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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: 11/20/2013
API #: 47-017-06104

Farm name: Erwin, John F. Operator Well No.: Hinterer Unit 2H

LOCATION: Elevation: 1,218' Quadrangle: New Milton 7.5

District: New Milton County: Doddridge
Latitude: 8,290' Feet South of 30 Deg. 10 Min. 00 Sec.
Longitude 3,648' Feet West of 80 Deg. 40 Min. 00 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" 51#	46'	46'	44 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	376'	376'	522 Cu. Ft. Class A
Inspector: Douglas Newlon	9 5/8" 36#	2,452'	2,452'	998 Cu. Ft. Class A
Date Permit Issued: 7/31/2012	5 1/2" 20#	15,954'	15,954'	3994 Cu. Ft. Class H
Date Well Work Commenced: 1/17/2013				
Date Well Work Completed: 5/24/2013	2 3/8" 4.7#	7471'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary ☑ Cable ☐ Rig ☐				
Total Vertical Depth (ft): 7227' TVD (Deepest Point Drilled)				
Total Measured Depth (ft): 15,954' MD, 7143 TVD (BHL)				
Fresh Water Depth (ft.): 160'				
Salt Water Depth (ft.): 762', 857', 1130'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 680', 1850'				
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) 7200' (Top)
Gas: Initial open flow ---- MCF/d Oil: Initial open flow ---- Bbl/d
Final open flow 5,634 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

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

2/10/2014
Date

05/30/2014

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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, Dual Laterolog/ Gamma Ray Photo Density/ Compensated Neutron.

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: 7,517'-15,898' (1800 Holes)

Frac'd w/ 15,500 gals 15% HCL Acid, 182,663 bbls Slick Water carrying 894,320# 100 mesh,

3,252,090# 40/70 sand and 1,979,380# 20/40 sand.

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

Formations Encountered: Surface:	Top Depth	/	Bottom Depth
Big Lime	2242'		2370'
Big Injun	2371'		2602'
Gantz Sand	2603'		2755'
Fifty Foot Sandstone	2756'		2948'
Gordon	2948'		3303'
Fifth Sandstone	3304'		3351'
Bayard	3352'		3941'
Speechley	3942'		4138'
Balltown	4139'		4779'
Bradford	4780'		5232'
Benson	5233'		5499'
Alexander	5500'		5707'
Elk	5708'		6247'
Rhinestreet	6248'		6885'
Sycamore	6786'		6945'
Middlesex	6946'		7086'
Burkett	7087'		7120'
Tully	7121'		7120'
Hamilton	7193'		7199'
Marcellus	7200'		7227' TVD

05/30/2014

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/14/2013
Job End Date:	5/24/2013
State:	West Virginia
County:	Doddridge
API Number:	47-017-06104-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Hinterer Unit 2H
Longitude:	-80.69589700
Latitude:	39.15665600
Datum:	NAD27
Federal/Tribal Well:	NO
Total Base Water Volume (gal):	7,671,846
Total Base Non Water Volume:	308,866

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	90.98125	
Sand	U.S. Well Services, LLC	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	8.71060	
HCL Acid (12.6%-18.0%)	U.S. Well Services, LLC	Bulk Acid					
			Water	7732-18-5	87.50000	0.08034	
			Hydrogen Chloride	7641-01-1	18.00000	0.01919	
WFRA-405	U.S. Well Services, LLC	Friction Reducer					
			Anionic Polyacrylamide	Proprietary	40.00000	0.02229	
			Water	7732-18-5	40.00000	0.02229	
			Petroleum Distillates	64742-47-8	40.00000	0.01794	
			Ethoxylated alcohol blend	Proprietary	5.00000	0.00279	
			Crystalline Salt	12125-02-9	5.00000	0.00279	
LGC-15	U.S. Well Services, LLC	Gelling Agents					
			Guar Gum	9000-30-0	50.00000	0.03032	
			Petroleum Distillates	64742-47-8	60.00000	0.02871	
			Suspending agent (solid)	14808-60-7	3.00000	0.00464	
			Surfactant	68439-51-0	3.00000	0.00182	

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Hi Flow 3-NE	U.S. Well Services, LLC	Surfactant					
			Propylene Glycol	57-55-6	30.00000	0.02741	
			Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether	64366-70-7	13.00000	0.01135	
			Propylene Glycol n-butyl ether	5131-66-8	5.00000	0.00388	
			D-Limonene	8028-48-6	5.00000	0.00370	
			Isopropyl Alcohol	67-63-0	5.00000	0.00349	
			1-Decanol	112-30-1	2.50000	0.00192	
			1-Octanol	111-87-5	2.50000	0.00183	
SI-1000	U.S. Well Services, LLC	Scale Inhibitor					
			Anionic Copolymer	Proprietary		0.00450	
			Ethylene Glycol	107-21-1	20.00000	0.00407	
			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	0.00504	
			Deionized Water	7732-18-5	28.00000	0.00288	
AP One	U.S. Well Services, LLC	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00110	
AI-300	U.S. Well Services, LLC	Acid Corrosion Inhibitor					
			Ethylene Glycol	107-21-1	40.00000	0.00021	
			Cinnamaldehyde	104-55-2	15.00000	0.00006	
			N,N-Dimethylformamide	68-12-2	20.00000	0.00006	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	15.00000	0.00006	
			2-Butoxyethanol	111-76-2	15.00000	0.00005	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nolylphenyl)-omega-hydroxy, branched	127087-87-0	5.00000	0.00002	
			1-Decanol	112-30-1	5.00000	0.00002	
			1-Octanol	111-87-5	3.00000	0.00001	
			Isopropyl Alcohol	67-63-0	2.50000	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)

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