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: 8/12/2013
API #: 47-017-~~0157~~ 06157

Farm name: Erwin, John F. Operator Well No.: Little Tom Unit 1H

LOCATION: Elevation: 1,227' Quadrangle: New Milton 7.5'

District: New Mitlon County: Doddridge
Latitude: 272' Feet South of 39 Deg. 12 Min. 30 Sec.
Longitude 10,958' Feet West of 80 Deg. 42 Min. 30 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" 48#	531'	531'	737 Cu Ft. Class A
Inspector: Douglas Newlon	9 5/8" 36#	2,517'	2,517'	1024 Cu Ft. Class A
Date Permit Issued: 12/26/2012	5 1/2" 20#	15,297'	15,297'	2253 Cu Ft. Class H
Date Well Work Commenced: 5/4/2012				
Date Well Work Completed: 7/14/2012	2 3/8" 4.7#	7,413'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary ☑ Cable ☐ Rig ☐				
Total Vertical Depth (ft): 7148' (Deepest Point Drilled)				
Total Measured Depth (ft): 15,297' MD, 7032' TVD (BHL)				
Fresh Water Depth (ft.): 240'				
Salt Water Depth (ft.): 780', 822'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 386'				
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) 7120' (TOP)
Gas: Initial open flow ---- MCF/d Oil: Initial open flow ---- Bbl/d
Final open flow 6,046 MCF/d Final open flow ---- Bbl/d
Time of open flow between initial and final tests ---- Hours
Static rock Pressure 3950 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

12/10/2013
Date

04/04/2014

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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 subsequant well. Antero only runs wireline logs on the first well on a multi-well pad (Tom's Fork Unit 2H API#47-017-06082). Please reference the wireline logs submitted with Form WR-35 for Tom's Fork 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: 7,485'- 15,242' (2952 Holes)

Frac'd w/ 21,000 gals 15% HCL acid, 247,713 bbls Slick Water carrying 1,124,200# 100 mesh, 4,361,600# 40/70 sand and 2,330,900# 20/40 sand.

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

Formations Encountered: Surface:	Top Depth	/	Bottom Depth
Big Lime	est 3362'		2343'
Big Injun	est 2344'		2750'
Fifty Foot Sandstone	est 2751'		2948'
Gordon	est 2949'		3306'
Fifth Sandstone	est 3307'		4131'
Balltown	est 4132'		4771'
Bradford	est 4772'		5230'
Benson	est 5231'		5487'
Alexander	est 5488'		6725'
Sycamore	6726'		6879
Middlesex	6880'		7012'
Burkett	7013'		7046'
Tully	7047'		7113'
Hamilton	7114'		7119'
Marcellus	7120'		7148' TVD

04/04/2014

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ANTERO RESOURCES

Antero Resources
Little Tom Unit 1H
Doddridge County WV
Northing: 14226969.89
Easting: 1722798.95
As Drilled

WELL DETAILS: Little Tom Unit 1H

Ground Level: 1227.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	14226969.89	1722798.95	39° 10' 41.691 N	80° 42' 33.457 W	

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Little Tom Unit 1H, Grid North
Vertical (TVD) Reference: Little Tom 1H 1227 GL + 25 KB @ 1252.0usft (Original Well Elev)
Section (VS) Reference: Slot - (0.0N, 0.0E)
Measured Depth Reference: Little Tom 1H 1227 GL + 25 KB @ 1252.0usft (Original Well Elev)
Calculation Method: Minimum Curvature

