

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 017 - 06320 County Doddridge District New Milton
Quad New Milton 7.5' Pad Name Pennington North Pad Field/Pool Name _____
Farm name Pennington, Bernard C., et al Well Number Proudfoot Unit 2H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,340,152m Easting 522,536m
Landing Point of Curve Northing 4,339,938.56m Easting 522,491.05m
Bottom Hole Northing 4,338,204m Easting 523,093m

Elevation (ft) 1,277' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Air- Foam & 4% KCL
Mud- Polymer

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Date permit issued 09/17/2013 Date drilling commenced 03/24/2014 Date drilling ceased 07/31/2014
Date completion activities began 09/07/2014 Date completion activities ceased 12/06/2014
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 57' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1,411' Void(s) encountered (Y/N) depths None
Coal depth(s) ft 187'; 787'; 1,477' Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) No

Reviewed by:
TR 6/21/15
10/23/2015

API 47-017 - 06320 Farm name Pennington, Bernard C., et al Well number Proudfoot Unit 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	40'	New	94#; J-55	N/A	Yes
Surface	17 1/2"	13 3/8"	385'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,581'	New	40#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	13,482'	New	20#; P-110	N/A	Yes
Tubing		2 3/8"	7,046'		4.7#; N-80	N/A	
Packer type and depth set	N/A						

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	100 sx	15.6	1.18	38	0'	8 Hrs.
Surface	Class A	453 sx	15.6	1.18	267	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1,005 sx	15.6	1.18	808	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1,035 sx (Lead); 1,040 sx (Tail)	14.5 (Lead); 15.2 (Tail)	1.3 (Lead); 1.86 (Tail)	2,612	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 13,482' MD, 7,068' TVD (BHL); 7,115' TVD (Deepest Point Drilled) Loggers TD (ft) 13,429'
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 6,358'

Check all wireline logs run **
 caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

Conductor- 0
 Surface- 1 above guide shoe, 1 above insert float, 1 every 4th joint to surface
 Intermediate- 1 above float joint, 1 above float collar, 1 every 4th joint to surface
 Production- 1 above float joint, 1 below float collar, 1 every 3rd joint to top of cement

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47-017 - 06320 Farm name Pennington, Bernard C., et al Well number Proudfoot Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)	
		* PLEASE SEE ATTACHED EXHIBIT 1				

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)	
		* PLEASE SEE ATTACHED EXHIBIT 2							

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6,884' (top)</u> TVD	<u>7,176' (top)</u> MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 3,950 psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
5,347 mcfpd _____ bpd _____ bpd 600 bpd Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	<u>0</u>		<u>0</u>		
* PLEASE SEE ATTACHED EXHIBIT 3					

Please insert additional pages as applicable.

Drilling Contractor Patterson - UTI Drilling Company LLC
 Address 207 Carlton Drive City Eighty Four State PA Zip 15330

Logging Company STRC
 Address 1560 Good Hope Pike City Clarksburg State WV Zip 26301

Cementing Company Nabors Completion & Production Services, Co.
 Address 1650 Hackers Creek City Jane Lew State WV Zip 26378

Stimulating Company Halliburton
 Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317

Please insert additional pages as applicable.

Completed by Megan Darling Telephone 303-357-7230
 Signature  Title Permitting Agent Date 07/17/2015

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Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

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API 47-017-06320 Farm Name Pennington, Bernard C., et al Well Number Proudfoot Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	7-Sep-14	13,222	13,391	60	Marcellus
2	20-Oct-14	13,022	13,190	60	Marcellus
3	20-Oct-14	12,822	12,990	60	Marcellus
4	20-Oct-14	12,621	12,790	60	Marcellus
5	21-Oct-14	12,421	12,590	60	Marcellus
6	21-Oct-14	12,221	12,390	60	Marcellus
7	21-Oct-14	12,021	12,190	60	Marcellus
8	21-Oct-14	11,821	11,990	60	Marcellus
9	22-Oct-14	11,621	11,790	60	Marcellus
10	22-Oct-14	11,421	11,590	60	Marcellus
11	22-Oct-14	11,221	11,390	60	Marcellus
12	22-Oct-14	11,021	11,189	60	Marcellus
13	23-Oct-14	10,821	10,989	60	Marcellus
14	23-Oct-14	10,620	10,789	60	Marcellus
15	23-Oct-14	10,420	10,589	60	Marcellus
16	23-Oct-14	10,220	10,389	60	Marcellus
17	25-Oct-14	10,020	10,189	60	Marcellus
18	25-Oct-14	9,820	9,989	60	Marcellus
19	25-Oct-14	9,620	9,789	60	Marcellus
20	25-Oct-14	9,420	9,589	60	Marcellus
21	26-Oct-14	9,220	9,388	60	Marcellus
22	26-Oct-14	9,020	9,188	60	Marcellus
23	26-Oct-14	8,820	8,988	60	Marcellus
24	26-Oct-14	8,619	8,788	60	Marcellus
25	27-Oct-14	8,419	8,588	60	Marcellus
26	27-Oct-14	8,219	8,388	60	Marcellus
27	27-Oct-14	8,019	8,188	60	Marcellus
28	27-Oct-14	7,819	7,988	60	Marcellus
29	27-Oct-14	7,619	7,788	60	Marcellus
30	28-Oct-14	7,419	7,588	60	Marcellus
31	28-Oct-14	7,219	7,387	60	Marcellus

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API 47-017-06320 Farm Name Pennington, Bernard C., et al Well Number Proudfoot Unit 2H

