89869
Operator Name:	Antero Resources
Well Name and Number:	Hurst-Zirk 1H
Longitude:	-80.4188198
Latitude:	39.3174611
Leaselet Production:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	7,066
Total Water Volume (gall):	5,864,544

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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
AI-300	U.S. Well Services, LLC	Acid Corrosion Inhibitors	2-Butoxyethanol	111-76-2	7.86%	0.00002%	
			Cinnamaldehyde	104-85-2	6.86%	0.00002%	
			Ethoxylated Nonylphenol	68412-84-4	5.86%	0.00002%	
			Ethylene Glycol	107-21-1	31.86%	0.00010%	
			Isopropyl Alcohol	67-63-0	3.00%	0.00001%	
			N,N-Dimethylformamide	68-12-2	15.00%	0.00004%	
			Tar bases, quinoline deriva, benzyl chloride-quaternized	72480-70-7	15.00%	0.00004%	
			Triethyl Phosphate	78-40-8	3.00%	0.00001%	
Bioclear 2000	U.S. Well Services, LLC	Anti-Bacterial Agent	Water	7732-18-8	20.00%	0.00000%	
			2,2-dibromo-3-nitropropionamide	10222-01-2	28.00%	0.00577%	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Deionized Water	7732-18-8	28.00%	0.00229%	
			Gum Gum	9000-38-0	50.00%	0.00414%	
			Petroleum Distillates	64742-47-8	60.00%	0.00657%	
			Surfactant	68439-61-0	3.00%	0.00887%	
AP One	U.S. Well Services, LLC	Gel Breakers	Suspending agent (solid)	14898-88-7	3.80%	0.00887%	
			Ammonium Persulfate	7727-64-0	100.00%	0.00121%	
			Proprietary		Proprietary		
WFRA-485	U.S. Well Services, LLC	Friction Reducer	Ethoxylated alcohol blend	Proprietary	5.80%	0.00277%	
			Water	7732-18-8	49.00%	0.02215%	
			Ammonium Chloride	12125-02-0	5.00%	0.00277%	
			Petroleum Distillates	64742-47-8	22.80%	0.00881%	
SI-1000	U.S. Well Services, LLC	Scale Inhibitor	Ethylene Glycol	107-21-1	20.00%	0.00378%	
			Water	7732-18-8	38.00%	0.00314%	
			Anionic Copolymer	Proprietary	Proprietary		
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-80-7	100.00%	5.81685%	
HCL Acid (12.5%-18.0%)	U.S. Well Services, LLC	Bulk Acid	Hydrogen Chloride	7641-01-1	18.00%	0.05588%	
			Water	7732-18-8	87.50%	0.13458%	
Water		Carrier/Base Fluid	Water	7732-18-8	100.00%	90.19796%	

*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%

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.