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

Scientific Drilling

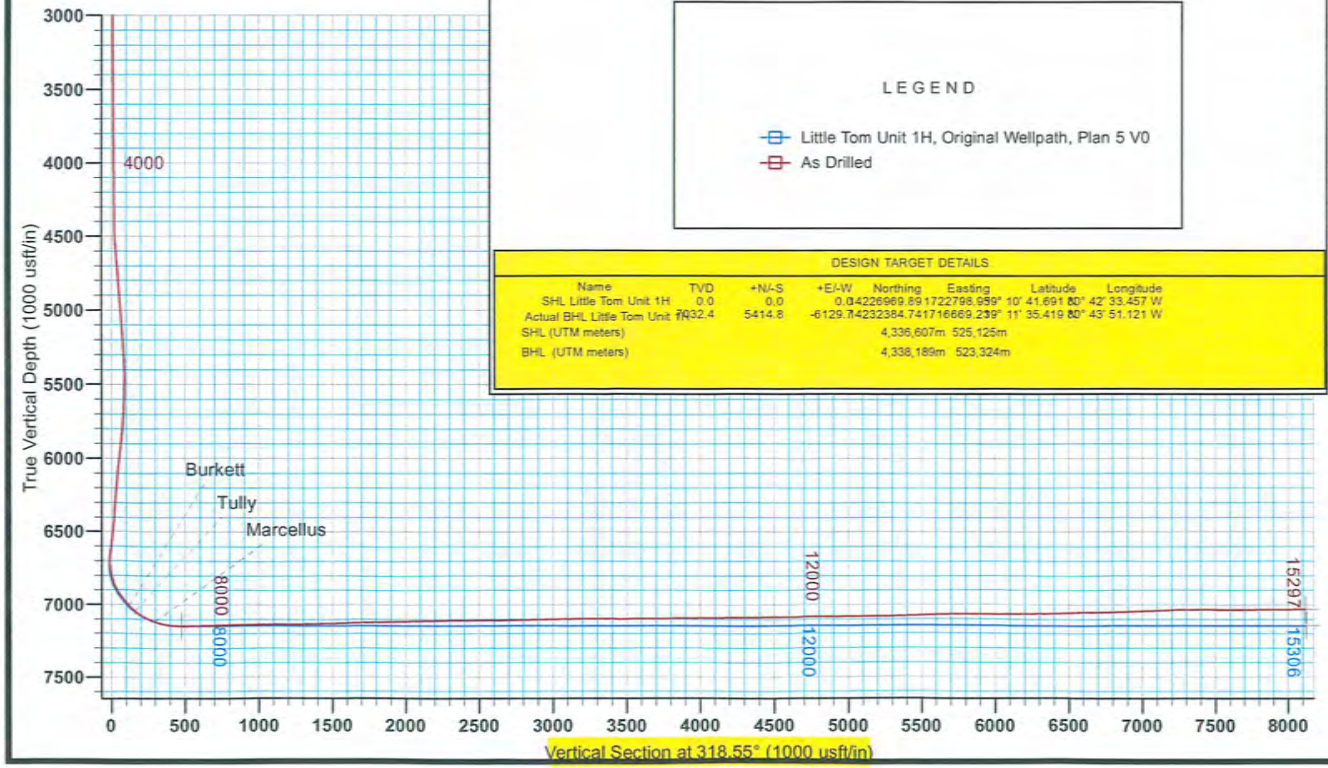
Genie Lightfoot
Scientific Drilling
421 South Eagle Lane
Oklahoma City Oklahoma
405-787-3663

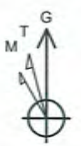
LEGEND

Little Tom Unit 1H, Original Wellpath, Plan 5 V0
As Drilled

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Little Tom Unit 1H	0.0	0.0	0.0	14226969.89	1722798.95	39° 10' 41.691	80° 42' 33.457 W
Actual BHL Little Tom Unit 1H	7032.4	5414.8	-6129.7	14232384.74	1716669.23	39° 11' 35.419	80° 43' 51.121 W
SHL (UTM meters)				4,336,607m	525,125m		
BHL (UTM meters)				4,338,189m	523,324m		