EXHIBIT 2

Stage No.	Stimulations Date	Avg Pump Rate	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/ other (units)
1	19-Oct-14	62.9	6,516	5,825	4,794	239,680	6,573	N/A
2	20-Oct-14	64.2	6,514	5,544	5,282	198,423	6,155	N/A
3	20-Oct-14	63.9	6,659	5,487	5,206	241,595	6,575	N/A
4	20-Oct-14	62.6	6,444	5,249	5,012	239,704	6,541	N/A
5	21-Oct-14	65.5	6,376	5,643	5,009	241,170	6,434	N/A
6	21-Oct-14	64.5	6,329	5,205	5,171	241,069	6,466	N/A
7	21-Oct-14	65.0	6,230	5,383	5,025	239,425	6,477	N/A
8	21-Oct-14	65.5	6,357	5,658	5,151	239,921	6,474	N/A
9	22-Oct-14	65.3	6,513	5,569	5,452	238,231	6,355	N/A
10	22-Oct-14	64.8	6,527	5,792	5,456	242,593	6,895	N/A
11	22-Oct-14	62.2	6,830	5,580	5,239	242,674	6,415	N/A
12	22-Oct-14	64.4	6,524	5,556	5,295	200,859	6,970	N/A
13	23-Oct-14	63.5	6,477	5,602	5,206	240,070	6,430	N/A
14	23-Oct-14	64.8	6,571	5,339	5,346	239,211	6,309	N/A
15	23-Oct-14	67.0	6,585	5,330	5,364	242,731	6,294	N/A
16	23-Oct-14	64.8	6,383	5,305	8,670	243,285	5,731	N/A
17	25-Oct-14	64.5	6,443	5,344	5,290	212,220	5,851	N/A
18	25-Oct-14	65.2	6,426	5,323	5,282	232,793	6,836	N/A
19	25-Oct-14	64.5	6,443	5,385	5,385	237,242	6,835	N/A
20	25-Oct-14	66.0	6,398	5,341	5,414	236,662	6,809	N/A
21	26-Oct-14	65.4	6,345	5,558	5,176	240,973	6,080	N/A
22	26-Oct-14	63.5	6,513	5,553	5,202	239,169	6,709	N/A
23	26-Oct-14	62.5	6,143	5,471	5,351	242,847	6,115	N/A
24	26-Oct-14	65.3	6,285	5,457	5,398	238,668	6,002	N/A
25	27-Oct-14	65.0	6,412	5,727	5,259	241,002	6,169	N/A
26	27-Oct-14	62.7	6,352	5,569	5,667	241,775	6,034	N/A
27	27-Oct-14	63.8	6,298	5,496	5,654	238,571	5,974	N/A
28	27-Oct-14	62.9	6,265	5,686	5,679	240,375	5,942	N/A
29	27-Oct-14	65.1	6,355	5,755	5,783	241,028	6,011	N/A
30	28-Oct-14	65.0	6,178	5,609	5,583	239,685	6,030	N/A
31	28-Oct-14	63.5	6,361	6,032	5,380	242,134	5,987	N/A
	AVG=	64.4	6,421	5,528	5,425	7,335,785	196,476	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD) From Surface	BOTTOM DEPTH (TVD) From Surface	TOP DEPTH (MD) From Surface	BOTTOM DEPTH (MD) From Surface
Fresh Water	57'	N/A	57'	N/A
Silty Shale	0	67	0	67
Sandy siltstone	67	187	67	187
Coal	187	227	187	227
Sandy siltstone	227	547	227	547
Sandstone	547	707	547	707
Limestone	707	747	707	747
Siltstone	747	787	747	787
Pittsburgh Coal	787	847	787	847
Sandy siltstone	847	1,027	847	1,027
Limey Siltstone	1,027	1,087	1,027	1,087
Sandy siltstone	1,087	1,307	1,087	1,307
Sandstone	1,307	1,367	1,307	1,367
Shale	1,367	1,477	1,367	1,477
Coal	1,477	1,482	1,477	1,482
Sandy siltstone tr coal	1,482	1,527	1,482	1,527
Sandstone	1,527	1,587	1,527	1,587
Sandstone tr Coal	1,587	1,747	1,587	1,747
Silty Sandstone	1,747	1,787	1,747	1,787
Sandstone tr Coal	1,787	1,887	1,787	1,887
Sandy siltstone	1,887	2,020	1,887	2,020
Big Lime	2,020	2,141	2,020	2,141
Big Injun	2,141	2,381	2,141	2,381
Gantz Sand	2,381	2,553	2,381	2,553
Fifty Foot Sandstone	2,553	2,764	2,553	2,764
Gordon	2,764	3,078	2,764	3,078
Fifth Sandstone	3,078	3,130	3,078	3,130
Bayard	3,130	3,457	3,130	3,457
Warren	3,457	3,781	3,457	3,781
Speechley	3,781	3,979	3,781	3,979
Baltown	3,979	4,597	3,979	4,597
Bradford	4,597	5,045	4,597	5,045
Benson	5,045	5,299	5,045	5,299
Alexander	5,299	5,515	5,299	5,515
Elk	5,515	6,046	5,515	6,046
Rhonestreet	6,046	6,501	6,046	6,508
Sycamore	6,501	6,649	6,508	6,748
Middlesex	6,649	6,779	6,748	6,901
Burkett	6,779	6,818	6,901	6,985
Tully	6,818	6,884	6,985	7,176
Marcellus	6,884	NA	7,176	NA

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17-06.320



Proudfoot Unit 2H
Doddridge County WV
Northings: 14238600.69
Easting: 1714306.91
As Drilled

P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297 Surf
 1275.0



Genie Lightfoot
 14:38, August 19 2014
 Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, OK

