

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

API 47-017-06244 County Doddridge District New Milton
Quad New Milton 7.5' Pad Name Stewart Pad Field/Pool Name _____
Farm name Stewart, Randall Well Number Dorothy 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 4,337,767m Easting 529,252m
Landing Point of Curve Northing 4,337,765m Easting 529,253m
Bottom Hole Northing 4,339,840m Easting 528,278m

Elevation (ft) 1,334' 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 Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Air- Foam & 4% KCL
Mud- Polymer

Date permit issued 06/05/2013 Date drilling commenced 09/14/2013 Date drilling ceased 02/16/2014
Date completion activities began 04/08/2014 Date completion activities ceased 07/19/2014
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by RECEIVED
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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to Aug 03 2015

Freshwater depth(s) ft 372' Open mine(s) (Y/N) depths WV Department of
Salt water depth(s) ft 964'; 1,752' Void(s) encountered (Y/N) depths Environmental Protection
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths None
Is coal being mined in area (Y/N) No

Reviewed by:
TK 8/28
E 10/23/2015

API 47-017 - 06244

Farm name Stewart, Randall

Well number Dorothy Unit 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	40'	New	65#; H-40	N/A	Yes
Surface	17 1/2"	13 3/8"	472'	New	48#; H-40	N/A	Yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,582'	New	36#; J-55	N/A	Yes
Intermediate 2							
Intermediate 3							
Production	8 3/4" & 8 1/2"	5 1/2"	14,843'	New	23#; P-110	N/A	Yes
Tubing		2 3/8"	7,627'		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	112 sx	16	1.18	38	0'	8 Hrs.
Surface	Class A	525 sx	15.6	1.19	342	0'	8 Hrs.
Coal							
Intermediate 1	Class A	1,004 sx	15.6	1.18	809	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1,169 sx (Lead); 1,150 sx (Tail)	14.5 (Lead); 15.2 (Tail)	1.3 (Lead); 1.86 (Tail)	2,924	~600' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 14,843' MD, 7,330' TVD (BHL) 7,346' (Deepest Point Drilled)

Loggers TD (ft) 14,847'

Deepest formation penetrated Marcellus

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 7,099'

**This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Cross Unit 1H, API #47-017-06238). Please reference the wireline logs submitted with Form WR-35 for the Cross Unit 1H. A Cement Bond Log has been included with this submittal.

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

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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 _____

10/23/2015

API 47- 017 - 06244 Farm name Stewart, Randall Well number Dorothy Unit 2H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	7,299' (top) TVD	7,690' (top) 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 8,001 mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY 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)
	0		0		
* 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 Rush Wellsite Service
Address 600 Alpha Drive City Canonsburg State PA Zip 15317

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

Stimulating Company GoFrac
Address 62787 Philips Rd. City Cambridge State OH Zip 43725

Please insert additional pages as applicable.

Completed by Megan Darling Telephone 303-357-7230
Signature *Megan C. Darling* Title Permitting Agent Date 07/31/2015 WV Department of Environmental Protection

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

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API 47-017-06244 Farm Name Stewart, Randall Well Number Dorothy Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	8-Apr-14	14,586	14,756	60	Marcellus
2	1-Jun-14	14,385	14,555	60	Marcellus
3	1-Jun-14	14,183	14,353	60	Marcellus
4	1-Jun-14	13,981	14,151	60	Marcellus
5	2-Jun-14	13,780	13,950	60	Marcellus
6	2-Jun-14	13,578	13,748	60	Marcellus
7	2-Jun-14	13,377	13,547	60	Marcellus
8	3-Jun-14	13,175	13,345	60	Marcellus
9	3-Jun-14	12,974	13,144	60	Marcellus
10	4-Jun-14	12,772	12,942	60	Marcellus
11	4-Jun-14	12,570	12,740	60	Marcellus
12	4-Jun-14	12,369	12,539	60	Marcellus
13	4-Jun-14	12,167	12,337	60	Marcellus
14	5-Jun-14	11,966	12,136	60	Marcellus
15	5-Jun-14	11,764	11,934	60	Marcellus
16	5-Jun-14	11,563	11,733	60	Marcellus
17	5-Jun-14	11,361	11,531	60	Marcellus
18	6-Jun-14	11,159	11,329	60	Marcellus
19	7-Jun-14	10,958	11,128	60	Marcellus
20	7-Jun-14	10,756	10,926	60	Marcellus
21	7-Jun-14	10,555	10,725	60	Marcellus
22	8-Jun-14	10,353	10,523	60	Marcellus
23	8-Jun-14	10,152	10,322	60	Marcellus
24	8-Jun-14	9,950	10,120	60	Marcellus
25	8-Jun-14	9,748	9,918	60	Marcellus
26	9-Jun-14	9,547	9,717	60	Marcellus
27	9-Jun-14	9,345	9,515	60	Marcellus
28	10-Jun-14	9,144	9,314	60	Marcellus
29	11-Jun-14	8,942	9,112	60	Marcellus
30	11-Jun-14	8,741	8,911	60	Marcellus
31	11-Jun-14	8,539	8,709	60	Marcellus
32	12-Jun-14	8,337	8,507	60	Marcellus
33	12-Jun-14	8,136	8,306	60	Marcellus
34	12-Jun-14	7,934	8,104	60	Marcellus
35	12-Jun-14	7,733	7,903	60	Marcellus