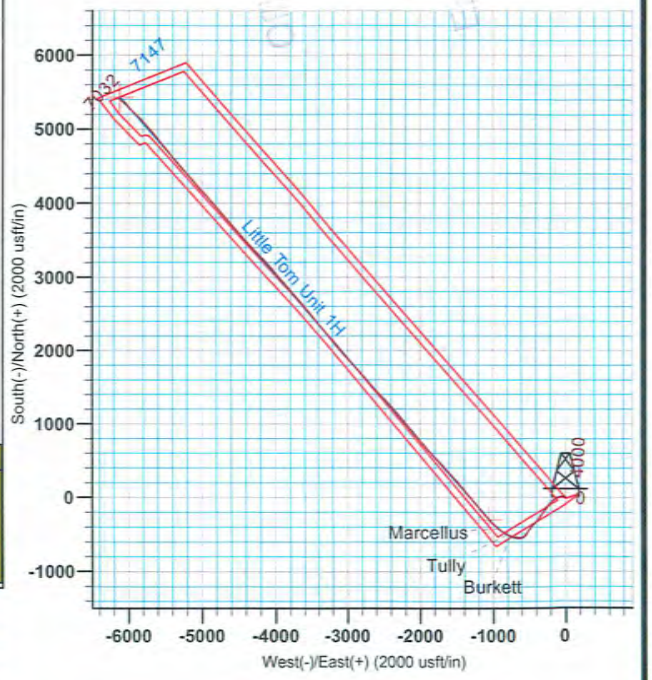


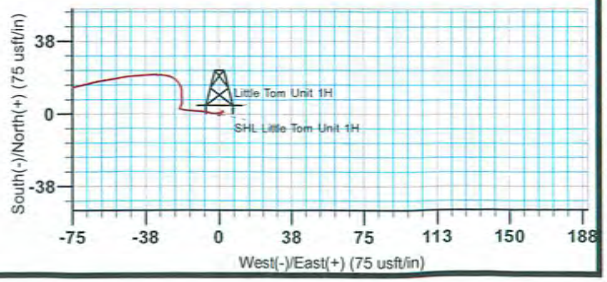


To convert Magnetic North to Grid, Subtract 8.64°
To convert True North to Grid, Subtract 0.18°

Azimuths to Grid North
True North: -0.18°
Magnetic North: -8.64°

Magnetic Field
Strength: 52365.3snT
Dip Angle: 66.82°
Date: 5/2/2013
Model: IGRF2010





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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/3/2013
Job End Date:	7/14/2013
State:	West Virginia
County:	Doddridge
API Number:	47-017-06157-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Little Tom Unit 1H
Longitude:	-80.70929170
Latitude:	39.17824720
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,148
Total Base Water Volume (gal):	10,382,694
Total Base Non Water Volume:	

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Oil & Gas

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	91.33202	
WV Specific 40/70 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia					
			Crystalline Silica, quartz	14808-60-7	99.90000	4.70430	
			Aluminum Oxide	1344-28-1	1.10000	0.05180	
			Iron Oxide	1309-37-1	0.10000	0.00471	
			Titanium Oxide	13463-67-7	0.10000	0.00471	
WV Specific 20/40 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia					
			Crystalline Silica, quartz	14808-60-7	99.90000	2.45731	
			Aluminum Oxide	1344-28-1	1.10000	0.02706	
			Iron Oxide	1309-37-1	0.10000	0.00246	
			Titanium Oxide	13463-67-7	0.10000	0.00246	
WV Specific 100 mesh Sand	Nabors Completion and Production Services	Sand - Bulk - West Virginia					
			Crystalline Silica, quartz	14808-60-7	99.90000	1.07993	
			Aluminum Oxide	1344-28-1	1.10000	0.01189	

