

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: 7/5/2013
API #: 47-017-06166

TR

Farm name: Moore, Dwight E. and Tina M. Operator Well No.: Emily Unit 1H

LOCATION: Elevation: 1,237' Quadrangle: Smithburg 7.5'

District: Grant County: Doddridge
Latitude: 9,443' Feet South of 39 Deg. 20 Min. 00 Sec.
Longitude 5,624' Feet West of 80 Deg. 40 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#	44'	44'	42 Cu Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	402'	402'	559 Cu Ft. Class A
Inspector: Douglas Newlon	9 5/8" 36#	2,550'	2,550'	1038 Cu Ft. Class A
Date Permit Issued: 1/28/2013	5 1/2" 20#	13,913'	13,913'	3404 Cu Ft. Class H
Date Well Work Commenced: 2/18/2013				
Date Well Work Completed: 5/25/2013	2 3/8" 4.7#	7,380'		
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): 7114' TVD				
Total Measured Depth (ft): 13,913' MD				
Fresh Water Depth (ft.): 192'				
Salt Water Depth (ft.): 1336', 1681'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 274', 444', 1290'				
Void(s) encountered (N/Y) Depth(s) None				

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OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7031' (TOP)
Gas: Initial open flow ---- MCF/d Oil: Initial open flow ---- Bbl/d
Final open flow 9008 MCF/d Final open flow ---- Bbl/d
Time of open flow between initial and final tests ---- Hours
Static rock Pressure 3550 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.

Kallen Buck
Signature

12/6/13
Date

04/04/2014

17-06166



Antero Resources
Emily Unit 1H
Doddridge County WV
Northing: 14277820.83
Easting: 1725252.44
Original Wellpath

WELL DETAILS: Emily Unit 1H

+N/-S	+E/-W	Ground Level	1237.0	Slot
0.0	0.0	14277820.83	1725252.44	39° 19' 4.408 N 80° 42' 0.150 W

REFERENCE INFORMATION

Coordinate (N/E) Reference: Well Emily Unit 1H, Grid North
 Vertical (TVD) Reference: Emily 1H 1237' GL + 23 KB @ 1205.Dust (Original Well Elev)
 Section Elev Reference: SHL (0.0, 0.0)
 Measured Depth Reference: Emily 1H 1237' GL + 23 KB @ 1205.Dust (Original Well Elev)
 Calculation Method: Minimum Curvature