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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	31-May-14	42.1	8,566	6,949	7,450	2,229	6,218	N/A
2	1-Jun-14	48.5	8,489	7,182	5,545	1,366	6,326	N/A
3	1-Jun-14	65.3	7,971	6,986	5,890	192,321	5,529	N/A
4	1-Jun-14	71.0	7,700	6,388	5,448	235,262	6,720	N/A
5	2-Jun-14	68.7	7,521	6,675	4,818	230,765	6,279	N/A
6	2-Jun-14	66.8	7,681	6,180	5,731	235,673	6,125	N/A
7	2-Jun-14	60.1	7,310	6,847	6,457	75,697	6,699	N/A
8	3-Jun-14	64.2	7,172	6,295	5,305	219,982	6,201	N/A
9	3-Jun-14	66.8	7,397	5,828	4,769	225,923	6,098	N/A
10	4-Jun-14	65.7	7,543	6,232	5,513	156,108	6,375	N/A
11	4-Jun-14	62.7	7,126	5,337	4,779	235,717	6,072	N/A
12	4-Jun-14	79.8	7,322	6,213	4,786	217,821	6,232	N/A
13	4-Jun-14	58.3	7,285	6,373	4,845	127,748	6,440	N/A
14	5-Jun-14	67.3	7,240	6,302	4,893	234,439	6,255	N/A
15	5-Jun-14	66.5	7,019	6,339	4,485	237,579	6,000	N/A
16	5-Jun-14	73.6	7,386	5,876	4,993	236,932	5,983	N/A
17	5-Jun-14	65.0	7,178	6,056	4,852	170,888	6,331	N/A
18	6-Jun-14	68.3	7,086	5,975	4,879	234,558	6,060	N/A
19	6-Jun-14	60.9	6,835	6,185	4,729	131,744	6,146	N/A
20	7-Jun-14	60.9	7,471	6,223	4,660	143,556	6,144	N/A
21	7-Jun-14	55.4	6,817	6,260	5,143	116,642	6,177	N/A
22	8-Jun-14	63.7	6,749	5,967	4,822	186,143	5,926	N/A
23	8-Jun-14	66.3	6,941	5,785	4,819	218,354	6,049	N/A
24	8-Jun-14	60.1	6,938	5,863	4,969	137,776	6,168	N/A
25	8-Jun-14	66.2	6,846	5,878	5,094	213,886	5,986	N/A
26	9-Jun-14	65.5	6,999	6,104	4,813	230,043	6,062	N/A
27	10-Jun-14	61.7	6,922	6,619	N/A	141,194	10,775	N/A
28	10-Jun-14	69.4	7,293	6,025	4,809	150,570	6,218	N/A
29	11-Jun-14	70.3	7,130	6,484	4,846	185,650	6,251	N/A
30	11-Jun-14	70.1	7,213	6,315	5,534	230,842	5,784	N/A
31	11-Jun-14	69.4	7,050	6,530	5,521	162,581	6,047	N/A
32	12-Jun-14	78.7	7,448	6,365	4,768	216,035	5,738	N/A
33	12-Jun-14	71.0	7,111	6,573	4,860	228,210	5,722	N/A
34	12-Jun-14	75.6	6,908	5,541	5,424	236,794	5,730	N/A
35	12-Jun-14	75.6	7,004	6,579	4,908	222,654	5,697	N/A
AVG=		65.8	7,276	6,267	5,152	6,423,682	218,563	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Fresh Water	372'	N/A	372'	N/A
Shale/Siltstone	0	447	0	447
Sandstone	est. 447	467	est. 447	467
Shale/Siltstone	est. 467	687	est. 467	687
Sandstone	est. 687	727	est. 687	727
Shale	est. 727	827	est. 727	827
Sandstone	est. 827	887	est. 827	887
Shale	est. 887	1,127	est. 887	1,127
Sandstone	est. 1127	1,207	est. 1127	1,207
Shale	est. 1207	1,787	est. 1207	1,787
Sandstone/Siltstone	est. 1787	1,907	est. 1787	1,907
Sandstone/Siltstone with trace coal	est. 1907	1,967	est. 1907	1,967
Shale	est. 1967	2,404	est. 1967	2,404
Big Lime	2,404	2,490	2,404	2,490
Big Injun	2,490	2,702	2,490	2,702
Gantz Sand	2,702	2,861	2,702	2,861
Fifty Foot Sandstone	2,861	3,069	2,861	3,069
Gordon	3,069	3,413	3,069	3,413
Fifth Sandstone	3,413	3,483	3,413	3,483
Bayard	3,483	3,747	3,483	3,747
Warren	3,747	4,052	3,747	4,052
Speechley	4,052	4,239	4,052	4,239
Baltown	4,239	4,870	4,239	4,872
Bradford	4,870	5,331	4,872	5,347
Benson	5,331	5,580	5,347	5,618
Alexander	5,580	5,809	5,618	5,874
Elk	5,809	6,305	5,874	6,421
Rhinestreet	6,305	6,854	6,421	7,026
Sycamore	6,854	7,021	7,026	7,217
Middlesex	7,021	7,169	7,217	7,417
Burkett	7,169	7,199	7,417	7,463
Tully	7,199	7,299	7,463	7,690
Marcellus	7,299	NA	7,690	NA

