

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: 8/27/2013
API #: 47-085-09978

Farm name: Campbell, John A. & Linda J. Operator Well No.: Pullman Unit 2H

LOCATION: Elevation: 1,014' Quadrangle: Pullman 7.5'

District: Union County: Ritchie
Latitude: 3,834' Feet South of 39 Deg. 12 Min. 30 Sec.
Longitude 9,970' Feet West of 80 Deg. 55 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" 51#	63'	63'	60 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	459'	459'	637 Cu. Ft. Class A
Inspector: David Cowan	9 5/8" 36#	2,574'	2,574'	1,048 Cu. Ft. Class A
Date Permit Issued: 9/25/2012	5 1/2" 20#	12,652'	12,652'	3,052 Cu. Ft. Class H
Date Well Work Commenced: 11/19/2012				
Date Well Work Completed: 1/22/2013	2 3/8" 4.7#	6,473'		
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): 6359' TVD (Deepest Point Drilled)				
Total Measured Depth (ft): 12,663' MD, 6277' TVD (BHL)				
Fresh Water Depth (ft.): 290'				
Salt Water Depth (ft.): None available				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): No coal layers observed				
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) 6315' (TOP)

Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d

Final open flow 4,954 MCF/d Final open flow --- Bbl/d

Time of open flow between initial and final tests --- Hours

Static rock Pressure 3000 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 & Gas

SEP 03 2013

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 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.

Ashley Mahalan
Signature

8/27/13
Date

11/08/2013

85.09978

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

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:

Perforated: 6,483-12,586 (1,152 Holes)

Frac'd w/ 9000 gals 15% HCL Acid, 173,626 bbls Slick Water carrying 824,760# 100 mesh

3,455,900# 40/70 sand and 1,900,830# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s):

Formations Encountered:	Top Depth	Bottom Depth
Surface:		
Big Lime	1890'	1981'
Big Injun	1982'	2240'
Weir	2241'	2399'
Berea	2400'	2517'
Gantz Sand	2518'	2794'
Gordon	2795'	2881'
Fifth Sandstone	2882'	3026'
Bayard	3027'	3805'
Speechley	3806'	3996'
Balltown	3997'	4449'
Bradford	4450'	4812'
Benson	4813'	5049'
Alexander	5050'	5621'
Rhinestreet	5622'	5994'
Sycamore SS	5995'	6154'
Middlesex Shale	6155'	6264'
Burket Shale	6265'	6295'
Tully LS	6296'	6314'
Marcellus	6315'	

RECEIVED
Office of Oil & Gas

SEP 03 2013

WV Department of
Environmental Protection
11/08/2013

85.09978

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	1/29/2013
State	West Virginia
County	Ritchie
API Number	47-085-09978
Operator Name	Antero Resources
Well Name and Number	Pullman Unit 2H
Longitude	-80.9301917
Latitude	39.7809611
Long/Lat Projection	NAD27
Production Type	Gas
True Vertical Depth (TVD)	6,277
Total Water Volume (gal)*	7,299,096

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	7732-18-5	100.00%	89.52901%	
Hydrochloric Acid 10-15%	Reagent		Hydrochloric Acid	7647-01-0	15.00%	0.01986%	
100 Mesh	US Silica		Sand	14808-60-7	100.00%	1.38359%	
40/70 White	US Silica		Sand	14808-60-7	100.00%	5.67369%	
20/40 White	US Silica		Sand	14808-60-7	100.00%	3.12067%	
Sodium Persulfate	Chemplex		Sodium Persulfate	7775-27-1	100.00%		
Ferriplex 66	Chemplex		Acetic Acid	64-19-7	50.00%	0.00013%	
			Citric Acid	77-92-9	30.00%	0.00008%	
			Water	7732-18-5	35.00%	0.00009%	
Plexbreak 145	Chemplex		Cocamide Diethanolamine Salt	68603-42-9	10.00%	0.00005%	
			Diethanolamine	111-42-2	5.00%	0.00002%	
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00%	0.00007%	
			Methyl Alcohol	67-56-1	15.00%	0.00007%	
			Water	732-18-5	66.00%	0.00030%	
			Alcohol Ethoxylate Surfactants	Trade Secret	30.00%	0.00012%	
Plexhid 250	Chemplex		Methyl Alcohol	67-56-1	70.00%	0.00029%	
			n-olefins	Trade Secret	10.00%	0.00004%	
			Propargyl Alcohol	107-19-7	8.00%	0.00003%	
			thiourea-formaldehyde copolymer	68527-49-1	30.00%	0.00012%	
Plexaid 67	Chemplex		Methyl Alcohol	67-56-1	25.00%	0.00365%	
			Sodium Salt of Phosphonodimethylated Diamine	Trade Secret	5.00%	0.00073%	
			Water	7732-18-5	85.00%	0.01240%	
			Water	7732-18-5	90.00%	0.00248%	
			Glutaraldehyde	111-30-8	14.00%	0.00039%	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00%	0.00008%	

RECEIVED
 Office of Oil & Gas
 SEP 05 2013
 WV Department of Environmental Protection
 11/08/2013