WELL DETAILS Proudfoot Unit 2H

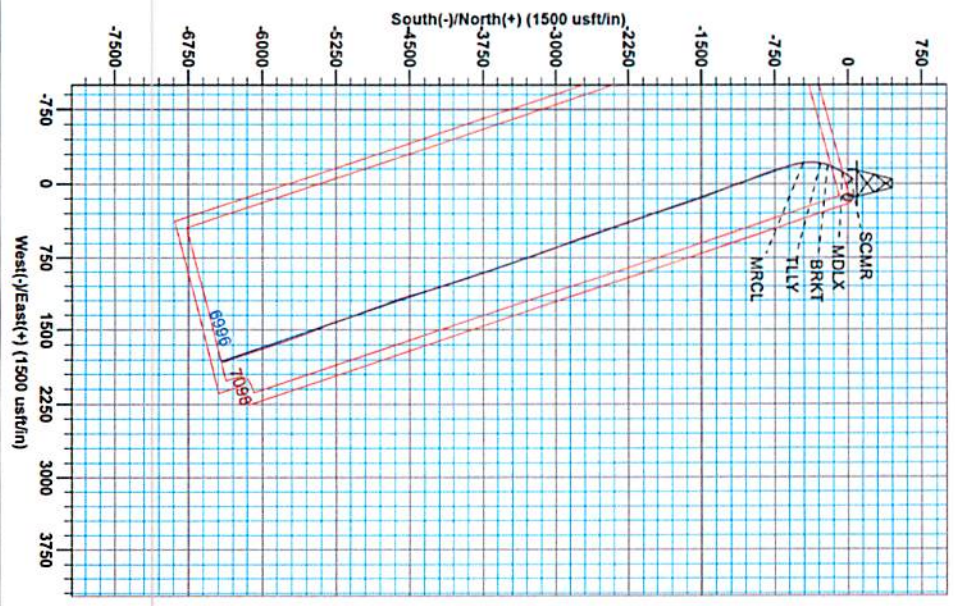
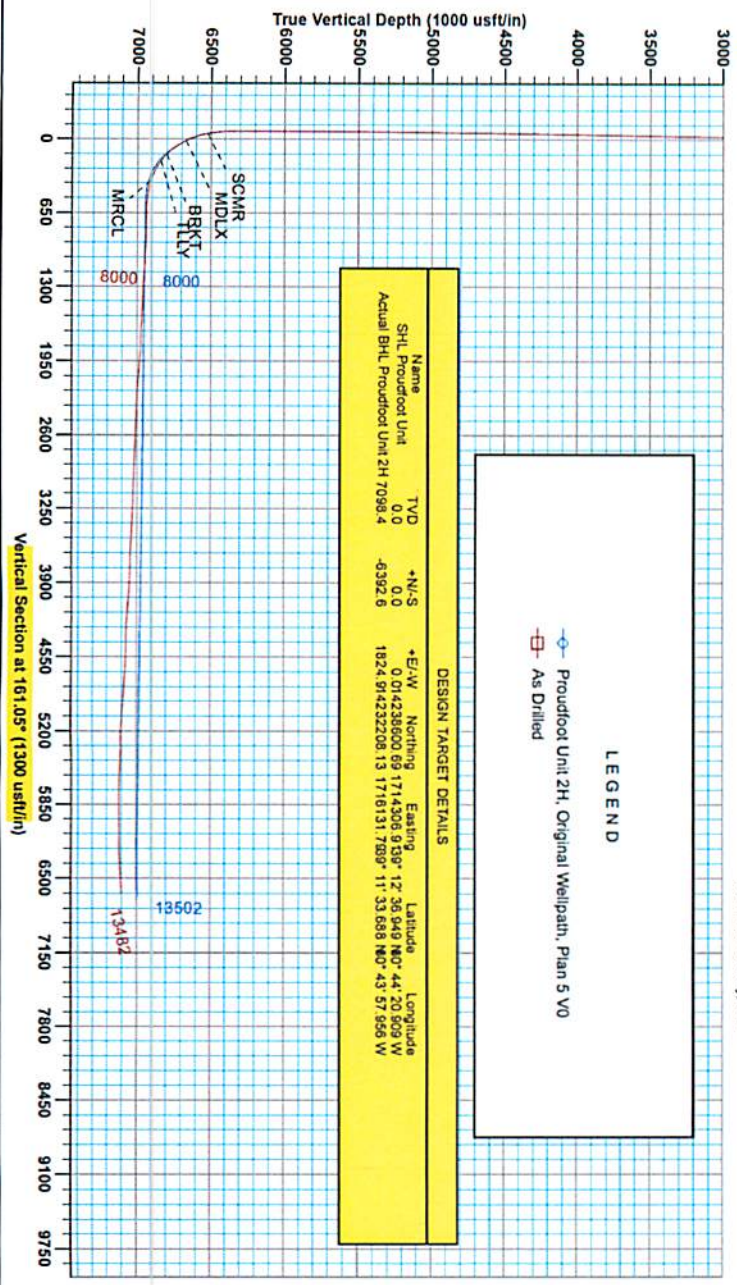
Ground Level	1275.0	Latitude	Longitude
+N-/S	+E/W	Northings	1714306.9139° 12° 36' 94.9" N 0° 44' 20.909" W
0.0	0.0	14238600.69	

SITE DETAILS: Hammerlick Run/Proudfoot/Sibley P

SHL Proudfoot Unit 2H	Site Centre Northings	14238600.69
	Easting	1714306.91
	Positional Uncertainty	0.0
	Convergence	0.16
	Local North	Grid

PROJECT DETAILS: Doddridge County WV

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



To convert Magnetic North to Grid, Subtract 8.64°
 To convert True North to Grid, Subtract 0.16°

Magnetic Field
 Strength: 52278.8nT
 Dip Angle: 68.17°
 Date: 3/20/2014
 Model: IGRF2010

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Antero Resources

**Doddridge County WV
Harriet/Lick Run/Proudfoot/Sibley Pad
Proudfoot Unit 2H
Original Wellpath**

Design: As Drilled

EOW Completion Report

19 August, 2014



Scientific Drilling

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Proudfoot Unit 2H
Project:	Doddridge County WV	TVD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Site:	Harriet/Lick Run/Proudfoot/Sibley Pad	MD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Well:	Proudfoot Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Project	Doddridge County WV, McClellan District		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Harriet/Lick Run/Proudfoot/Sibley Pad, SHL Proudfoot Unit 2H				
Site Position:	Northing:	14,238,600.69 usft	Latitude:	39° 12' 36.949 N	
From: Map	Easting:	1,714,306.91 usft	Longitude:	80° 44' 20.909 W	
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.16 °

Well	Proudfoot Unit 2H, Marcellus				
Well Position	+N/-S	0.0 usft	Northing:	14,238,600.69 usft	
	+E/-W	0.0 usft	Easting:	1,714,306.91 usft	
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,297.5 usft	Ground Level:	1,275.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	GRF2010	3/20/2014	-8.48	66.77	52,277

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	161.05	

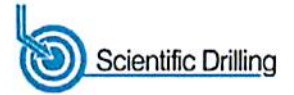
Survey Program	Date 8/19/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
107.5	6,135.0	Survey #1 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
6,169.0	13,482.0	Survey #2 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1	

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00
107.5	0.18	332.45	107.5	0.1	-0.1	-0.2	0.17		
109.5	0.18	332.70	109.5	0.2	-0.1	-0.2	0.04		
159.5	0.23	331.63	159.5	0.3	-0.2	-0.3	0.10		
209.5	0.23	340.35	209.5	0.5	-0.2	-0.5	0.07		
259.5	0.21	336.73	259.5	0.7	-0.3	-0.7	0.05		
309.5	0.13	333.99	309.5	0.8	-0.4	-0.9	0.16		
359.5	0.10	319.03	359.5	0.9	-0.4	-1.0	0.08		
409.5	0.18	313.75	409.5	1.0	-0.5	-1.1	0.16		
459.5	0.31	307.84	459.5	1.1	-0.7	-1.3	0.26		
509.5	0.29	326.75	509.5	1.3	-0.9	-1.5	0.20		