*Please note Antero determines shallow formation tops based on mud logs that are only run on one well on a multi-well pad. The measured depth (MD) data on subsequent wells may be slightly different due to the well's unique departure.

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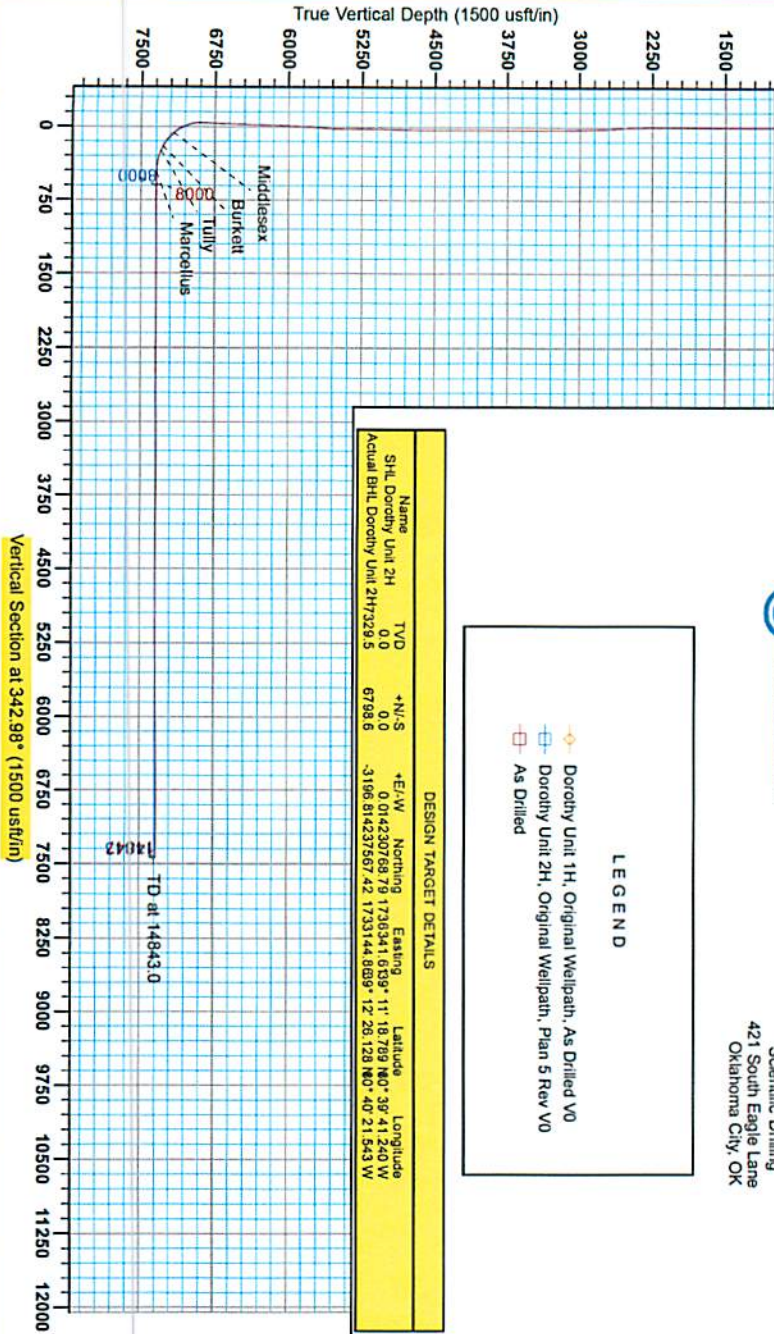
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Environmental Protection
10/23/2015

