

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: 9/3/2013
API #: 47-017-06120

Farm name: David Thompson, et al Operator Well No.: Thomas Unit 1H

LOCATION: Elevation: 1,269' Quadrangle: Folsom 7.5'

District: McClellan County: Doddridge
Latitude: 4.861' Feet South of 39 Deg. 25 Min. 00 Sec.
Longitude 11.716 Feet West of 80 Deg. 32 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#	40'	40'	38 Cu Ft Class A
Agent: CT Corporation System	13 3/8" 48#	417'	417'	579 Cu Ft Class A
Inspector: Douglas Newlon	9 5/8" 36#	2,614'	2,614'	1,064 Cu Ft Class A
Date Permit Issued: 9/25/2012	5 1/2" 20#	13,451'	13,451'	3,260 Cu Ft Class H
Date Well Work Commenced: 11/27/2012				
Date Well Work Completed: 4/12/2013	2 3/8" 4.7#	7635'		
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): 7507' TVD				
Total Measured Depth (ft): 13,451' MD				
Fresh Water Depth (ft.): 349'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? N				
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) 7414' (TOP)

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

Final open flow 9,228 MCF/d Final open flow --- Bbl/d

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

Static rock Pressure 3800 psig (surface pressure) after --- Hours

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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

Office of Oil and Gas
WV Dept. 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.

Kaitlin Buck
Signature

9/12/13
Date

11/08/2013

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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. Antaro only runs wireline logs on the first well on a multi-well pad (Kemper Unit 1H API# 47-017-08117). Please reference the wireline logs submitted with Form WR-35 for Kemper Unit 1H.

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: 7,832- 13,395 (1,080 Holes)

Frac'd w/ 8,500 gals 15% Acid, 113,681 bbls Slick Water carrying 601,700# 100 mesh, 2,337,710# 40/70 sand and 1,452,960 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	2236'	2340'
Big Injun	2341'	2680'
Gantz Sand	2681'	2769'
Fifty Foot Sandstone	2770'	2976'
Gordon	2977'	3317'
Fifth Sandstone	3318'	3356'
Bayard	3357'	3989'
Speechley	3990'	4302'
Balltown	4303'	4609'
Bradford	4610'	5330'
Benson	5331'	5596'
Alexander	5597'	5809'
Elk	5810'	6418'
Rhinestreet	6419'	6874'
Sycamore	6875'	7100'
Middlesex	7101'	7254'
Burkett	7255'	7280'
Tully	7281'	7364'
Hamilton	7365'	7413'
Marcellus	7414'	7507' TVD

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	4/9/2013
State:	WV
County:	Doddridge
API Number:	47-017-06120
Operator Name:	Antero Resources
Well Name and Number:	Thomas 1H
Longitude:	-80.5588639
Latitude:	39.3845
Long/Lat Projection:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	7,507
Total Water Volume (gal):	4,774,602

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
AI-300	U.S. Well Services, LLC	Acid Corrosion Inhibitors	2-Butoxyethanol	111-76-2	7.00%	0.00002%	
			Cinnamaldehyde	104-55-2	5.00%	0.00002%	
			Ethoxylated Nonylphenol	68412-54-4	5.00%	0.00002%	
			Ethylene Glycol	107-21-1	31.00%	0.00011%	
			Isopropyl Alcohol	67-63-0	3.00%	0.00001%	
			N,N-Dimethylformamide	68-12-2	15.00%	0.00004%	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	13.00%	0.00004%	
			Triethyl Phosphate	78-40-0	3.00%	0.00001%	
			Water	7732-18-5	20.00%	0.00006%	
			2,2-dibromo-3-nitriropropionamide	10222-01-2	20.00%	0.00451%	
Bioclear 2000	U.S. Well Services, LLC	Anti-Bacterial Agent					
		Gelling Agents	Deionized Water	7732-18-5	28.00%	0.00257%	
LGC-15	U.S. Well Services, LLC		Guar Gum	9000-30-0	50.00%	0.00458%	
			Petroleum Distillates	64742-47-8	60.00%	0.06887%	
			Surfactant	68439-51-0	3.00%	0.06887%	
			Suspending agent (solid)	14808-60-7	3.00%	0.06887%	
			Ammonium Persulfate	7727-54-0	100.00%	0.00120%	
AP-One	U.S. Well Services, LLC	Gel Breakers					
WFA-405	U.S. Well Services, LLC	Friction Reducer	Anionic Polyacrylamide	Proprietary	Proprietary		
			Ethoxylated alcohol blend	Proprietary	5.00%	0.00250%	
			Water	7732-18-5	40.00%	0.02003%	

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