JR

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: 2/10/2013
API #: 47-017-06161

Farm name: Trent, Clarence Jr. et al Operator Well No.: Cox Unit 1H

LOCATION: Elevation: 1,410' Quadrangle: New Milton 7.5'

District: Greenbrier County: Doddridge
Latitude: 1,234' Feet South of 39 Deg. 15 Min. 00 Sec.
Longitude 14,861' Feet West of 80 Deg. 37 Min. 30 Sec.

Company: Antero Resources Corporation

Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	334'	334'	464 Cu. Ft. Class A
Inspector: Douglas Newlon	9 5/8" 36#	2,554'	2,554'	1,040 Cu. Ft. Class A
Date Permit Issued: 1/16/2012	5 1/2" 20#	14,029'	14,029'	3,434 Cu. Ft. Class H
Date Well Work Commenced: 6/29/2013				
Date Well Work Completed: 11/20/2013	2 3/8" 4.7#	7,603'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary ☑ Cable ☐ Rig ☐				
Total Vertical Depth (ft): 7437' TVD (Deepest Point Drilled)				
Total Measured Depth (ft): 14,029' MD, 7370' TVD (BHL)				
Fresh Water Depth (ft.): 100', 135'				
Salt Water Depth (ft.): 2126'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): None Available				
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) 7413' (TOP)
Gas: Initial open flow ---- MCF/d Oil: Initial open flow ---- Bbl/d
Final open flow 7,155 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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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.

Kaitlin Buck
Signature

2/14/2014
Date

05/23/2014

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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 (Bowen Unit 2H API#47-017-06167). Please reference the wireline logs submitted with Form WR-35 for Bowen Unit 2H.

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: 7776'- 13,974' (1680 Holes)

Frac'd w/ 8,750 gals 15% HCL Acid,188,095 bbls Slick Water carrying 616,320# 100 mesh,

3,973,440# 40/70 sand and 2,057,400# 20/40 sand.

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

Formations Encountered: Surface:	Top Depth	/	Bottom Depth
Big Lime	est. 2416'		2530'
Big Injun	est. 2531'		2761'
Gantz Sand	est. 2762'		2972'
Fifty Foot Sandstone	est. 2973'		3138'
Gordon	est. 3139'		3503'
Fifth Sandstone	est. 3504'		3568'
Bayard	est. 3569'		4089'
Speechley	est. 4090'		4292'
Balltown	est. 4293'		4928'
Bradford	est. 4929'		5401'
Benson	est. 5402'		5648'
Alexander	est. 5649'		5885'
Elk	est. 5886'		6424'
Rhinestreet	est. 6425'		6956'
Sycamore	6957'		7125'
Middlesex	7126'		7271'
Burkett	7272'		7295'
Tully	7296'		7375'
Hamilton	7376'		7412'
Marcellus	7413'		7437' TVD

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/13/2013
Job End Date:	11/20/2013
State:	West Virginia
County:	Doddridge
API Number:	47-017-06161-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Cox Unit 1H
Longitude:	-80.62935560
Latitude:	39.20919720
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,433
Total Base Water Volume (gal):	7,898,730
Total Base Non Water Volume:	331,254

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Oil & Gas

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	Antero Resources	Base Fluid					
			Water	7732-18-5	100.00000	90.57991	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	9.13997	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.50000	0.09022	
			Hydrogen Chloride	7641-01-1	18.00000	0.02155	
LGC-15	U.S. Well Services, LLC	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.03413	
			Petroleum Distillates	64742-47-8	60.00000	0.03232	
			Suspending agent (solid)	14808-60-7	3.00000	0.00522	
			Surfactant	68439-51-0	3.00000	0.00205	
WFRA-405	U.S. Well Services, LLC	Friction Reducer					
			Water	7732-18-5	40.00000	0.02411	
			Anionic Polyacrylamide	Proprietary		0.02411	
			Petroleum Distillates	64742-47-8	22.00000	0.01941	
			Crystalline Salt	12125-02-9	5.00000	0.00301	

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			Ethoxylated alcohol blend	Proprietary	5.00000	0.00301	
SI-1000	U.S. Well Services, LLC	Scale Inhibitor					
			Anionic Copolymer	Proprietary		0.00449	
			Ethylene Glycol	107-21-1	20.00000	0.00406	
			Water	7732-18-5	30.00000	0.00339	
K-BAC 1020	U.S. Well Services, LLC	Anti-Bacterial Agent					
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00478	
			Deionized Water	7732-18-5	28.00000	0.00273	
AP One	U.S. Well Services, LLC	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00096	
AI-300	U.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Ethylene Glycol	107-21-1	31.00000	0.00024	
			N,N-Dimethylformamide	68-12-2	15.00000	0.00007	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	13.00000	0.00006	
			Cinnamaldehyde	104-55-2	5.00000	0.00006	
			2-Butoxyethanol	111-76-2	7.00000	0.00006	
			Ethoxylated Nonylphenol	68412-54-4	5.00000	0.00002	
			Water	7732-18-5	20.00000	0.00002	
			Triethyl Phosphate	78-40-0	3.00000	0.00001	
			Isopropyl Alcohol	67-63-0	3.00000	0.00001	

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)