17-0624



Antero Resources
 Dorothy Unit 2H
 Doddridge County WV
 Northing: 14230768.79
 Easting: 1736341.61
 As Drilled



WELL DETAILS: Dorothy Unit 2H	
N-S +E/W	Northing
0.0	14230768.79
Ground Level	1332.0
Easting	1736341.61
SR	SR 11: 18.789 N 80° 39' 41.240 W
Longitude	84

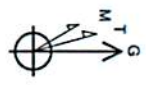
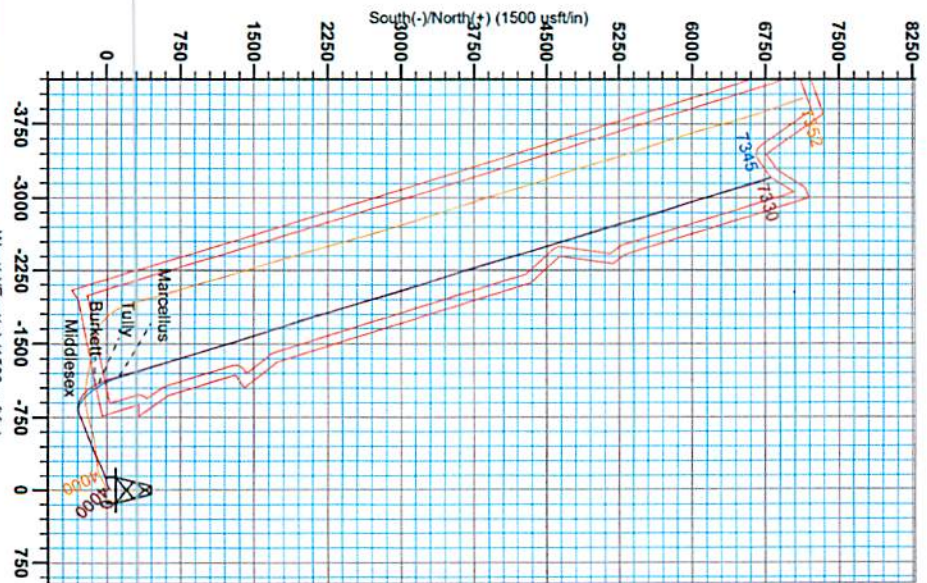
REFERENCE INFORMATION	
Coordinates (NEE) Reference	Well Dorothy Unit 2H, Grid North
Vertical (TVD) Reference	1332.0 ft. + 22.5 ft @ 1500 ft
Section (V9) Reference	542 - 0.0 ft. @ 0.00
Measured Depth Reference	1332.0 ft. + 22.5 ft @ 1500 ft
Calculation Method	Minimum Curvature

PROJECT DETAILS: Doddridge County WV	
Geologic System	Universal Transverse Mercator (US Survey Feet)
Datum	NAD 1983 (NAD83 CONUS)
Ellipsoid	Clarke 1866
Zone	Zone 17N (48 W to 73 W)
System Datum	Mean Sea Level



Genie Lightfoot
 9:31, February 28 2014
 Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, OK

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Dorothy Unit 2H	0.0	0.0	0.0	0.01423076879	1736341.6139	11° 18' 7.05" N	80° 39' 41.240" W
Actual BHL Dorothy Unit 2H 329.5	6798.6	0.0	-3196.81423756742	1733144.889	12° 26' 12.8" N	80° 40' 21.543" W	



