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: 12/16/2013
API #: 47-033-05651

*Updated per request of the WVDEP

Farm name: Kovar, Steve C. Jr. Operator Well No.: Cleta Unit 2H

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

District: Union County: Harrison
Latitude: 15,289' Feet South of 39 Deg. 15 Min. 00 Sec.
Longitude 9905' Feet West of 80 Deg. 30 Min. 00 Sec.

Company: Antero Resources Corporation

Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 54.5#	628'	628'	872 Cu. Ft. Class A
Inspector: Sam Ward	9 5/8" 36#	2,544'	2,544'	1036 Cu. Ft. Class A
Date Permit Issued: 8/6/2012	5 1/2" 20#	16,219'	16,219'	4036 Cu. Ft. Class H
Date Well Work Commenced: 9/28/2012				
Date Well Work Completed: 2/13/2013	2 3/8" 4.7#	7,550'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary ☑ Cable ☐ Rig ☐				
Total Vertical Depth (ft): 7453' TVD (deepest point drilled)				
Total Measured Depth (ft): 16,219' MD, 7,343' TVD (BHL)				
Fresh Water Depth (ft.): 360'				
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) 7,365' (Top)
Gas: Initial open flow ------ MCF/d Oil: Initial open flow ---- Bbl
Final open flow 10,076 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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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.

Signature

12/16/13
Date

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Were core samples taken? Yes_____ No X_____ Were cuttings caught during drilling? Yes X_____ No_____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes- CBL/ Radial Bond Long, Photo Density/Compensated Neutron, Dual Laterolog.

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: 7,738' - 16,155' MD (1,512 holes)

Frac'd w/ 11,000 gals 15% HCL Acid, 223,559 bbls Slick Water carrying 1,360,900# 100 mesh, 5,044,000# 40/70 sand and 2,491,600# 20/40 sand.

Plug Back Details Including Plug Type and Depth(s): N/A - *There is no plug in this well; however, during drilling of the lateral, a decision was made to sidetrack due to being high in well and not being able to slide wellbore down effectively. This is an open-hole sidetrack in the horizontal lateral.

Formations Encountered: Surface:	Top Depth /	Bottom Depth
Big Lime	2282'	2386'
Big Injun	2387'	2686'
Gantz Sand	2687'	2819'
Fifty Foot Sandstone	2820'	2895'
Gordon	2896'	3074'
Fifth Sandstone	3075'	3112'
Bayard	3113'	3889'
Speechley	3890'	4142'
Balltown	4143'	4677'
Bradford	4678'	5191'
Benson	5192'	5370'
Alexander	5371'	5520'
Elk	5521'	6798'
Sycamore	6799'	7023'
Middlesex Shale	7024'	7177'
Burkett	7178'	7208'
Tully Hamilton	7209'	7308'
Hamilton Shale	7309'	7364'
Marcellus	7365'	7453' TVD

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	1/30/2013
State:	West Virginia
County:	Harrison
API Number:	47-033-05651
Operator Name:	Antero Resources
Well Name and Number:	Cleta Unit 2H
Longitude:	-80.5535722
Latitude:	39.2223278
Long/Lat Projection:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	7,343
Total Water Volume (gal)*:	9,381,960

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	ANTERO RESOURCES	Water	Water	7732-18-5	100.00%	89.55600%	
HCL Acid (12.5%-18.0%)	Nabors Completion and Production Services	Bulk Acid	Hydrogen Chloride	7647-01-0	18.00%	0.02060%	
HCL Acid (12.5%-18.0%)	Nabors Completion and Production Services	Bulk Acid	Water	7732-18-5	87.50%	0.09990%	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors	Ethoxylated Nonylphenol	68412-54-4	13.00%	0.00003%	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors	Glycol Ethers	111-46-6	20.00%	0.00004%	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors	Isopropyl Alcohol	67-63-0	15.00%	0.00003%	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors	Propargyl Alcohol	107-19-7	20.00%	0.00004%	

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Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors	Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00%	0.00002%	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors	Water	7732-18-5	40.00%	0.00008%	
KR-153SL	Nabors Completion and Production Services	Biocides	2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00%	0.00279%	
KR-153SL	Nabors Completion and Production Services	Biocides	Water	7732-18-5	80.00%	0.01110%	
WFR-3B	Nabors Completion and Production Services	Friction Reducer	Ethoxylated alcohols	68551-12-2	15.00%	0.00800%	
WFR-3B	Nabors Completion and Production Services	Friction Reducer	Ethoxylated oleylamine	26635-93-8	5.00%	0.00267%	
WFR-3B	Nabors Completion and Production Services	Friction Reducer	Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8	50.00%	0.02670%	
WFR-3B	Nabors Completion and Production Services	Friction Reducer	Microparticle	Proprietary	1.00%	0.00053%	
WFR-3B	Nabors Completion and Production Services	Friction Reducer	Polyacrylamide	57-55-6	40.00%	0.02130%	
WFR-3B	Nabors Completion and Production Services	Friction Reducer	Propylene glycol	57-55-6	15.00%	0.00800%	
WFR-3B	Nabors Completion and Production Services	Friction Reducer	Water	7732-18-5	40.00%	0.02130%	
EB-4L	Nabors Completion and Production Services	Gel Breakers	Breaker Component	Proprietary	Proprietary	0.00047%	
EB-4L	Nabors Completion and Production	Gel Breakers	Cellulase enzyme	Proprietary	Proprietary	0.00047%	