17-06326



EOW Completion Report

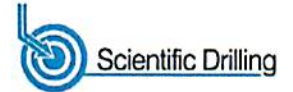


Company:	Antero Resources	Local Co-ordinate Reference:	Well Proudfoot Unit 2H
Project:	Doddridge County WV	TVD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Site:	Harriet/Lick Run/Proudfoot/Sibley Pad	MD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Well:	Proudfoot Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
559.5	0.18	337.98	559.5	1.5	-1.0	-1.7	0.24	
609.5	0.14	324.29	609.5	1.6	-1.0	-1.9	0.11	
659.5	0.22	314.31	659.5	1.7	-1.1	-2.0	0.17	
709.5	0.27	321.68	709.5	1.9	-1.3	-2.2	0.12	
759.5	0.28	338.84	759.5	2.1	-1.4	-2.4	0.17	
809.5	0.26	346.44	809.5	2.3	-1.5	-2.7	0.08	
859.5	0.16	335.52	859.5	2.5	-1.5	-2.8	0.21	
909.5	0.19	318.88	909.5	2.6	-1.6	-3.0	0.12	
959.5	0.26	318.13	959.5	2.8	-1.7	-3.2	0.14	
1,009.5	0.30	326.12	1,009.5	3.0	-1.9	-3.4	0.11	
1,059.5	0.24	334.90	1,059.5	3.2	-2.0	-3.6	0.15	
1,109.5	0.19	326.52	1,109.5	3.3	-2.1	-3.8	0.12	
1,159.5	0.28	311.16	1,159.5	3.5	-2.2	-4.0	0.22	
1,209.5	0.37	320.60	1,209.5	3.7	-2.4	-4.3	0.21	
1,259.5	0.39	326.15	1,259.5	3.9	-2.6	-4.6	0.08	
1,309.5	0.30	331.55	1,309.5	4.2	-2.8	-4.9	0.19	
1,359.5	0.36	323.19	1,359.5	4.4	-2.9	-5.1	0.15	
1,409.5	0.43	327.98	1,409.5	4.7	-3.1	-5.5	0.15	
1,459.5	0.52	324.26	1,459.5	5.1	-3.3	-5.9	0.19	
1,509.5	0.72	311.38	1,509.5	5.5	-3.7	-6.4	0.49	
1,559.5	0.75	312.60	1,559.5	5.9	-4.2	-6.9	0.07	
1,609.5	0.73	321.29	1,609.5	6.4	-4.6	-7.5	0.23	
1,659.5	0.75	317.86	1,659.5	6.9	-5.1	-8.1	0.10	
1,709.5	0.76	315.62	1,709.5	7.3	-5.5	-8.7	0.06	
1,759.5	0.87	311.88	1,759.5	7.8	-6.0	-9.4	0.24	
1,809.5	0.91	317.33	1,809.5	8.4	-6.6	-10.0	0.19	
1,859.5	0.86	322.87	1,859.4	9.0	-7.1	-10.8	0.20	
1,909.5	0.81	325.09	1,909.4	9.5	-7.5	-11.5	0.12	
1,959.5	0.83	316.65	1,959.4	10.1	-7.9	-12.1	0.24	
2,009.5	0.88	307.27	2,009.4	10.6	-8.5	-12.8	0.30	
2,059.5	0.96	311.11	2,059.4	11.1	-9.1	-13.5	0.20	
2,109.5	0.98	313.06	2,109.4	11.7	-9.7	-14.2	0.08	
2,159.5	0.90	314.52	2,159.4	12.2	-10.3	-14.9	0.17	
2,209.5	0.85	309.85	2,209.4	12.8	-10.9	-15.6	0.17	
2,259.5	0.94	313.71	2,259.4	13.3	-11.5	-16.3	0.22	
2,309.5	0.98	309.93	2,309.4	13.8	-12.1	-17.0	0.15	
2,359.5	0.99	316.94	2,359.4	14.4	-12.7	-17.8	0.24	
2,409.5	0.86	308.72	2,409.4	15.0	-13.3	-18.5	0.37	
2,459.5	0.94	310.07	2,459.4	15.5	-13.9	-19.2	0.17	
2,509.5	0.96	311.87	2,509.4	16.0	-14.6	-19.9	0.07	
2,559.5	0.80	313.64	2,559.4	16.5	-15.1	-20.5	0.32	
2,609.5	0.88	303.67	2,609.4	17.0	-15.7	-21.2	0.33	
2,659.5	0.88	307.01	2,659.3	17.4	-16.3	-21.8	0.10	
2,709.5	0.95	308.99	2,709.3	17.9	-16.9	-22.5	0.15	



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Proudfoot Unit 2H
Project:	Doddridge County WV	TVD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Site:	Harriet/Lick Run/Proudfoot/Sibley Pad	MD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Well:	Proudfoot Unit 2H	North Reference:	Grid
Wellbore:	Original Well/path	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
2,759.5	1.05	303.93	2,759.3	18.4	-17.6	-23.2	0.27
2,809.5	1.07	303.87	2,809.3	19.0	-18.4	-23.9	0.04
2,859.5	1.13	307.34	2,859.3	19.5	-19.2	-24.7	0.18
2,909.5	1.25	304.78	2,909.3	20.1	-20.0	-25.5	0.26
2,959.5	1.31	305.76	2,959.3	20.8	-20.9	-26.4	0.13
3,009.5	1.32	297.31	3,009.3	21.4	-21.9	-27.3	0.39
3,059.5	1.43	305.02	3,059.3	22.0	-22.9	-28.2	0.43
3,109.5	1.42	303.33	3,109.3	22.7	-24.0	-29.2	0.09
3,159.5	1.33	307.38	3,159.2	23.4	-25.0	-30.2	0.26
3,209.5	1.36	304.62	3,209.2	24.1	-25.9	-31.2	0.14
3,259.5	1.38	301.27	3,259.2	24.7	-26.9	-32.1	0.17
3,309.5	1.42	300.98	3,309.2	25.4	-27.9	-33.1	0.08
3,359.5	1.49	303.33	3,359.2	26.0	-29.0	-34.0	0.18
3,409.5	1.42	306.84	3,409.2	26.8	-30.1	-35.1	0.23
3,459.5	1.23	304.65	3,459.1	27.4	-31.0	-36.0	0.39
3,509.5	1.38	305.75	3,509.1	28.1	-31.9	-36.9	0.30
3,559.5	1.27	309.35	3,559.1	28.8	-32.8	-37.9	0.28
3,609.5	1.29	304.69	3,609.1	29.5	-33.7	-38.8	0.21
3,659.5	1.34	303.75	3,659.1	30.1	-34.7	-39.7	0.11
3,709.5	1.39	309.22	3,709.1	30.8	-35.6	-40.7	0.28
3,759.5	1.37	310.39	3,759.1	31.6	-36.6	-41.8	0.07
3,809.5	1.24	309.06	3,809.1	32.3	-37.4	-42.7	0.27
3,859.5	1.39	306.29	3,859.0	33.0	-38.4	-43.7	0.33
3,909.5	1.42	301.82	3,909.0	33.7	-39.4	-44.7	0.23
3,959.5	1.41	304.42	3,959.0	34.4	-40.4	-45.6	0.13
4,009.5	1.41	305.57	4,009.0	35.1	-41.4	-46.6	0.06
4,059.5	1.27	307.35	4,059.0	35.8	-42.4	-47.6	0.29
4,109.5	1.33	303.69	4,109.0	36.4	-43.3	-48.5	0.20
4,159.5	1.40	311.66	4,159.0	37.2	-44.2	-49.5	0.40
4,209.5	1.37	318.19	4,208.9	38.0	-45.1	-50.6	0.32
4,259.5	1.25	325.29	4,258.9	38.9	-45.8	-51.7	0.40
4,309.5	1.17	322.35	4,308.9	39.8	-46.4	-52.7	0.20
4,359.5	1.18	324.27	4,358.9	40.6	-47.0	-53.6	0.08
4,409.5	1.21	332.50	4,408.9	41.5	-47.6	-54.7	0.35
4,459.5	1.15	341.62	4,458.9	42.4	-48.0	-55.7	0.39
4,509.5	1.04	350.11	4,508.9	43.3	-48.2	-56.6	0.39
4,559.5	0.90	356.15	4,558.9	44.2	-48.3	-57.5	0.35
4,609.5	0.98	352.99	4,608.9	45.0	-48.4	-58.3	0.19
4,659.5	0.97	351.14	4,658.9	45.8	-48.5	-59.1	0.07
4,709.5	1.02	359.01	4,708.8	46.7	-48.6	-59.9	0.29
4,759.5	1.11	6.33	4,758.8	47.6	-48.5	-60.8	0.33
4,809.5	1.05	6.74	4,808.8	48.6	-48.4	-61.6	0.12
4,859.5	1.06	15.59	4,858.8	49.5	-48.2	-62.4	0.33
4,909.5	1.08	22.86	4,908.8	50.3	-47.9	-63.2	0.27
4,959.5	0.96	22.70	4,958.8	51.2	-47.6	-63.8	0.24



