

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: 7/25/2013
API #: 47-033-05616

Farm name: Mountain Lakes Limited Operator Well No.: Lewis Unit 3H

LOCATION: Elevation: 1386' Quadrangle: West Milford

District: Union County: Harrison
Latitude: 3.182' Feet South of 39 Deg. 15 Min. 00 Sec.
Longitude 9.638' 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#	44'	44'	42 Cu Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	545'	545'	757 Cu Ft. Class A
Inspector: Sam Ward	9 5/8" 36#	2667'	2667'	1,086 Cu Ft. Class A
Date Permit Issued: 5/22/2012	5 1/2" 20#	14,912'	14,912'	3,645 Cu Ft. Class H
Date Well Work Commenced: 12/22/2012				
Date Well Work Completed: 4/29/2013	2 3/8" 4.7#	7353'		
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): 7167' TVD (deepest point drilled)				
Total Measured Depth (ft): 14,912' MD, 7129' TVD (BHL)				
Fresh Water Depth (ft.): 280'				
Salt Water Depth (ft.): None Available				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 191', 274', 306'				
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) 7131' (Top)
Gas: Initial open flow --- MCF/d Oil: Initial open flow --- Bbl/d
Final open flow 12,960 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.

Kaitlin Buck
Signature

12/4/2013
Date

01/17/2014

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. Antero only runs logs on the first well on a multi-well pad (Kermit Unit 3H API# 47-033-05591). Please reference the wire line logs submitted with form WR-35 for Kermit Unit 3H.

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:

Perforated: 7,404'- 14,857' (1,368 Holes)

Frac'd w/ 10,000 gals 15% HCL acid, 202,771 bbls Slick Water carrying 1,124,300# mesh,

4,255,000# 40/70 sand and 2,483,300 20/40 sand.

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

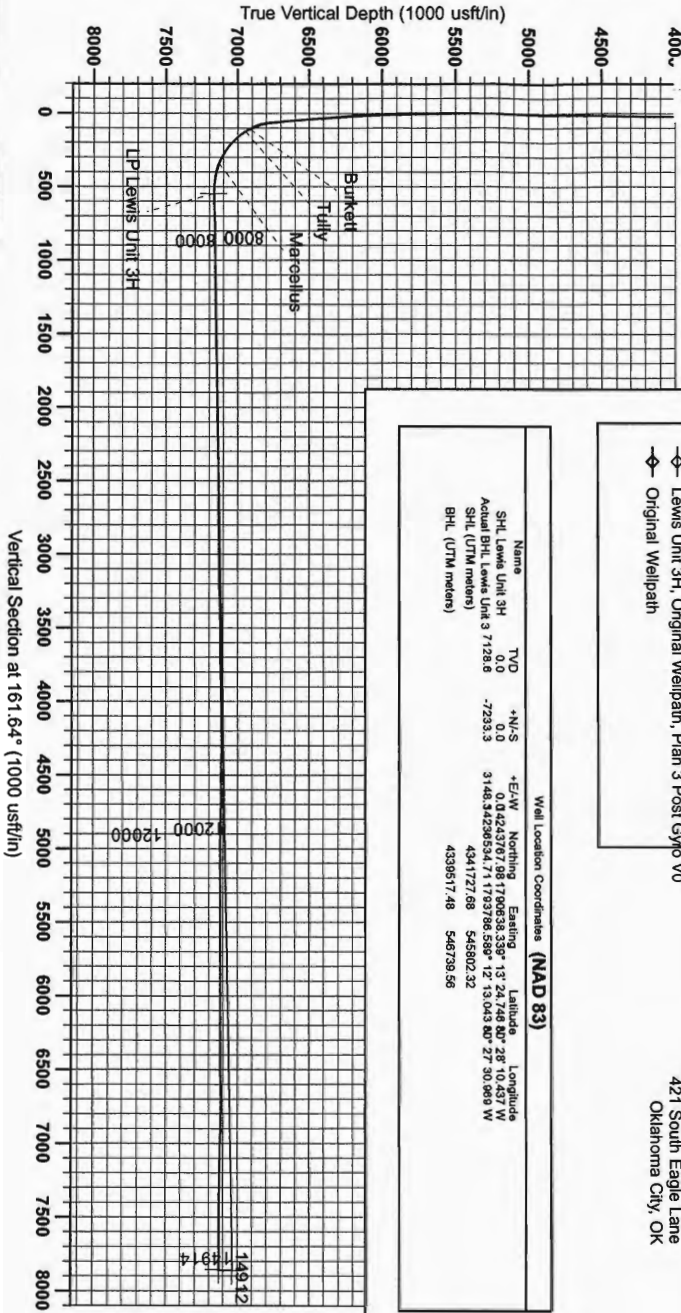
<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		
Big Lime	1772'	1868'
Big Injun	1869'	2153'
Gantz Sand	2154'	2257'
Fifty Foot Sandstone	2258'	2348'
Gordon	2349'	2670'
Fifth Sandstone	2671'	2711'
Bayard	2712'	3371'
Speechley	3372'	3635'
Balltown	3636'	4113'
Bradford	4114'	4700'
Benson	4701'	4895'
Alexander	4896'	6472'
Sycamore	6473'	6818'
West River	6819'	6910'
Burkett	6911'	6942'
Tully	6943'	7058'
Hamilton	7059'	
Marcellus	7131'	