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Admiralty to Grid North
 True North: -0.21°
 Magnetic North: -8.72°
 Strength: 23.1 Gauss
 Dip Angle: 66.27°
 Date: 10/6/2013
 Model: IGR73010

10/23/2015

17.06244



Antero Resources

Doddridge County WV
Stewart Pad
Dorothy Unit 2H
Original Wellpath

Design: As Drilled

EOW Completion Report

28 February, 2014

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Scientific Drilling

10/23/2015



EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Dorothy Unit 2H
Project:	Doddridge County WV	TVD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Site:	Stewart Pad	MD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Well:	Dorothy 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 Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Stewart Pad				
Site Position:		Northing:	14,230,768.62 usft	Latitude:	39° 11' 18.788 N
From:	Map	Easting:	1,736,331.61 usft	Longitude:	80° 39' 41.367 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.21 °

Well	Dorothy Unit 2H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,230,768.79 usft	Latitude:	39° 11' 18.789 N
	+E/-W	0.0 usft	Easting:	1,736,341.61 usft	Longitude:	80° 39' 41.240 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,345.0 usft	Ground Level:	1,332.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/6/2013	-8.51	66.78	52,312

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	342.98

Survey Program	Date	2/28/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
109.5	2,164.5	Survey #2 Def Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
2,164.5	6,057.5	Survey #4 Def Gyro to KOP (Original Well)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
6,164.0	14,847.0	Survey #5 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1	

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
109.5	0.33	154.01	109.5	-0.3	0.1	-0.3	0.30
209.5	0.31	151.85	209.5	-0.8	0.4	-0.9	0.02
309.5	0.27	145.89	309.5	-1.2	0.7	-1.4	0.05
409.5	0.37	126.40	409.5	-1.6	1.0	-1.8	0.15
509.5	0.32	146.01	509.5	-2.0	1.5	-2.4	0.13
609.5	0.31	149.25	609.5	-2.5	1.8	-2.9	0.02
709.5	0.26	134.27	709.5	-2.9	2.1	-3.4	0.09
809.5	0.27	154.19	809.5	-3.2	2.3	-3.8	0.05
909.5	0.16	179.69	909.5	-3.6	2.4	-4.2	0.14

