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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: 8/8/2013
API #: 47-017-06180

Farm name: Richard E. & Wilma J. Marsden et al Operator Well No.: Flossie Unit 1H

LOCATION: Elevation: 971' Quadrangle: Big Isaac 7.5'

District: Greenbrier County: Doddridge
Latitude: 4.357 Feet South of 39 Deg. 15 Min. 00 Sec.
Longitude 1.089 Feet West of 80 Deg. 35 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" 94#	105'	105'	100 Cu Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	365'	365'	507 Cu Ft. Class A
Inspector: Douglas Newlon	9 5/8" 36#	2,519'	2,519'	1025 Cu Ft. Class A
Date Permit Issued: 3/28/2013	5 1/2" 20#	14,514'	14,514'	3578 Cu Ft. Class H
Date Well Work Commenced: 4/12/2013				
Date Well Work Completed: 6/12/2013	2 3/8" 4.7#	7,271'		
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): 7119' TVD				
Total Measured Depth (ft): 14,514' MD				
Fresh Water Depth (ft.): 191'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 680'				
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) 7080' (TOP)

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

Final open flow 11,116 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:

Kaitlin Buck
Signature

12/6/13
Date

04/04/2014

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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 (Flossie Unit 2H API#47-017-06144). Please reference the wireline logs submitted with Form WR-35 for Flossie 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 7,329'- 14,459' (1,800 Holes)

Frac'd w/ 13,000 gals 15% HCL Acid, 153,362 bbls Slick Water carrying 728,230# 100 mesh, 2,815,310# 40/70 sand and 1,739,498# 20/40.

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

Formations Encountered: _____ Top Depth / _____ Bottom Depth
Surface:

Big Lime	est 1971'	2093'
Big Injun	est 2094'	2457'
Gantz Sand	est 2458'	2584'
Fifty Foot Sandstone	est 2585'	2674'
Gordon	est 2675'	2840'
Fifth Sandstone	est 2841'	2881'
Bayard	est 2882'	3364'
Speechley	est 3365'	3879'
Balltown	est 3880'	4361'
Bradford	est 4362'	4960'
Benson	est 4961'	5246'
Alexander	est 5247'	5436'
Elk	est 5437'	6014'
Rhinestreet	6015'	6521'
Sycamore	6522'	6731'
Middlesex	6732'	6915'
Burkett	6916'	6946'
Tully	6947'	7037'
Hamilton	7038'	7079'
Marcellus	7080'	7119' TVD

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Antero Resources
Flossie Unit 1H
Doddridge County WV
Northing: 14252125.91
Easting: 1754023.86
As Drilled

WELL DETAILS: Flossie Unit 1H
 Ground Level: 971.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	14252125.91	1754023.86	35° 14' 49.246 N	80° 35' 55.384 W	

PROJECT DETAILS: Doddridge County WV

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

Coordinate (NE) Reference: Well Flossie Unit 1H, Grid North
 Vertical (TVD) Reference: Flossie Unit 1H GL 971' + 24' RKB @ 995.0usft (Original Well Elev)
 Section (VS) Reference: Slot - (0.0N, 0.0E)
 Measured Depth Reference: Flossie Unit 1H GL 971' + 24' RKB @ 995.0usft (Original Well Elev)
 Calculation Method: Minimum Curvature

