

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: 8/29/2013
API #: 47-033-05647

Farm name: Consolidation Coal Co. Operator Well No.: Thrash Unit 1H

LOCATION: Elevation: 1,089' Quadrangle: West Milford

District: Union County: Harrison
Latitude: 6227 Feet South of 39 Deg. 12 Min. 30 Sec.
Longitude 4371' Feet West of 80 Deg. 27 Min. 30 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#	56'	56'	54 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 48#	585'	585'	813 Cu. Ft. Class A
Inspector: Sam Ward	9-5/8" 36#	2,552'	2,552'	1039 Cu. Ft. Class A
Date Permit Issued: 9/25/2012	5-1/2" 20#	13,980'	13,980'	3418 Cu. Ft. Class H
Date Well Work Commenced: 11/5/2012				
Date Well Work Completed: 3/19/2013	2-3/8" 4.7#	6,975'		
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): 6908' TVD				
Total Measured Depth (ft): 13,991' MD				
Fresh Water Depth (ft.): 196'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 125', 500'				
Void(s) encountered (N/Y) Depth(s) N, N/A				

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OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6,811' TVD (Top)
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 5,559 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

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 Mahalcu
Signature

8/29/13
Date

11/08/2013

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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/ Compensated Neutron/Gamma Ray, Dual Lateral, and 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: 7,067' - 13,917' MD (1,440 holes)

Frac'd w/ 11,000 gals 15% HCL Acid, 146,750 bbls Slick Water carrying 757,642# 100 mesh, 2,853,590# 40/70 sand and 1,668,960# 20/40 sand.

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

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Big Lime	1517'	1625'
Big Injun	1626'	1995'
Fifty Foot Sandstone	1996'	2072'
Gordon	2073'	2327'
Fifth Sandstone	2328'	2392'
Bayard	2393'	3076'
Speechley	3077'	3342'
Balltown	3343'	3856'
Bradford	3857'	4423'
Benson	4424'	4639'
Alexander	4640'	4776'
Elk	4777'	5361'
Rhinestreet	5362'	6160'
Sycamore	6161'	6429'
Middlesex Shale	6430'	6599'
Burket Shale	6600'	6627'
Tully LS	6628'	6740'
Hamilton Shale	6741'	6810'
Marcellus	6811'	6908' TVD

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	3/19/2013
State:	West Virginia
County:	Harrison
API Number:	47-033-05666
Operator Name:	Antero Resources
Well Name and Number:	Thrash Unit 2H
Longitude:	-80.4801028
Latitude:	39.1961556
Long/Lat Projection:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	6,894
Total Water Volume (gal)*:	6,175,722

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%	89.15844%	
Hydrochloric Acid 10-15%	Reagent		Hydrochloric Acid	7647-01-0	15.00%	0.02738%	
100 Mesh	US Silica	Proppant	Sand	14808-60-7	100.00%	1.51518%	
40/70 White	US Silica	Proppant	Sand	14808-60-7	100.00%	5.62305%	
20/40 White	US Silica	Proppant	Sand	14808-60-7	100.00%	3.51253%	
Sodium Persulfate	Chemplex	Scale Inhibitor	Sodium Persulfate	7775-27-1	100.00%	0.00143%	
Ferriplex 66	Chemplex	Iron Control	Acetic Acid	64-19-7	50.00%	0.00019%	
			Citric Acid	77-92-9	30.00%	0.00011%	
			Water	7732-18-5	35.00%	0.00013%	
Plexbreak 145	Chemplex	Surfactant	Cocamide Diethanolamine Salt	68603-42-9	10.00%	0.00006%	
			Diethanolamine	111-42-2	5.00%	0.00003%	
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00%	0.00010%	
			Methyl Alcohol	67-56-1	15.00%	0.00010%	
			Water	732-18-5	66.00%	0.00042%	
Plexhib 256	Chemplex	Corrosion Inhibitor	Alcohol Ethoxylate Surfactants	Trade Secret	30.00%	0.00017%	
			Methyl Alcohol	67-56-1	70.00%	0.00040%	
			n-olefins	Trade Secret	10.00%	0.00006%	
			Propargyl Alcohol	107-19-7	8.00%	0.00005%	
			thiourea-formaldehyde copolymer	68527-49-1	30.00%	0.00017%	
Plexaid 673	Chemplex	Scale Inhibitor	Methyl Alcohol	67-56-1	25.00%	0.00361%	
			Sodium Salt of Phosphonodimethylated Diamine	Trade Secret	5.00%	0.00072%	
			Water	7732-18-5	85.00%	0.01228%	
Plexicide 15G	Chemplex	Biocide	Water	7732-18-5	90.00%	0.02200%	
			Glutaraldehyde	111-30-8	14.00%	0.00342%	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00%	0.00073%	

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