Company:	Antero Resources	Local Co-ordinate Reference:	Well Proudfoot Unit 2H
Project:	Doddridge County WV	TVD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Site:	Harriet/Lick Run/Proudfoot/Sibley Pad	MD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Well:	Proudfoot Unit 2H	North Reference:	Grid
Wellbore:	Original Well/path	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,009.5	0.91	27.28		5,008.8	51.9	-47.2	-64.4		0.18
5,059.5	0.92	34.21		5,058.8	52.6	-46.8	-64.9		0.22
5,109.5	0.87	35.74		5,108.8	53.2	-46.4	-65.4		0.11
5,159.5	0.77	33.49		5,158.8	53.8	-46.0	-65.8		0.21
5,209.5	0.78	28.33		5,208.8	54.4	-45.6	-66.3		0.14
5,259.5	0.89	24.33		5,258.8	55.0	-45.3	-66.8		0.25
5,309.5	0.95	23.00		5,308.8	55.8	-45.0	-67.4		0.13
5,359.5	0.91	37.05		5,358.8	56.5	-44.6	-67.9		0.46
5,409.5	0.85	23.05		5,408.8	57.1	-44.2	-68.4		0.45
5,459.5	0.94	26.52		5,458.7	57.8	-43.9	-69.0		0.21
5,509.5	0.78	21.83		5,508.7	58.5	-43.6	-69.5		0.35
5,559.5	0.89	23.38		5,558.7	59.2	-43.3	-70.0		0.22
5,609.5	0.64	26.30		5,608.7	59.8	-43.0	-70.5		0.51
5,659.5	0.88	28.35		5,658.7	60.4	-42.7	-71.0		0.48
5,709.5	0.76	44.83		5,708.7	61.0	-42.3	-71.4		0.53
5,759.5	0.75	42.88		5,758.7	61.4	-41.8	-71.7		0.06
5,809.5	0.71	67.63		5,808.7	61.8	-41.3	-71.9		0.63
5,859.5	0.77	58.80		5,858.7	62.1	-40.7	-72.0		0.26
5,909.5	0.67	82.16		5,908.7	62.3	-40.2	-72.0		0.62
5,959.5	0.53	68.42		5,958.7	62.4	-39.7	-71.9		0.40
6,009.5	0.58	87.83		6,008.7	62.5	-39.2	-71.9		0.39
6,059.5	0.47	63.88		6,058.7	62.6	-38.8	-71.8		0.49
6,109.5	0.67	66.34		6,108.7	62.8	-38.3	-71.9		0.40
6,135.0	0.45	41.76		6,134.2	63.0	-38.1	-71.9		1.26
6,169.0	0.14	15.95		6,168.2	63.1	-38.0	-72.0		0.97
6,264.0	0.26	100.08		6,263.2	63.2	-37.8	-72.0		0.30
6,326.0	0.53	241.41		6,325.2	63.0	-37.9	-71.9		1.21
6,358.0	3.69	218.91		6,357.2	62.1	-38.6	-71.3		10.02
6,389.0	7.39	219.64		6,388.0	59.8	-40.5	-69.8		11.94
6,420.0	11.23	221.74		6,418.6	56.0	-43.8	-67.2		12.43
6,452.0	14.60	221.81		6,449.8	50.7	-48.6	-63.7		10.53
6,483.0	18.19	219.53		6,479.5	44.1	-54.3	-59.3		11.76
6,514.0	21.82	216.92		6,508.6	35.7	-60.8	-53.5		12.06
6,531.0	23.74	216.49		6,524.3	30.4	-64.8	-49.8		11.33
SCMR									
6,545.0	25.32	216.18		6,537.1	25.8	-68.2	-46.5		11.33
6,577.0	29.03	215.11		6,565.5	13.9	-76.7	-38.0		11.69
6,608.0	32.74	213.28		6,592.1	0.7	-85.6	-28.5		12.34
6,640.0	36.23	210.47		6,618.5	-14.7	-95.2	-17.0		11.98
6,671.0	39.57	207.40		6,643.0	-31.3	-104.4	-4.3		12.37
6,703.0	44.23	207.66		6,666.8	-50.3	-114.3	10.5		14.57
6,711.0	45.14	207.97		6,672.5	-55.3	-116.9	14.3		11.66
MDLX									
6,734.0	47.75	208.80		6,688.3	-69.9	-124.8	25.6		11.66