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			Iron Oxide	1309-37-1	0.10000	0.00108	
			Titanium Oxide	13463-67-7	0.10000	0.00108	
HCl Acid (12.5%-18.0%)	Nabors Completion and Production Services	Bulk Acid					
			Hydrogen Chloride	7647-01-0	18.00000	0.03658	
WFR-3B	Nabors Completion and Production Services	Friction Reducer					
			Hydrotreated light distillates, non-aromatic, BTEX free	64742-47-8	30.00000	0.01944	
			Ethoxylated alcohols	68002-97-1	15.00000	0.00972	
			Ethoxylated oleylamine	26635-93-8	5.00000	0.00324	
LSG-100L	Nabors Completion and Production Services	Gelling Agents					
			Petroleum Distillates	64742-47-8	70.00000	0.03037	
Super MAX II	Nabors Completion and Production Services	Surfactants & Foamers					
			Oxirane, methyl-, polymer with oxirane, mono(2-ethylhexyl) ether	64366-70-7	13.00000	0.00864	
			Propylene Glycol n-butyl ether	5131-66-8	5.00000	0.00332	
			1-Decanol	112-30-1	5.00000	0.00332	
			Isopropyl Alcohol	67-63-0	5.00000	0.00332	
Super GREEN SOLV	Nabors Completion and Production Services	Paraffin & Scale Additives					
			BTEX Free Aliphatic Hydrocarbon	64742-96-7	100.00000	0.01097	
KR-153SL	Nabors Completion and Production Services	Biocides					
			Polyethlyene-Glycol	25322-68-3	50.00000	0.00685	
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00274	
SUPER TSC-LTS	Nabors Completion and Production Services	Paraffin & Scale Additives					
			Water	7732-18-5	60.00000	0.00870	
Acid Inhibitor 2 (AI-2)	Nabors Completion and Production Services	Acid Corrosion Inhibitors					
			Propargyl Alcohol	107-19-7	40.00000	0.00015	
			Glycol Ethers	111-46-6	40.00000	0.00015	
			Isopropyl Alcohol	67-63-0	40.00000	0.00015	
			Ethoxylated Nonylphenol	68412-54-4	13.00000	0.00005	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	10.00000	0.00004	
OB-2	Nabors Completion and Production Services	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00037	

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			Sillica, crystalline quartz	7631-86-9	10.00000	0.00004	
EB-4L	Nabors Completion and Production Services	Gel Breakers					
			Ethylene Glycol	107-21-1	40.00000	0.00018	
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	0.17780	
			Proprietary	Proprietary	100.00000	0.06643	
			Water	7732-18-5	50.00000	0.03322	
			Water	7732-18-5	40.00000	0.02593	
			Anionic Polyacrylamide	910644-97-2	40.00000	0.02593	
			guar gum	9000-30-0	50.00000	0.02169	
			Propylene Glycol	57-55-6	30.00000	0.01993	
			Water	7732-18-5	80.00000	0.01096	
			Propylene glycol	57-55-6	15.00000	0.00972	
			Orange Terpenes	8028-48-6	5.00000	0.00332	
			Proprietary	Proprietary	15.00000	0.00217	
			Proprietary	Proprietary	15.00000	0.00217	
			Proprietary	Proprietary	15.00000	0.00217	
			Proprietary	Proprietary	2.00000	0.00130	
			Crystalline Silica (in the form of quartz)	14808-60-7	2.00000	0.00087	
			Surfactant	68439-51-0	2.00000	0.00087	
			Sugar	57-50-1	100.00000	0.00045	
			Proprietary	Proprietary	100.00000	0.00045	
			Water	7732-18-5	100.00000	0.00023	
			Water	7732-18-5	48.00000	0.00018	
			vinylidene chloride-methyl acrylate copolymer	25038-72-6	20.00000	0.00007	
			2-Butoxyethanol	111-76-2	13.00000	0.00005	
			Proprietary	Proprietary	1.00000	0.00001	
			Proprietary	Proprietary	1.00000	0.00001	
			Proprietary	Proprietary	1.00000	0.00001	
			Proprietary	Proprietary	1.00000	0.00001	
			Proprietary	Proprietary	1.00000	0.00001	
			Dioxane	123-91-1	1.00000	0.00000	
			Organophylic Clay	68953-58-2			

* 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)