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Antero Resources
 Lewis Unit 3H
 Harrison County West Virginia
 Northing: 14243767.98
 Easting: 1790638.33
 Original Wellpath



WELL DETAIL: Lewis Unit 3H

+N/S	+E/W	Northing	Ground Level	1988.0	Longitude
0.0	0.0	14243767.98	1790638.33	19° 24.746 N 28° 10.437 W	SH1

PROJECT DETAILS: Harrison County West Virginia
 Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1983 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (64 W to 72 W)
 System Datum: Mean Sea Level

REFERENCE INFORMATION
 Coordinate (N/E) Reference: Well Lewis Unit 3H, Grid North
 1988.0
 1790638.33
 19° 24.746 N 28° 10.437 W
 Meters (N/E) Reference: Well Lewis Unit 3H, Grid North
 1988.0
 1790638.33
 19° 24.746 N 28° 10.437 W
 System Datum: Mean Sea Level

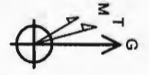
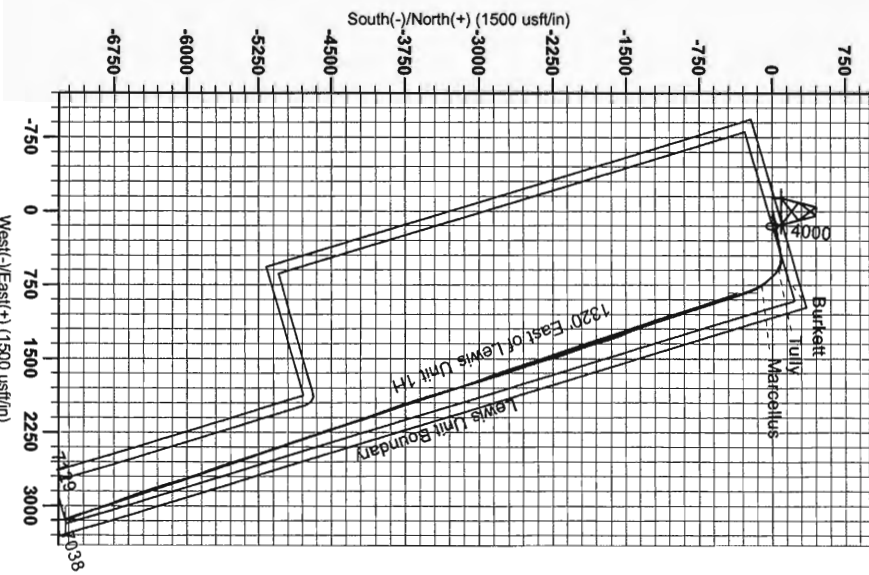
LEGEND

- ◊ Lewis Unit 3H, Original Wellpath, Plan 3 Post Gyro VO
- ◊ Original Wellpath

Scientific Drilling
 Genie Lightfoot
 9:36, July 18 2013
 421 South Eagle Lane
 Oklahoma City, OK

Well Location Coordinates (NAD 83)

Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude
SHL Lewis Unit 3H	0.0	0.0	0.0	0.0	0.0	19° 24.746 N	28° 10.437 W
Actual BHL Lewis Unit 3	7128.8	-7233.3	3148.5	4296534.7	17939786.5	39° 12' 13.043 N	80° 27' 30.069 W
SHL (UTM meters)				4341727.68	545802.32		
BHL (UTM meters)				4339517.48	546739.56		