Genie Lightfoot
 15:31, September 06 2013

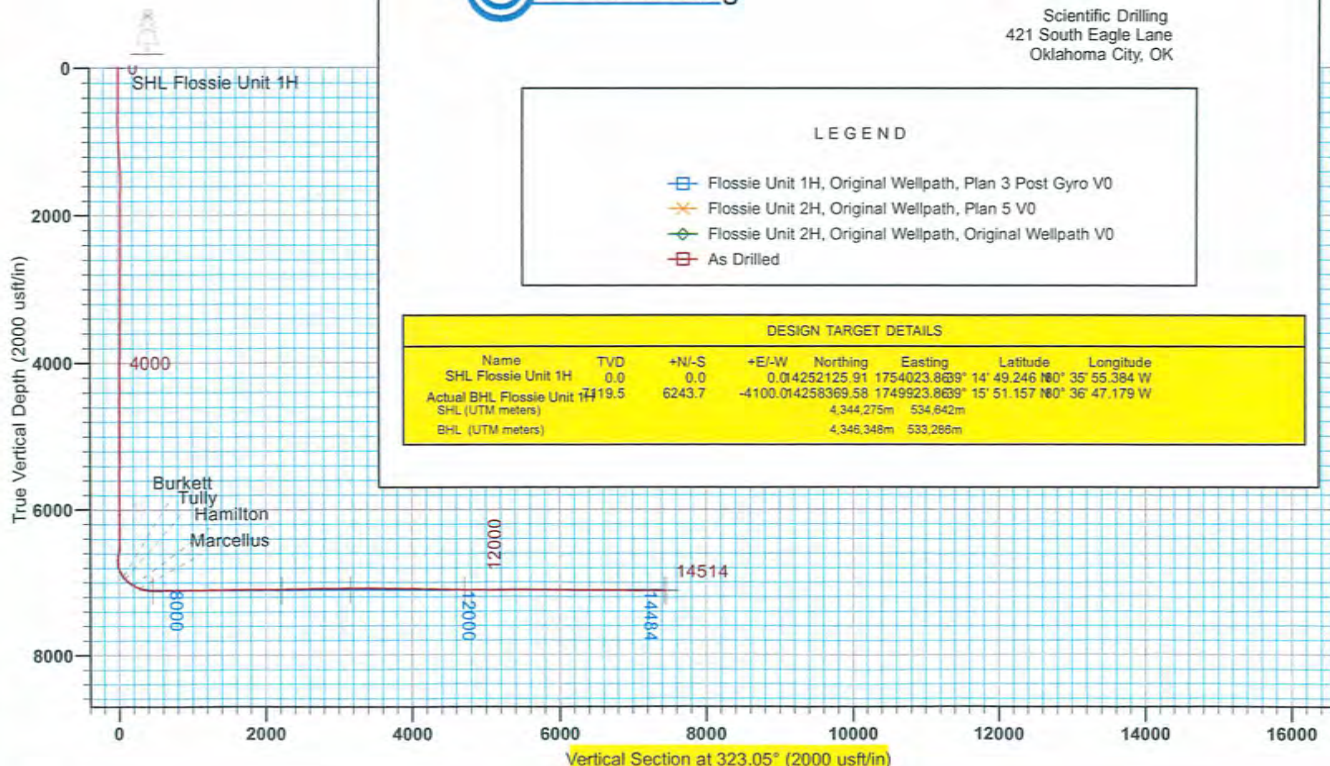
Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, OK

LEGEND

- Flossie Unit 1H, Original Wellpath, Plan 3 Post Gyro V0
- Flossie Unit 2H, Original Wellpath, Plan 5 V0
- Flossie Unit 2H, Original Wellpath, Original Wellpath V0
- As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Flossie Unit 1H	0.0	0.0	0.0	14252125.91	1754023.86	35° 14' 49.246 N	80° 35' 55.384 W
Actual BHL Flossie Unit 1H	1419.5	6243.7	-4100.0	14258369.58	1749923.86	35° 15' 51.157 N	80° 36' 47.179 W
SHL (UTM meters)				4,344,275m	534,642m		
BHL (UTM meters)				4,346,346m	533,286m		