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	Services						
EB-4L	Nabors Completion and Production Services	Gel Breakers	Demulsifier Base	Proprietary	Proprietary	0.00047%	
EB-4L	Nabors Completion and Production Services	Gel Breakers	Ethylene Glycol	107-21-1	25.00%	0.00012%	
EB-4L	Nabors Completion and Production Services	Gel Breakers	Sugar	57-50-1	Proprietary	0.00047%	
EB-4L	Nabors Completion and Production Services	Gel Breakers	Water	7732-18-5	Proprietary	0.00047%	
OB-2	Nabors Completion and Production Services	Gel Breakers	Ammonium Persulfate	7727-54-0	100.00%	0.00957%	
OB-2	Nabors Completion and Production Services	Gel Breakers	Sillica, crystalline quartz	7631-86-9	10.00%	0.00096%	
OB-2	Nabors Completion and Production Services	Gel Breakers	vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00%	0.00191%	
LSG-100L	Nabors Completion and Production Services	Gelling Agents	Crystalline Silica (in the form of quartz)	14808-60-7	2.00%	0.00111%	
LSG-100L	Nabors Completion and Production Services	Gelling Agents	guar gum	9000-30-0	50.00%	0.02780%	
LSG-100L	Nabors Completion and Production Services	Gelling Agents	Organophylic Clay	68953-58-2	0.00%	0.00000%	
LSG-100L	Nabors Completion and Production Services	Gelling Agents	Petroleum Distillates	64742-47-8	70.00%	0.03890%	
LSG-100L	Nabors Completion and Production Services	Gelling Agents	Surfactant	68439-51-0	2.00%	0.00111%	
Super TSC-LT	Nabors Completion and	Paraffin & Scale Additives	Proprietary	Proprietary	15.00%	0.00213%	

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	Production Services						
Super TSC-LT	Nabors Completion and Production Services	Paraffin & Scale Additives	Proprietary	Proprietary	15.00%	0.00213%	
Super TSC-LT	Nabors Completion and Production Services	Paraffin & Scale Additives	Proprietary	Proprietary	15.00%	0.00213%	
Super TSC-LT	Nabors Completion and Production Services	Paraffin & Scale Additives	Proprietary	Proprietary	50.00%	0.00711%	
Super TSC-LT	Nabors Completion and Production Services	Paraffin & Scale Additives	Water	7732-18-5	60.00%	0.00853%	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Aluminum Oxide	1344-28-1	1.10%	0.01710%	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90%	1.55610%	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Iron Oxide	1309-37-1	0.10%	0.00156%	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Titanium Oxide	13463-67-7	0.10%	0.00156%	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Aluminum Oxide	1344-28-1	1.10%	0.03140%	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90%	2.84890%	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Iron Oxide	1309-37-1	0.10%	0.00285%	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Titanium Oxide	13463-67-7	0.10%	0.00285%	
WV Specific 40/70 mesh Sand	Nabors Completion	Sand - Bulk - West Virginia	Aluminum Oxide	1344-28-1	1.10%	0.06350%	

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	and Production Services						
WV Specific 40/70 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90%	5.76730%	
WV Specific 40/70 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Iron Oxide	1309-37-1	0.10%	0.00577%	
WV Specific 40/70 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Titanium Oxide	13463-67-7	0.10%	0.00577%	

* 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%

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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ANTERO RESOURCES

Antero Resources
Cleta Unit 2H
Harrison County West Virginia
Northing: 14243197.74
Easting: 1766849.62
Sidetrack Wellpath

WELL DETAILS: Cleta Unit 2H

Ground Level: 1405.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	14243197.74	1766849.62	39° 13' 20.375 N	80° 33' 12.857 W	

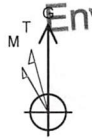
PROJECT DETAILS: Harrison County West Virginia

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 17N (84 W to 78 W)

System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Cleta Unit 2H, Grid North
Vertical (TVD) Reference: Cleta Unit 2H 1405' GL + 27' KB @ 1432.0usft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: Cleta Unit 2H 1405' GL + 27' KB @ 1432.0usft (Original Well Elev)
Calculation Method: Minimum Curvature



To convert Magnetic North to Grid, Subtract 8.84°
To convert True North to Grid, Subtract 0.28°

Azimuths to Grid North
True North: -0.28°
Magnetic North: -8.84°

Magnetic Field
Strength: 52429.2snT
Dip Angle: 66.88°
Date: 11/1/2012
Model: IGRF2010

LEGEND

- Cleta Unit 1H, Original Wellpath, As Drilled V0
- Cleta Unit 2H, Sidetrack Wellpath, Plan 2 ST1 V0
- Cleta Unit 2H, Original Wellpath, Original Wellpath V0
- Sidetrack Wellpath

Genie Lightfoot
11:46, July 18 2013

Scientific Drilling

Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK

Well Location Coordinates **(NAD 83)**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Cleta Unit 2H	0.0	0.0	0.0	14243197.74	1766849.62	39° 13' 20.375 N	80° 33' 12.857 W
Actual BHL Cleta Unit 2H ST1	7342.8	-4347.3	7969.41	14238850.45	1774819.01	39° 12' 36.991 N	80° 31' 31.847 W
Actual BHL Cleta Unit 2H OH	7421.0	-1539.6	3807.71	14241658.14	1770657.36	39° 13' 4.964 N	80° 32' 24.556 W
SHL (UTM meters)				4,341,553.726m		538,551.456m	
BHL (UTM meters)				4,340,252.490m		540,942.470m