PROJECT DETAILS: Doddridge County WV

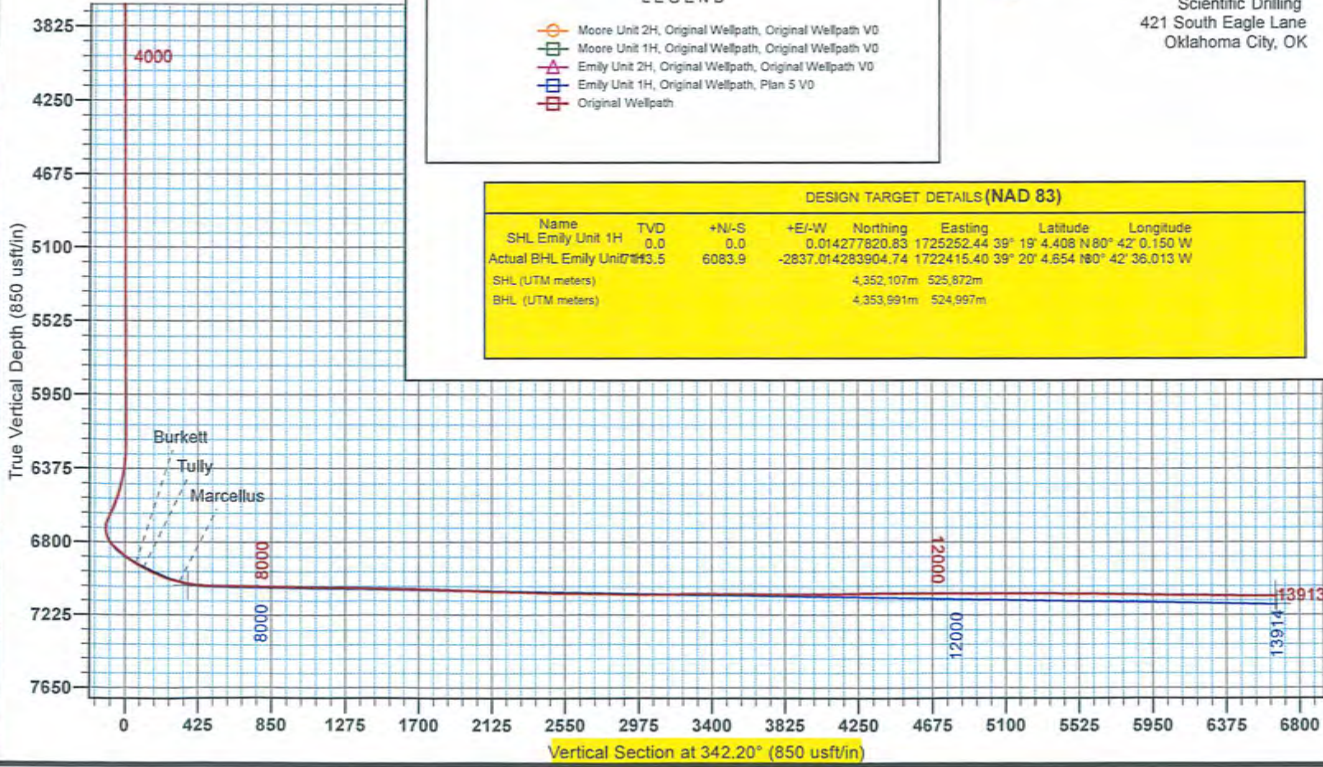
Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

LEGEND

- Moore Unit 2H, Original Wellpath, Original Wellpath V0
- Moore Unit 1H, Original Wellpath, Original Wellpath V0
- Emily Unit 2H, Original Wellpath, Original Wellpath V0
- Emily Unit 1H, Original Wellpath, Plan 5 V0
- Original Wellpath

DESIGN TARGET DETAILS (NAD 83)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Emily Unit 1H	0.0	0.0	0.014277820.83	1725252.44	39° 19' 4.408 N 80° 42' 0.150 W		
Actual BHL Emily Unit 1H	6083.5	6083.9	-2837.014283904.74	1722415.40	39° 20' 4.654 N 80° 42' 36.013 W		
SHL (UTM meters)				4,352,107m	525,872m		
BHL (UTM meters)				4,353,991m	524,997m		

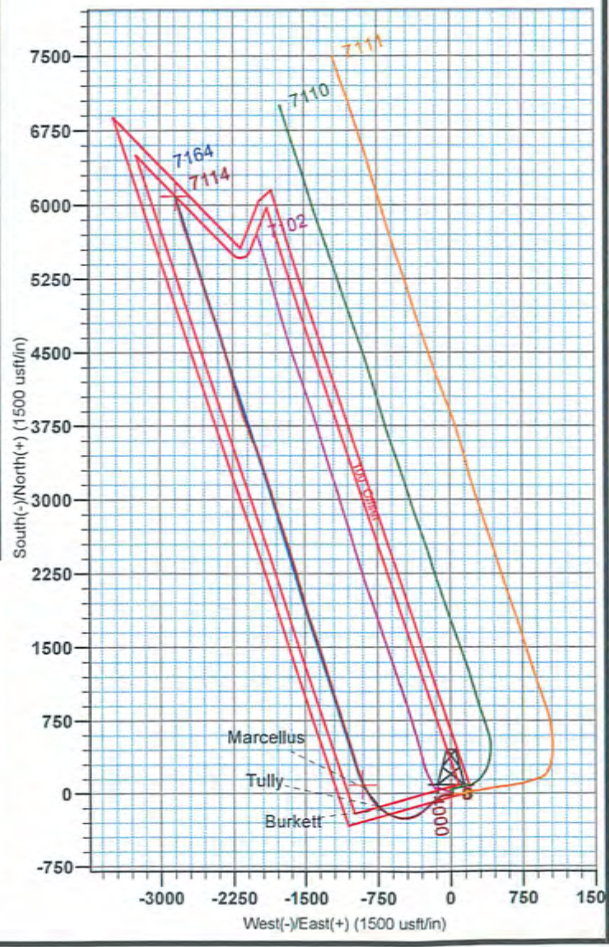


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To convert Magnetic North to Grid, Subtract 8.67°
 To convert True North to Grid, Subtract 0.19°