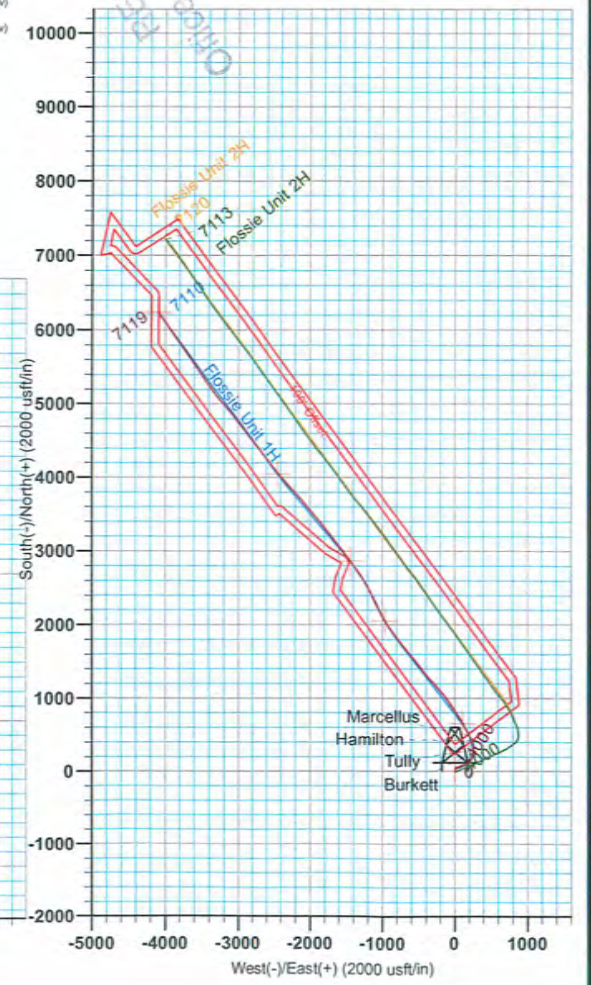


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Asimutha to Grid North
 True North: -0.25°
 Magnetic North: -8.80°

Magnetic Field
 Strength: 52400.2anT
 Dip Angle: 86.87°
 Date: 3/14/2013
 Model: IGRF2010

To convert Magnetic North to Grid, Subtract 8.80°
 To convert True North to Grid, Subtract 0.25°



17-06180

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/6/2013
Job End Date:	6/11/2013
State:	West Virginia
County:	Doddridge
API Number:	47-017-06180-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Flossie Unit 1H
Longitude:	-80.59876900
Latitude:	39.24701400
Datum:	NAD27
Federal/Tribal Well:	NO
Total Base Water Volume (gal):	6,666,240
Total Base Non Water Volume:	27,284



DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL & GAS
 WV Department of Environmental Protection

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	Water	7732-18-5	100.00000	89.53852	
40/70 White	US Silica	Proppant	Sand	14808-60-7	100.00000	5.47061	
20/40 White	US Silica	Proppant	Sand	14808-60-7	100.00000	3.38137	
100 Mesh	US Silica	Proppant	Sand	14808-60-7	100.00000	1.41649	
Beta M-4.0	PIP	Guar Gel	Petroleum Distillate	64742-47-8	55.00000	0.04948	
			Guar Gum	9000-30-0	50.00000	0.04498	
			Clay	1302-78-9	5.00000	0.00450	
			Surfactant	154518-36-2	1.00000	0.00090	
Plexslick 953	Chemplex	Friction Reducer	Water	7732-18-5	35.00000	0.02211	
			Polyacrylamide-co-acrylic acid	9003-06-9	32.00000	0.02021	
			Hydrotreated Petroleum Distillate	64742-47-8	30.00000	0.01895	
			Alcohol Ethoxylate Surfactants	proprietary	8.00000	0.00505	
Hydrochloric Acid 10-15%	Reagent	Acid					

17-0680

			Hydrchloric Acid	7647-01-0	15.00000	0.03503
Plexicide 15G	Chemplex	Biocide				
			Water	7732-18-5	90.00000	0.02414
			Glutaraldehyde	111-30-8	14.00000	0.00376
			Alkyl Dimethyl Benzyl Ammonium Chloride	68424-85-1	3.00000	0.00080
			Ethanol	64-17-5	3.00000	0.00080
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00080
Plexaid 673	Chemplex	Scale Inhibitor				
			Water	7732-18-5	85.00000	0.01272
			Methyl Alcohol	67-56-1	25.00000	0.00374
			Sodium Salt of Phosphonodimethylated Diamine	proprietary	5.00000	0.00075
Sodium Persulfate	Chemplex	Breaker				
			Sodium Persulfate	7775-27-1	100.00000	0.00141
Plexhib 256	Chemplex	Corrosion				
			Methyl Alcohol	67-56-1	70.00000	0.00051
			thiourea-formaldehyde copolymer	68527-49-1	30.00000	0.00022
			Alcohol Ethoxylate Surfactants	proprietary	30.00000	0.00022
			n-olefins	proprietary	10.00000	0.00007
			Propargyl Alcohol	107-19-7	8.00000	0.00006
Plexbreak 145	Chemplex	Non-emulsifier				
			Water	732-18-5	66.00000	0.00054
			Methyl Alcohol	67-56-1	15.00000	0.00012
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00000	0.00012
			Cocamide Diethanolamine Salt	68603-42-9	10.00000	0.00008
			Diethanolamine	111-42-2	5.00000	0.00004
Ferriplex 66	Chemplex	Iron Control				
			Acetic Acid	64-19-7	50.00000	0.00024
			Water	7732-18-5	35.00000	0.00017
			Citric Acid	77-92-9	30.00000	0.00014

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.

* 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)