

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: 8/28/2013
API #: 47-033-05676

Farm name: Antero Resources Corporation Operator Well No.: Rodney Unit 2H

LOCATION: Elevation: 1358' Quadrangle: Big Isaac & West Milford

District: Union County: Harrison
Latitude: 1.993' Feet South of 39 Deg. 12 Min. 30 Sec.
Longitude 3.992' Feet West of 80 Deg. 30 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#	63'	63'	60 Cu. Ft. Class A
Agent: Ct Corporation System	13 3/8" 48#	556'	556'	772 Cu. Ft. Class A
Inspector: Sam Ward	9 5/8" 36#	2,602'	2,602'	1059 Cu. Ft. Class A
Date Permit Issued: 10/25/2012	5 1/2" 20#	14,955'	14,955'	3674 Cu. Ft. Class H
Date Well Work Commenced: 12/6/2012				
Date Well Work Completed: 4/2/2013	2 3/8" 4.7#	7,427'		
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): 7347' TVD (Deepest Point Drilled)				
Total Measured Depth (ft): 14,955' MD, 7261' TVD (BHL)				
Fresh Water Depth (ft.): 140'				
Salt Water Depth (ft.): 1936'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 178', 422', 458'				
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) 7309' (TOP)
Gas: Initial open flow --- MCF/d Oil: Initial open flow ---- Bbl/d
Final open flow 12,806 MCF/d Final open flow ---- Bbl/d
Time of open flow between initial and final tests ---- Hours
Static rock Pressure 3600 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

RECEIVED
Office of Oil and Gas
FEB 18 2014

WV Department of
Environmental Protection

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this report, that I believe 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.

Kathleen Buck
Signature

2/14/2014
Date

05/23/2014

33.05676

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- Photo Density, Dual laterolog, CBL

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: 7,482- 14,889' MD (1,560 Holes)

Frac'd w/ 11,000 gals 15% HCL Acid, 153653 bbls Slick Water carrying 808,480# 100 mesh, 2,973,210# 40/70 sand and 1,813,040# 20/40 sand.

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

Formations Encountered: _____ Top Depth _____ / _____ Bottom Depth _____
Surface:

Formations Encountered:	Top Depth	Bottom Depth
Big Lime	1933'	2042'
Big Injun	2043'	2297'
Gantz Sand	2298'	2415'
Fifty Foot Sandstone	2416'	2512'
Gordon	2513'	2819'
Fifth Sandstone	2820'	2861'
Bayard	2862'	3512'
Speechley	3513'	3757'
Balltown	3757'	4278'
Bradford	4279'	4833'
Benson	4834'	5036'
Alexander	5037'	5193'
Elk	5194'	5936'
Rhinestreet	5937'	6645'
Sycamore	6646'	6944'
Middlesex	6945'	7106'
Burkett	7107'	7126'
Tully	7127'	7245'
Hamilton	7245'	7309'
Marcellus	7309'	7347' TVD

05/23/2014

33.05676

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/24/2013
Job End Date:	4/2/2013
State:	West Virginia
County:	Harrison
API Number:	47-033-05676-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Rodney Unit 2H
Longitude:	-80.50687500
Latitude:	39.19731110
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,347
Total Base Water Volume (gal):	0
Total Base Non Water Volume:	22,637



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
Freshwater	Antero Resources	Water	Water	7732-18-5	100.00000	89.43380	
40/70 White	US Silica	Proppant	Sand	14808-60-7	100.00000	5.52089	
20/40 White	US Silica	Proppant	Sand	14808-60-7	100.00000	3.36659	
100 Mesh	US Silica	Proppant	Sand	14808-60-7	100.00000	1.50125	
Beta M-4.0	PIP	Guar Gel	Petroleum Distillate	64742-47-8	55.00000	0.04864	
			Guar Gum	9000-30-0	50.00000	0.04422	
			Clay	1302-78-9	5.00000	0.00442	
			Surfactant	154518-36-2	1.00000	0.00088	
Plexslick 953	Chemplex	Friction Reducer	Water	7732-18-5	35.00000	0.01958	
			Polyacrylamide-co-acrylic acid	9003-06-9	32.00000	0.01791	
			Hydrotreated Petroleum Distillate	64742-47-8	30.00000	0.01679	
			Alcohol Ethoxylate Surfactants	Proprietary	8.00000	0.00448	
Plexcide 15G	Chemplex	Biocide					

33-05676

			Water	7732-18-5	90.00000	0.02217
			Glutaraldehyde	111-30-8	14.00000	0.00345
			Alkyl Dimethyl Benzyl Ammonium Chloride	68424-85-1	3.00000	0.00074
			Ethanol	64-17-5	3.00000	0.00074
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00074
Hydrochloric Acid 10-15%	Reagent	Acid				
			Hydrchloric Acid	7647-01-0	15.00000	0.02745
Plexaid 673	Chemplex	Scale Inhibitor				
			Water	7732-18-5	85.00000	0.01238
			Methyl Alcohol	67-56-1	25.00000	0.00364
			Sodium Salt of Phosphonodimethylated Diamine	Proprietary	5.00000	0.00073
Sodium Persulfate	Chemplex	Breaker				
			Sodium Persulfate	7775-27-1	100.00000	0.00122
Plexhib 256	Chemplex	Corrosion Inhibitor				
			Methyl Alcohol	67-56-1	70.00000	0.00040
			thiourea-formaldehyde copolymer	68527-49-1	30.00000	0.00017
			Alcohol Ethoxylate Surfactants	Proprietary	30.00000	0.00017
			n-olefins	Proprietary	10.00000	0.00006
			Propargyl Alcohol	107-19-7	8.00000	0.00005
Plexbreak 145	Chemplex	Non-emulsifier				
			Water	732-18-5	66.00000	0.00042
			Methyl Alcohol	67-56-1	15.00000	0.00010
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00000	0.00010
			Cocamide Diethanolamine Salt	68603-42-9	10.00000	0.00006
			Diethanolamine	111-42-2	5.00000	0.00003
Ferriplex 66	Chemplex	Iron Control				
			Acetic Acid	64-19-7	50.00000	0.00019
			Water	7732-18-5	35.00000	0.00013
			Citric Acid	77-92-9	30.00000	0.00011

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)