17-06320



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Proudfoot Unit 2H
Project:	Doddridge County WV	TVD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Site:	Harriet/Lick Run/Proudfoot/Sibley Pad	MD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Well:	Proudfoot Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,765.0	49.33	209.07	6,708.8	-90.2	-136.0	41.2	5.14
6,797.0	49.77	208.45	6,729.6	-111.6	-147.8	57.6	2.02
6,828.0	52.06	206.34	6,749.1	-133.0	-158.8	74.2	9.08
6,859.0	55.13	203.35	6,767.5	-155.6	-169.3	92.2	12.58
6,891.0	57.77	200.19	6,785.2	-180.4	-179.2	112.4	11.65
6,922.0	59.97	197.55	6,801.2	-205.5	-187.7	133.4	10.17
6,924.0	60.09	197.36	6,802.2	-207.1	-188.3	134.8	10.30
BRKT							
6,953.0	61.91	194.65	6,816.3	-231.5	-195.3	155.5	10.30
6,985.0	63.23	191.54	6,831.0	-259.2	-201.7	179.6	9.56
7,008.0	64.11	189.75	6,841.3	-279.4	-205.5	197.5	7.94
TLLY							
7,016.0	64.42	189.14	6,844.7	-286.5	-206.7	203.9	7.94
7,048.0	66.13	186.58	6,858.1	-315.3	-210.6	229.8	9.02
7,079.0	68.27	182.88	6,870.1	-343.8	-213.0	256.0	12.99
7,111.0	70.35	179.09	6,881.4	-373.7	-213.5	284.1	12.84
7,143.0	71.96	176.36	6,891.8	-404.0	-212.3	313.1	9.51
7,174.0	73.70	175.03	6,900.9	-433.5	-210.1	341.8	6.95
7,199.0	76.37	173.39	6,907.4	-457.5	-207.6	365.3	12.42
MRCL							
7,206.0	77.12	172.94	6,909.0	-464.3	-206.8	372.0	12.42
7,238.0	80.11	169.34	6,915.3	-495.3	-202.0	402.8	14.45
7,269.0	82.22	169.34	6,920.1	-525.4	-196.3	433.2	6.81
7,301.0	82.66	169.07	6,924.3	-556.5	-190.4	464.6	1.61
7,333.0	83.36	167.32	6,928.2	-587.6	-183.9	496.1	5.85
7,358.0	84.06	164.24	6,930.9	-611.7	-177.8	520.8	12.56
7,390.0	85.03	161.08	6,934.0	-642.1	-168.3	552.7	10.29
7,421.0	87.14	160.73	6,936.1	-671.3	-158.2	583.6	6.90
7,452.0	89.90	162.41	6,936.9	-700.7	-148.4	614.6	10.42
7,516.0	89.78	161.69	6,937.0	-761.6	-128.6	678.6	1.14
7,611.0	88.72	160.81	6,938.3	-851.6	-98.1	773.6	1.45
7,706.0	89.16	161.16	6,940.0	-941.4	-67.2	868.5	0.59
7,801.0	88.81	159.14	6,941.7	-1,030.7	-34.9	963.5	2.16
7,896.0	87.14	159.06	6,945.1	-1,119.4	-1.0	1,058.4	1.76
7,991.0	86.35	158.70	6,950.5	-1,207.9	33.1	1,153.2	0.91
8,086.0	88.20	159.76	6,955.0	-1,296.6	66.8	1,248.0	2.24
8,180.0	88.72	159.32	6,957.5	-1,384.6	99.6	1,341.9	0.72
8,275.0	88.02	160.11	6,960.2	-1,473.7	132.5	1,436.9	1.11
8,366.0	87.32	159.32	6,963.9	-1,559.0	164.1	1,527.8	1.16
8,458.0	87.76	161.87	6,967.9	-1,645.7	194.6	1,619.7	2.81
8,549.0	88.11	162.48	6,971.2	-1,732.2	222.4	1,710.6	0.77
8,639.0	88.69	163.04	6,973.7	-1,818.2	249.1	1,800.5	0.90
8,729.0	87.20	163.51	6,976.9	-1,904.3	275.0	1,890.4	1.74
8,821.0	86.44	162.31	6,982.0	-1,992.1	302.0	1,982.2	1.54
8,912.0	86.09	161.25	6,987.9	-2,078.4	330.4	2,073.0	1.22

17-06320



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Proudfoot Unit 2H
Project:	Doddridge County WV	TVD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Site:	Harriet/Lick Run/Proudfoot/Sibley Pad	MD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Well:	Proudfoot Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

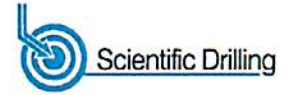
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
9,004.0	86.17	161.87	6,994.1	-2,165.4	359.4	2,164.8	0.68
9,096.0	86.97	160.81	6,999.6	-2,252.4	388.8	2,256.6	1.44
9,187.0	89.08	162.13	7,002.8	-2,338.7	417.7	2,347.6	2.73
9,278.0	88.11	161.87	7,005.0	-2,425.2	445.8	2,438.5	1.10
9,370.0	87.76	162.22	7,008.3	-2,512.6	474.1	2,530.4	0.54
9,465.0	89.16	161.78	7,010.9	-2,603.0	503.5	2,625.4	1.54
9,560.0	87.93	160.90	7,013.3	-2,692.9	533.9	2,720.4	1.59
9,655.0	88.55	160.29	7,016.2	-2,782.5	565.4	2,815.3	0.92
9,750.0	88.99	160.29	7,018.2	-2,871.9	597.5	2,910.3	0.46
9,845.0	88.02	160.11	7,020.7	-2,961.3	629.6	3,005.2	1.04
9,940.0	88.81	159.14	7,023.4	-3,050.3	662.7	3,100.2	1.32
10,036.0	88.11	158.26	7,025.9	-3,139.7	697.5	3,196.0	1.17
10,131.0	87.85	160.37	7,029.3	-3,228.5	731.1	3,290.9	2.24
10,226.0	88.02	160.73	7,032.7	-3,318.0	762.7	3,385.9	0.42
10,321.0	87.85	162.92	7,036.1	-3,408.2	792.3	3,480.8	2.31
10,415.0	88.20	161.16	7,039.4	-3,497.6	821.3	3,574.7	1.91
10,510.0	89.52	161.08	7,041.3	-3,587.5	852.0	3,669.7	1.39
10,605.0	89.16	160.90	7,042.4	-3,677.3	882.9	3,764.7	0.42
10,700.0	88.11	160.11	7,044.6	-3,766.8	914.6	3,859.7	1.38
10,795.0	87.23	160.81	7,048.5	-3,856.2	946.4	3,954.6	1.18
10,890.0	85.91	162.57	7,054.2	-3,946.3	976.2	4,049.4	2.31
10,985.0	87.14	161.43	7,059.9	-4,036.5	1,005.5	4,144.2	1.76
11,080.0	86.61	161.60	7,065.1	-4,126.4	1,035.6	4,239.1	0.59
11,175.0	89.69	163.10	7,068.2	-4,216.9	1,064.3	4,334.0	3.61
11,270.0	89.43	163.36	7,068.9	-4,307.8	1,091.7	4,428.9	0.39
11,365.0	88.69	162.88	7,070.5	-4,398.7	1,119.3	4,523.8	0.93
11,459.0	88.02	163.36	7,073.2	-4,488.6	1,146.6	4,617.7	0.88
11,553.0	87.41	162.04	7,076.9	-4,578.3	1,174.5	4,711.6	1.55
11,648.0	87.32	159.93	7,081.3	-4,668.0	1,205.5	4,806.5	2.22
11,743.0	87.05	159.76	7,085.9	-4,757.1	1,238.2	4,901.4	0.34
11,838.0	86.35	159.41	7,091.4	-4,846.0	1,271.2	4,996.2	0.82
11,933.0	87.05	159.41	7,096.9	-4,934.8	1,304.6	5,091.0	0.74
12,028.0	87.67	159.85	7,101.2	-5,023.7	1,337.6	5,185.9	0.80
12,123.0	89.87	160.99	7,103.3	-5,113.2	1,369.5	5,280.8	2.61
12,217.0	88.99	160.55	7,104.2	-5,202.0	1,400.4	5,374.8	1.05
12,312.0	88.81	160.20	7,106.0	-5,291.4	1,432.3	5,469.8	0.41
12,407.0	87.05	157.30	7,109.5	-5,379.9	1,466.7	5,564.6	3.57
12,502.0	87.85	158.44	7,113.7	-5,467.8	1,502.5	5,659.4	1.47
12,597.0	90.13	157.12	7,115.4	-5,555.7	1,538.4	5,754.2	2.77
12,692.0	90.31	159.76	7,115.0	-5,644.1	1,573.3	5,849.1	2.79
12,786.0	91.18	160.99	7,113.8	-5,732.6	1,604.9	5,943.1	1.60
12,881.0	90.13	162.83	7,112.7	-5,822.9	1,634.3	6,038.1	2.23
12,976.0	89.69	161.25	7,112.9	-5,913.3	1,663.6	6,133.0	1.73
13,071.0	89.87	161.78	7,113.2	-6,003.4	1,693.8	6,228.0	0.59