Azimuths to Grid North
 True North: -0.19°
 Magnetic North: -8.67°

Magnetic Field
 Strength: 52459.8nT
 Dip Angle: 66.95°
 Date: 2/19/2013
 Model: IGRF2010



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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/21/2013
Job End Date:	5/25/2013
State:	West Virginia
County:	Doddridge
API Number:	47-017-06166-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Emily Unit 1H
Longitude:	-80.66666670
Latitude:	39.33333300
Datum:	NAD27
Federal/Tribal Well:	NO
Total Base Water Volume (gal):	5,730,102
Total Base Non Water Volume:	21,514



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	89.59038	
40/70 White	US Silica	Proppant	Sand	14808-60-7	100.00000	5.47431	
20/40 White	US Silica	Proppant	Sand	14808-60-7	100.00000	3.27870	
100 Mesh	US Silica	Proppant	Sand	14808-60-7	100.00000	1.45208	
Beta M-4.0	PIP	Guar Gel	Petroleum Distillate	64742-47-8	55.00000	0.06298	
			Guar Gum	9000-30-0	50.00000	0.05725	
			Clay	1302-78-9	5.00000	0.00573	
			Surfactant	154518-36-2	1.00000	0.00115	
Plexslick 953	Chemplex	Friction Reducer	Water	7732-18-5	35.00000	0.01851	
			Polyacrylamide-co-acrylic acid	9003-06-9	32.00000	0.01692	
			Hydrotreated Petroleum Distillate	64742-47-8	30.00000	0.01586	
			Alcohol Ethoxylate Surfactants	Proprietary	8.00000	0.00423	
Plexicide 15G	Chemplex	Biocide	Water	7732-18-5	90.00000	0.02241	

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			Glutaraldehyde	111-30-8	14.00000	0.00349
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00075
			Ethanol	64-17-5	3.00000	0.00075
			Alkyl Dimethyl Benzyl Ammonium Chloride	68424-85-1	3.00000	0.00075
Hydrochloric Acid 10-15%	Reagent	Acid				
			Hydrchloric Acid	7647-01-0	15.00000	0.02811
Plexaid 673	Chemplex	Scale Inhibitor				
			Water	7732-18-5	85.00000	0.01074
			Methyl Alcohol	67-56-1	25.00000	0.00316
			Sodium Salt of Phosphonodimethylated Diamine	Proprietary	5.00000	0.00063
Sodium Persulfate	Chemplex	Breaker				
			Sodium Persulfate	7775-27-1	100.00000	0.00133
Plexhib 256	Chemplex	Corrosion				
			Methyl Alcohol	67-56-1	70.00000	0.00041
			Alcohol Ethoxylate Surfactants	Proprietary	30.00000	0.00017
			thiourea-formaldehyde copolymer	68527-49-1	30.00000	0.00017
			n-olefins	Proprietary	10.00000	0.00006
			Propargyl Alcohol	107-19-7	8.00000	0.00005
Plexbreak 145	Chemplex	Non-emulsifier				
			Water	732-18-5	66.00000	0.00043
			Methyl Alcohol	67-56-1	15.00000	0.00010
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00000	0.00010
			Cocamide Diethanolamine Salt	68603-42-9	10.00000	0.00006
			Diethanolamine	111-42-2	5.00000	0.00003
Ferriplex 66	Chemplex	Iron Control				
			Acetic Acid	64-19-7	50.00000	0.00019
			Water	7732-18-5	35.00000	0.00013
			Citric Acid	77-92-9	30.00000	0.00011

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)