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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/23/2013
Job End Date:	4/29/2013
State:	West Virginia
County:	Harrison
API Number:	47-033-05616-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Lewis Unit 3H
Longitude:	-80.469565390
Latitude:	39.22353890
Datum:	NAD27
Federal/Tribal Well:	NO
Total Base Water Volume (gal):	8,516,424
Total Base Non Water Volume:	

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	100.00000	89.55439	
WV Specific 40/70 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	5.47682	
			Aluminum Oxide	1344-28-1	1.10000	0.06031	
			Iron Oxide	1309-37-1	0.10000	0.00548	
			Titanium Oxide	13463-67-7	0.10000	0.00548	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	3.24332	
			Aluminum Oxide	1344-28-1	1.10000	0.03571	
			Titanium Oxide	13463-67-7	0.10000	0.00325	
			Iron Oxide	1309-37-1	0.10000	0.00325	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia	Crystalline Silica, quartz	14808-60-7	99.90000	1.45420	
			Aluminum Oxide	1344-28-1	1.10000	0.01601	
			Iron Oxide	1309-37-1	0.10000	0.00146	



WFR-3B	Nabors Completion and Production Services	Friction Reducer	Titanium Oxide	13463-67-7	0.10000	0.00146
			Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8	50.00000	0.03297
			Ethoxylated alcohols	88551-12-2	15.00000	0.00989
			Ethoxylated oleylamine	26635-93-8	5.00000	0.00330
LSG-100L	Nabors Completion and Production Services	Gelling Agents				
			Petroleum Distillates	64742-47-8	70.00000	0.03414
HCl Acid (12.5%-18.0%)	Nabors Completion and Production Services	Bulk Acid				
			Hydrogen Chloride	7647-01-0	18.00000	0.01987
OB-2	Nabors Completion and Production Services	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00768
			Silica, crystalline quartz	7631-86-9	10.00000	0.00077
KR-153SL	Nabors Completion and Production Services	Biocides				
			Polyethylene-Glycol	25322-68-3	50.00000	0.00425
			2,2-dibromo-3-nitropropionamide	10222-01-2	20.00000	0.00170
Super GREEN SOLV	Nabors Completion and Production Services	Paraffin & Scale Additives				
			BTEX Free Aliphatic Hydrocarbon	64742-96-7	100.00000	0.00489
EB-4L	Nabors Completion and Production Services	Gel Breakers				
			Breaker Component	Proprietary	100.00000	0.00038
			Demulsifier Base	Proprietary	100.00000	0.00038
			Cellulase enzyme	Proprietary	100.00000	0.00038
			Sugar	57-50-1	100.00000	0.00038
			Water	7732-18-5	100.00000	0.00038
			Ethylene Glycol	107-21-1	40.00000	0.00015
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors				
			Glycol Ethers	111-46-6	40.00000	0.00008
			Propargyl Alcohol	107-19-7	40.00000	0.00008
			Isopropyl Alcohol	67-63-0	40.00000	0.00008
			Ethoxylated Nonylphenol	88412-54-4	13.00000	0.00003
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00002

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 Ingredients	Nabors Completion and Production Services	Other Ingredients						
		Water	7732-18-5	87.50000	0.09661			
		Polyacrylamide	67-65-6	40.00000	0.02638			
		Water	7732-18-5	40.00000	0.02638			
		guar gum	9000-30-0	50.00000	0.02438			
		Propylene glycol	57-55-6	15.00000	0.00989			
		Water	7732-18-5	60.00000	0.00859			
		Proprietary	Proprietary	50.00000	0.00716			
		Water	7732-18-5	80.00000	0.00679			
		Proprietary	Proprietary	15.00000	0.00215			
		Proprietary	Proprietary	15.00000	0.00215			
		Proprietary	Proprietary	15.00000	0.00215			
		vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00000	0.00154			
		Crystalline Silica (in the form of quartz)	14808-60-7	2.00000	0.00098			
		Surfactant	68439-51-0	2.00000	0.00098			
		Microparticle	Proprietary	1.00000	0.00066			
		Water	7732-18-5	48.00000	0.00010			
		2-Butoxyethanol	111-76-2	13.00000	0.00003			
		Dioxane	123-91-1	1.00000	0.00000			
		Organophilic Clay	68963-68-2					

* 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)

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