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Dorothy Unit 2H
Project:	Doddridge County WV	TVD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Site:	Stewart Pad	MD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Well:	Dorothy 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)
1,009.5	0.28	204.40	1,009.5	-4.0	2.3	-4.5	0.15
1,109.5	0.12	171.44	1,109.5	-4.3	2.2	-4.8	0.19
1,209.5	0.06	160.72	1,209.5	-4.4	2.3	-4.9	0.06
1,309.5	0.10	275.15	1,309.5	-4.5	2.2	-4.9	0.14
1,409.5	0.04	148.49	1,409.5	-4.5	2.1	-4.9	0.13
1,509.5	0.06	71.99	1,509.5	-4.5	2.2	-5.0	0.06
1,609.5	0.14	157.45	1,609.5	-4.6	2.3	-5.1	0.15
1,709.5	0.17	92.90	1,709.5	-4.7	2.5	-5.3	0.17
1,809.5	0.18	113.28	1,809.5	-4.8	2.8	-5.4	0.06
1,909.5	0.16	113.85	1,909.5	-4.9	3.1	-5.6	0.02
2,009.5	0.12	128.90	2,009.5	-5.0	3.3	-5.8	0.05
2,109.5	0.24	101.12	2,109.5	-5.2	3.6	-6.0	0.15
2,164.5	0.21	82.58	2,164.5	-5.2	3.8	-6.0	0.14
2,264.5	0.47	324.42	2,264.5	-4.8	3.7	-5.7	0.60
2,364.5	2.28	325.47	2,364.5	-2.8	2.3	-3.4	1.81
2,464.5	5.02	322.57	2,464.2	2.3	-1.4	2.6	2.75
2,564.5	4.46	325.55	2,563.9	9.0	-6.3	10.4	0.61
2,664.5	3.43	329.54	2,663.7	14.7	-10.0	17.0	1.07
2,764.5	2.52	328.29	2,763.5	19.2	-12.7	22.1	0.91
2,864.5	1.71	324.56	2,863.5	22.3	-14.7	25.6	0.82
2,964.5	1.16	329.05	2,963.4	24.4	-16.1	28.0	0.56
3,064.5	0.73	330.06	3,063.4	25.8	-16.9	29.6	0.43
3,164.5	0.42	331.06	3,163.4	26.7	-17.4	30.6	0.31
3,264.5	0.31	299.42	3,263.4	27.1	-17.8	31.1	0.23
3,364.5	0.40	322.77	3,363.4	27.5	-18.3	31.7	0.17
3,464.5	0.20	311.26	3,463.4	27.9	-18.6	32.1	0.21
3,564.5	0.20	4.43	3,563.4	28.2	-18.8	32.5	0.18
3,664.5	0.13	357.67	3,663.4	28.5	-18.7	32.7	0.07
3,764.5	0.11	318.41	3,763.4	28.7	-18.8	32.9	0.08
3,864.5	0.04	40.24	3,863.4	28.8	-18.9	33.0	0.11
3,964.5	0.05	101.74	3,963.4	28.8	-18.8	33.0	0.05
4,064.5	0.10	1.40	4,063.4	28.9	-18.7	33.1	0.12
4,164.5	0.15	242.43	4,163.4	28.9	-18.9	33.2	0.22
4,264.5	0.15	294.56	4,263.4	28.9	-19.1	33.2	0.13
4,364.5	0.19	245.58	4,363.4	28.9	-19.4	33.3	0.15
4,464.5	0.30	231.69	4,463.4	28.6	-19.7	33.2	0.12
4,564.5	0.57	243.48	4,563.4	28.3	-20.4	33.0	0.28
4,651.5	0.71	238.31	4,650.4	27.8	-21.2	32.8	0.17
4,660.5	0.57	244.53	4,659.4	27.7	-21.3	32.7	0.17
4,685.0	0.77	236.21	4,683.9	27.6	-21.5	32.7	0.91
4,709.8	1.79	229.05	4,708.7	27.2	-22.0	32.5	4.16
4,734.8	2.66	228.28	4,733.7	26.6	-22.7	32.1	3.48
4,759.9	3.42	228.34	4,758.7	25.7	-23.7	31.5	3.03
4,785.7	4.46	230.56	4,784.5	24.6	-25.1	30.8	4.07
4,810.3	5.14	233.56	4,809.0	23.3	-26.7	30.1	2.95

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Dorothy Unit 2H
Project:	Doddridge County WV	TVD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Site:	Stewart Pad	MD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Well:	Dorothy 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)
4,835.3	5.70	234.92	4,833.9	21.9	-28.6	29.3	2.30
4,860.6	6.64	235.93	4,859.0	20.4	-30.8	28.5	3.74
4,885.3	7.27	238.57	4,883.5	18.8	-33.4	27.7	2.86
4,909.8	8.10	239.49	4,907.8	17.1	-36.2	26.9	3.43
4,927.4	8.70	241.59	4,925.2	15.8	-38.4	26.4	3.83
4,935.4	8.86	242.27	4,933.1	15.3	-39.5	26.1	2.38
4,938.6	8.95	242.09	4,936.3	15.0	-39.9	26.0	2.94
4,947.2	9.25	242.26	4,944.8	14.4	-41.1	25.8	3.50
4,959.6	9.75	243.58	4,957.0	13.5	-42.9	25.4	4.40
4,960.1	9.77	243.63	4,957.5	13.4	-43.0	25.4	4.28
5,109.5	14.56	254.06	5,103.5	2.6	-72.5	23.7	3.52
5,134.7	15.32	254.62	5,127.9	0.9	-78.7	23.9	3.07
5,160.2	15.90	255.34	5,152.4	-0.9	-85.3	24.1	2.40
5,185.2	16.31	255.34	5,176.5	-2.7	-92.0	24.4	1.64
5,210.0	16.85	255.29	5,200.2	-4.5	-98.9	24.7	2.18
5,235.6	17.22	255.13	5,224.7	-6.4	-106.1	25.0	1.46
5,259.8	17.80	254.92	5,247.8	-8.3	-113.2	25.2	2.41
5,285.4	18.38	254.56	5,272.1	-10.3	-120.8	25.5	2.31
5,310.4	18.79	253.99	5,295.8	-12.5	-128.5	25.7	1.79
5,334.6	19.23	253.68	5,318.7	-14.7	-136.1	25.8	1.87
5,359.9	19.99	253.13	5,342.5	-17.1	-144.2	25.8	3.09
5,385.1	20.60	252.20	5,366.2	-19.7	-152.6	25.8	2.74
5,410.2	21.18	251.51	5,389.6	-22.5	-161.1	25.6	2.51
5,434.9	21.84	251.01	5,412.6	-25.4	-169.6	25.3	2.77
5,460.0	22.30	249.95	5,435.8	-28.6	-178.5	24.9	2.42
5,485.5	23.00	248.93	5,459.4	-32.0	-187.7	24.3	3.15
5,510.2	23.51	248.18	5,482.1	-35.6	-196.8	23.6	2.39
5,535.4	23.96	247.45	5,505.1	-39.4	-206.2	22.7	2.14
5,560.1	24.68	246.52	5,527.6	-43.4	-215.6	21.6	3.30
5,585.0	25.12	245.78	5,550.2	-47.6	-225.1	20.3	2.17
5,610.5	25.62	245.05	5,573.3	-52.2	-235.1	18.9	2.32
5,634.5	25.85	244.69	5,594.9	-56.6	-244.5	17.4	1.16
5,660.1	25.99	244.64	5,617.9	-61.4	-254.6	15.8	0.55
5,684.6	25.80	244.11	5,640.0	-66.0	-264.3	14.2	1.23
5,710.3	26.04	244.03	5,663.1	-70.9	-274.4	12.5	0.94
5,735.5	26.40	244.26	5,685.7	-75.8	-284.4	10.8	1.49
5,760.0	26.93	244.80	5,707.6	-80.5	-294.3	9.1	2.37
5,784.7	27.13	245.23	5,729.6	-85.3	-304.5	7.6	1.14
5,810.5	27.32	245.08	5,752.5	-90.2	-315.2	6.0	0.78
5,835.2	27.29	244.94	5,774.5	-95.0	-325.5	4.4	0.29
5,859.9	27.28	244.92	5,796.4	-99.8	-335.7	2.8	0.06
5,885.1	27.55	244.88	5,818.8	-104.7	-346.2	1.2	1.07
5,909.6	27.57	244.85	5,840.5	-109.6	-356.5	-0.4	0.10
5,934.7	26.69	245.76	5,862.8	-114.3	-366.9	-1.9	3.88

