

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: 4/1/2014
API #: 47-033-05710

PM

JR

Farm name: Corder, Gerald and Louella Operator Well No.: Clark Unit 1H

LOCATION: Elevation: 1,405' Quadrangle: Big Isaac

District: Union County: Harrison
Latitude: 3,527' Feet South of 39 Deg. 15 Min. 00 Sec.
Longitude 10,026' 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" 51#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	377'	377'	524 Cu. Ft. Class A
Inspector: Sam Ward	9 5/8" 36#	2,547'	2,547'	1,037 Cu. Ft. Class A
Date Permit Issued: 1/29/2013	5 1/2" 20#	17,017'	17,017'	4,258 Cu. Ft. Class H
Date Well Work Commenced: 5/18/2013				
Date Well Work Completed: 12/19/2013	2 3/8" 4.7#	7,711'		
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): 7544' TVD (Deepest Point Drilled)				
Total Measured Depth (ft): 17,017' MD, 7482' TVD (BHL)				
Fresh Water Depth (ft.): 100'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 333', 625', 930'				
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) 7382' (TOP)

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

Final open flow WOPL 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

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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

4/2/2014
Date

05/30/2014

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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- CBL

This is a subsequent well. Antero only runs wireline logs on the first well on a multi-well pad (Cleta Unit 2H API#47-033-05651). Please reference the wireline logs submitted with Form WR-35 for Cleta Unit 2H.

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: 7836'-16,922' (2700 Holes)

Frac'd w/ 25,000 gals 15% HCL Acid, 263,712 bbls Slick Water carrying 652,310# 100 mesh, 5,529,506# 40/70 sand and 3,419,686# 20/40 sand.

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

Formations Encountered:	Top Depth	/	Bottom Depth
Surface:			
Big Lime	est. 2280'		2379'
Big Injun	est. 2380'		2682'
Gantz Sand	est. 2683'		2822'
Fifty Foot Sandstone	est. 2823'		2895'
Gordon	est. 2896'		3069'
Fifth Sandstone	est. 3070'		3111'
Bayard	est. 3112'		3887'
Speechley	est. 3888'		4142'
Balltown	est. 4143'		4677'
Bradford	est. 4678'		5192'
Benson	est. 5193'		5369'
Alexander	est. 5370'		5519'
Elk	est. 5520'		6798'
Sycamore	est. 6799'		7039'
Middlesex	7040'		7187'
Burkett	7188'		7215'
Tully	7216'		7325'
Hamilton	7326'		7381'
Marcellus	7382'		7544' TVD

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/6/2013
Job End Date:	12/19/2013
State:	West Virginia
County:	Harrison
API Number:	47-033-05710-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Clark Unit 1H
Longitude:	-80.55370560
Latitude:	39.22236110
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,544
Total Base Water Volume (gal):	11,318,958
Total Base Non Water Volume:	0



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	Operator	Carrier	Water	7732-18-5	100.00000	90.65317	
Sand, White, 40/70	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00000	5.38047	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00000	2.88321	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00000	0.60895	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Water	7732-18-5	85.00000	0.20128	SmartCare Product
			Hydrochloric Acid	7647-01-0	15.00000	0.03552	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	Guar Gum	9000-30-0	60.00000	0.05088	SmartCare Product
			Paraffinic Petroleum Distillate	64742-55-8	30.00000	0.02544	SmartCare Product
			Petroleum Distillates	64742-47-8	30.00000	0.02544	SmartCare Product
			Isotridecanol, ethoxylated	9043-30-5	5.00000	0.00424	SmartCare Product
			1-butoxy-2-propanol	5131-66-8	5.00000	0.00424	SmartCare Product
			Crystalline Silica: Quartz	14808-60-7	5.00000	0.00424	SmartCare Product
FRW-18	Baker Hughes	Friction Reducer					

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			Petroleum Distillates	64742-47-8	30.00000	0.01671	SmartCare Product
Enzyme G-NE	Baker Hughes	Breaker					
			Water	7732-18-5	95.00000	0.01147	SmartCare Product
			Hemicellulase Enzyme Concentrate	9025-56-3	5.00000	0.00060	SmartCare Product
Alpha 1427	Baker Hughes	Biocide					
			Glutaraldehyde	111-30-8	30.00000	0.00661	SmartCare Product
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	10.00000	0.00220	SmartCare Product
			Quaternary Ammonium Compound	68424-85-1	5.00000	0.00110	SmartCare Product
			Ethanol	64-17-5	5.00000	0.00110	SmartCare Product
Scaletrol 720	Baker Hughes	Scale Inhibitor					
			Ethylene Glycol	107-21-1	30.00000	0.00465	SmartCare Product
			Calcium Chloride	10043-52-4	5.00000	0.00078	SmartCare Product
Ferrotrol 300L	Baker Hughes	Iron Control					
			Citric Acid	77-92-9	60.00000	0.00093	SmartCare Product
CI-14	Baker Hughes	Corrosion Inhibitor					
			Methanol	67-56-1	100.00000	0.00036	SmartCare Product
			Polyoxyalkylenes	Trade Secret	30.00000	0.00011	SmartCare Product
			Fatty Acids	Trade Secret	10.00000	0.00004	SmartCare Product
			Olefin	Trade Secret	5.00000	0.00002	SmartCare Product
			Propargyl Alcohol	107-19-7	5.00000	0.00002	SmartCare Product
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.							
		Other Chemicals					
			Water	7732-18-5		0.04960	
			Poly (acrylamide-co-acrylic acid)	Trade Secret		0.01671	
			Polyacrylate	Trade Secret		0.00310	
			Salt	Trade Secret		0.00279	
			Sorbitan Monooleate	Trade Secret		0.00279	
			Ethoxylated Alcohol	Trade Secret		0.00111	
			2-butoxy-1-propanol	15821-83-7		0.00008	
			Modified Thiorea Polymer	68527-49-1		0.00003	
			Potassium Chloride	7447-40-7		0.00001	
			Sodium Chloride	7647-14-5		0.00000	
			Formaldehyde	50-00-0		0.00000	
			Hydrochloric Acid	7647-01-0		0.00000	

* 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)