17.06326



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Proudfoot Unit 2H
Project:	Doddridge County WV	TVD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Site:	Harriet/Lick Run/Proudfoot/Sibley Pad	MD Reference:	P317 Proudfoot 2H 1275 GL + 22.5 KB @ 1297.5
Well:	Proudfoot Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
13,166.0	92.95	162.40	162.40	7,110.9	-6,093.7	1,723.0	6,323.0	3.31
13,261.0	92.86	160.64	160.64	7,106.1	-6,183.7	1,753.0	6,417.9	1.85
13,356.0	92.15	161.43	161.43	7,101.9	-6,273.5	1,783.9	6,512.8	1.12
13,420.0	91.19	160.73	160.73	7,100.0	-6,334.0	1,804.6	6,576.7	1.86
13,482.0	91.83	161.12	161.12	7,098.4	-6,392.6	1,824.9	6,638.7	1.21

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
6,531.0	6,524.3	30.4	-64.8	SCMR	
6,711.0	6,672.5	-55.3	-116.9	MDLX	
6,924.0	6,802.2	-207.1	-188.3	BRKT	
7,008.0	6,841.3	-279.4	-205.5	TLLY	
7,199.0	6,907.4	-457.5	-207.6	MRCL	

Checked By: _____	Approved By: _____	Date: _____
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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/19/2014
Job End Date:	10/28/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06320-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Proudfoot Unit 2H
Longitude:	-80.73896900
Latitude:	39.21034700
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,115
Total Base Water Volume (gal):	8,998,134
Total Base Non Water Volume:	0

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
Fresh Water	Operator	Base Fluid	Fresh Water	7732-18-5	100.00000	90.87271	Density = 8.340
SSA-2	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	4.82852	
SAND - PREMIUM WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00000	4.15532	
MG-36 GELLING AGENT	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00000	0.05737	
FR-66	Halliburton	Friction Reducer	Hydrotreated light petroleum distillate	84742-47-8	30.00000	0.01866	
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00000	0.00154	
Scalechek® LP-65 Scale Inhibitor	Halliburton	Scale Inhibitor	Ammonium chloride	12125-02-9	10.00000	0.00143	
BE-9	Halliburton	Biocide	Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00079	

17-06320



17-06320

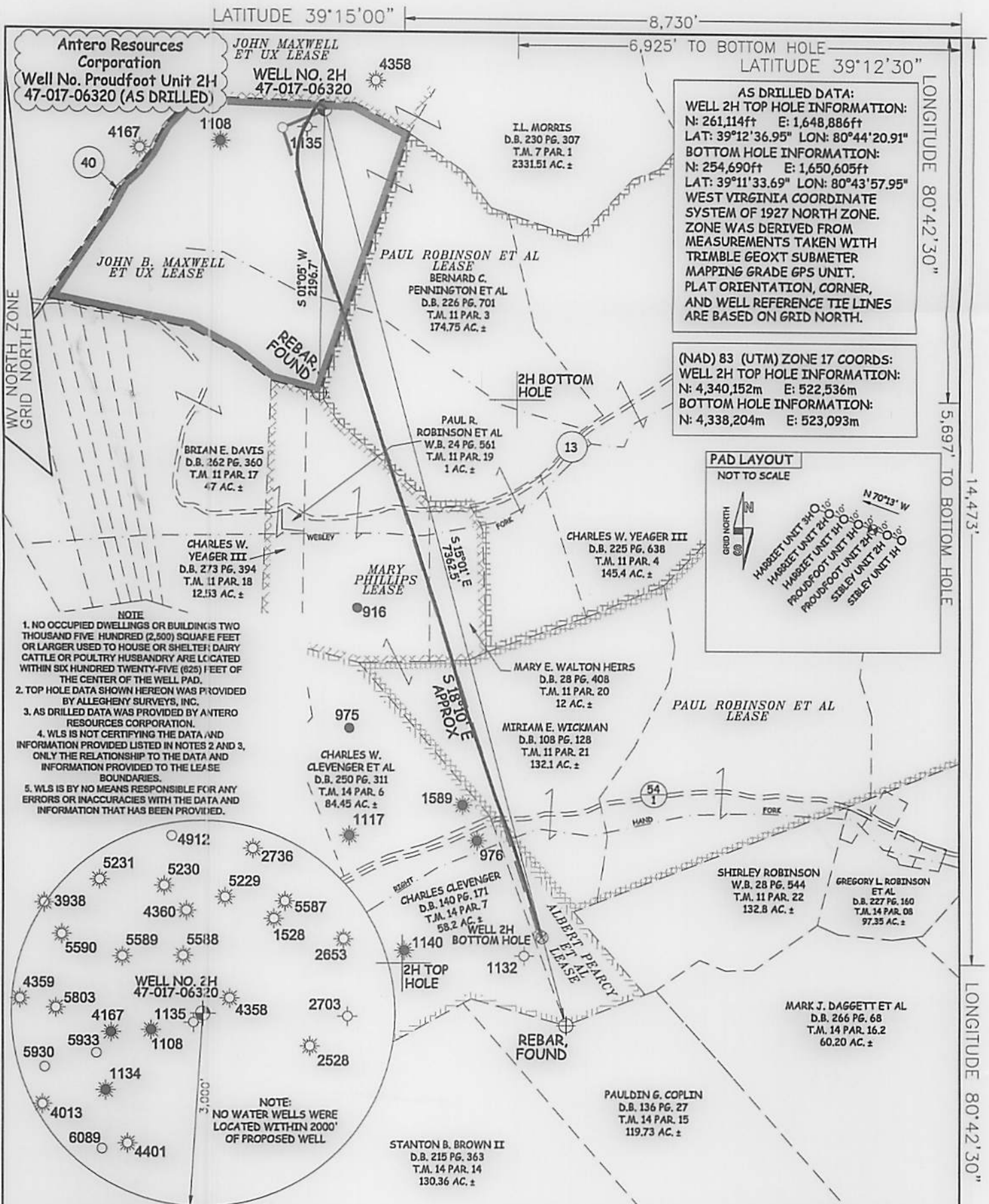
HAL-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor							
		Methanol	67-56-1			0.00010			
		Propargyl alcohol	107-19-7		60.00000 10.00000	0.00002			
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.									
		Other Ingredient(s)							
		Water	7732-18-5			0.05377			
		Other Ingredient(s)							
		Polyacrylamide copolymer	Confidential			0.01866			
		Other Ingredient(s)							
		Organic phosphonate	Confidential			0.00855			
		Other Ingredient(s)							
		Sodium chloride	7647-14-5			0.00311			
		Other Ingredient(s)							
		Ammonium chloride	12125-02-9			0.00311			
		Other Ingredient(s)							
		Alcohols, C12-16, ethoxylated	68551-12-2			0.00311			
		Other Ingredient(s)							
		Fatty acid tall oil amide	Confidential			0.00311			
		Other Ingredient(s)							
		Bentonite, benzy(hydrogenated allow alkyl) dimethylammonium stearate complex	121888-68-4			0.00287			
		Other Ingredient(s)							
		Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8			0.00062			
		Other Ingredient(s)							
		Sorbitan monooleate polyoxyethylene derivative	9005-65-6			0.00062			
		Other Ingredient(s)							
		Surfactant mixture	Confidential			0.00057			
		Other Ingredient(s)							
		Silica gel	112926-00-8			0.00057			
		Other Ingredient(s)							
		Surfactant mixture	Confidential			0.00057			
		Other Ingredient(s)							
		Other Ingredient(s)							
		Formaldehyde	50-00-0			0.00014			
		Other Ingredient(s)							
		Crystalline Silica, Quartz	14808-60-7			0.00006			
		Other Ingredient(s)							
		Alcohols, C14-C15, ethoxylated	68951-67-7			0.00005			
		Other Ingredient(s)							
		Fatty acids, tall oil	Confidential			0.00005			
		Other Ingredient(s)							