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EOW Completion Report



Company: Antero Resources	Local Co-ordinate Reference: Well Dorothy Unit 2H
Project: Doddridge County WV	TVD Reference: 1332' GL + 22.5 RKB @ 1354.5usft
Site: Stewart Pad	MD Reference: 1332' GL + 22.5 RKB @ 1354.5usft
Well: Dorothy 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)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,960.3	25.87	246.86	5,885.8	-118.9	-377.3	-3.3	3.72	
5,985.3	25.48	246.71	5,908.3	-123.2	-387.2	-4.4	1.58	
6,009.8	25.37	247.11	5,930.5	-127.3	-396.9	-5.5	0.83	
6,035.1	24.64	248.18	5,953.4	-131.4	-406.8	-6.5	3.39	
6,057.5	24.33	248.81	5,973.8	-134.8	-415.4	-7.3	1.80	
6,164.0	23.39	248.80	6,071.2	-150.3	-455.6	-10.4	0.88	
6,256.0	22.51	248.19	6,155.9	-163.5	-489.0	-13.2	0.99	
6,351.0	24.97	247.66	6,242.8	-177.9	-524.4	-16.6	2.60	
6,445.0	22.51	246.96	6,328.9	-192.4	-559.3	-20.3	2.63	
6,539.0	24.01	250.91	6,415.2	-205.7	-594.0	-22.9	2.30	
6,633.0	27.17	250.21	6,500.0	-219.3	-632.2	-24.6	3.38	
6,727.0	25.50	249.15	6,584.3	-233.7	-671.3	-27.0	1.85	
6,821.0	22.95	249.50	6,670.0	-247.4	-707.4	-29.5	2.72	
6,912.0	26.09	248.96	6,752.8	-260.8	-742.7	-31.9	3.46	
7,004.0	23.43	247.68	6,836.3	-275.0	-778.5	-35.0	2.95	
7,038.0	22.27	246.23	6,867.6	-280.1	-790.7	-36.4	3.79	
7,069.0	23.04	250.36	6,896.2	-284.5	-801.8	-37.4	5.70	
7,099.0	24.98	256.61	6,923.6	-288.0	-813.5	-37.3	10.65	
7,129.0	27.90	262.20	6,950.5	-290.4	-826.6	-35.7	12.78	
7,159.0	30.78	267.35	6,976.7	-291.7	-841.2	-32.7	12.76	
7,189.0	33.41	271.83	7,002.1	-291.8	-857.2	-28.1	11.82	
7,219.0	35.88	277.28	7,026.8	-290.4	-874.1	-21.8	13.20	
7,250.0	37.81	282.38	7,051.6	-287.2	-892.4	-13.4	11.66	
7,281.0	39.57	287.65	7,075.8	-282.2	-911.1	-3.2	12.04	
7,311.0	40.98	293.80	7,098.7	-275.3	-929.2	8.7	14.06	
7,342.0	42.12	299.60	7,121.9	-266.1	-947.6	22.9	12.94	
7,372.0	43.21	304.87	7,143.9	-255.2	-964.8	38.3	12.44	
7,403.0	44.32	310.85	7,166.3	-242.1	-981.7	55.9	13.81	
7,415.0	45.22	312.25	7,174.9	-236.5	-988.0	63.1	11.14	
Middlesex								
7,433.0	46.60	314.28	7,187.4	-227.6	-997.4	74.3	11.14	
7,464.0	49.33	317.27	7,208.1	-211.1	-1,013.5	94.8	11.35	
7,494.0	53.29	319.82	7,226.9	-193.6	-1,028.9	116.1	14.77	
7,525.0	57.07	321.75	7,244.6	-173.8	-1,045.0	139.6	13.22	
7,555.0	60.06	324.39	7,260.2	-153.4	-1,060.4	163.7	12.48	
7,585.0	62.34	328.43	7,274.7	-131.5	-1,074.9	188.9	14.03	
7,599.0	63.48	330.12	7,281.1	-120.8	-1,081.3	201.0	13.47	
Burkett								
7,616.0	64.89	332.12	7,288.5	-107.4	-1,088.7	216.0	13.47	
7,646.0	67.80	335.02	7,300.5	-82.8	-1,100.9	243.1	13.13	
7,648.0	68.03	335.19	7,301.3	-81.1	-1,101.7	244.9	14.18	
Tully								
7,676.0	71.32	337.57	7,311.0	-57.0	-1,112.2	271.0	14.18	
7,706.0	74.22	340.38	7,319.9	-30.3	-1,122.5	299.6	13.17	