Denise Tuck,
Halliburton
3000 N. Sam Houston Pkwy
E.,
Houston, TX 77032
281-871-6226

			Reaction product of acetaldehyde, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1		0.00005	
	Other Ingredient(s)		Olefins	Confidential		0.00001	
	Other Ingredient(s)		Olefins	Confidential		0.00001	
	Other Ingredient(s)		Olefins	Confidential		0.00000	
	Other Ingredient(s)		Olefins	Confidential		0.00000	
	Other Ingredient(s)		Sodium sulfate	7757-82-6		0.00000	

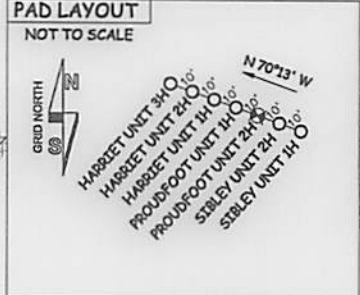
* Total Water Volume sources may include fresh water, produced water, and/or recycled water
 ** Information is based on the maximum potential for concentration and thus the total may be over 100%

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)

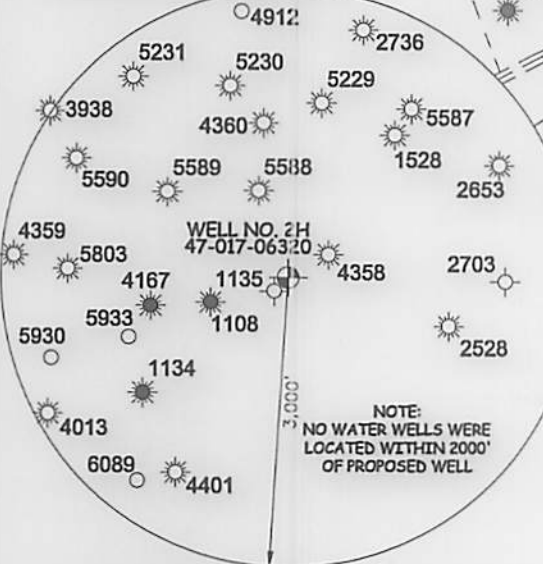


AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
 N: 261,114ft E: 1,648,886ft
 LAT: 39°12'36.95" LON: 80°44'20.91"
BOTTOM HOLE INFORMATION:
 N: 254,690ft E: 1,650,605ft
 LAT: 39°11'33.69" LON: 80°43'57.95"
 WEST VIRGINIA COORDINATE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
 N: 4,340,152m E: 522,536m
BOTTOM HOLE INFORMATION:
 N: 4,338,204m E: 523,093m



- NOTE**
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.



JOB # 13-053WA
 DRAWING # PROUDFOOT2HAD
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
 STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
 WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION X STORAGE DEEP SHALLOW X
 LOCATION: ELEVATION 1,289' ORIGINAL - 1,277' AS DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
 QUADRANGLE NEW MILTON 7.5' DISTRICT NEW MILTON COUNTY DODDRIDGE
 SURFACE OWNER BERNARD C. PENNINGTON ET AL ACREAGE 174.75 ACRES +/-
 OIL & GAS ROYALTY OWNER JOHN B. MAXWELL ET UX; PAUL ROBINSON ET AL; MARY PHILLIPS; PAUL ROBINSON ET AL; ALBERT PEARCY ET AL LEASE ACREAGE 101.98 ACRES±; 237 ACRES±; 63.4 ACRES±; 220 AC±; 375 AC±
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) (X) AS DRILLED PLUG & ABANDON CLEAN OUT & REPLUG
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 7,098' TVD 13,482' MD
 WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
 ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
 DENVER, CO 80202 CHARLESTON, WV 25313



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
 WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

LEGEND
 - - - Surface Owner Boundary Lines +/-
 - - - Interior Surface Tracts +/-
 - - - Existing Fence
 ⊕ Found monument, as noted
 ⊙ Proposed Well Path
 ⊙ As Drilled Well Path

DATE 06/17/15
 OPERATOR'S WELL # PROUDFOOT UNIT #2H
 API WELL # 47 - 017 - 06320
 STATE COUNTY PERMIT

10/23/2015

COUNTY NAME PERMIT