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Dorothy Unit 2H
Project:	Doddridge County WV	TVD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Site:	Stewart Pad	MD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Well:	Dorothy 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)	
7,737.0	76.15	342.49	7,327.8	-1.9	-1,132.0	329.5	9.06	
7,768.0	79.84	343.28	7,334.2	27.1	-1,140.9	359.9	12.16	
7,798.0	82.83	343.72	7,338.8	55.5	-1,149.3	389.5	10.07	
7,857.0	88.45	343.78	7,343.3	112.0	-1,165.8	448.3	9.53	
7,876.0	88.74	343.88	7,343.7	130.2	-1,171.1	467.3	1.62	
Marcellus								
7,944.0	89.78	344.25	7,344.6	195.6	-1,189.8	535.3	1.62	
8,039.0	89.25	343.99	7,345.4	287.0	-1,215.7	630.3	0.62	
8,134.0	90.22	343.81	7,345.8	378.2	-1,242.1	725.2	1.04	
8,229.0	89.60	343.20	7,346.0	469.3	-1,269.1	820.2	0.92	
8,324.0	90.66	342.84	7,345.8	560.2	-1,296.8	915.2	1.18	
8,419.0	90.31	343.55	7,345.0	651.1	-1,324.3	1,010.2	0.83	
8,514.0	89.87	342.76	7,344.8	742.1	-1,351.8	1,105.2	0.95	
8,608.0	89.25	343.02	7,345.5	831.9	-1,379.5	1,199.2	0.72	
8,703.0	90.92	344.78	7,345.4	923.2	-1,405.8	1,294.2	2.55	
8,798.0	90.84	344.43	7,343.9	1,014.7	-1,431.0	1,389.2	0.38	
8,892.0	89.60	344.43	7,343.6	1,105.3	-1,456.2	1,483.1	1.32	
8,987.0	89.69	343.02	7,344.2	1,196.5	-1,482.9	1,578.1	1.49	
9,082.0	89.25	342.58	7,345.0	1,287.2	-1,511.0	1,673.1	0.65	
9,176.0	90.84	343.28	7,345.0	1,377.1	-1,538.5	1,767.1	1.85	
9,271.0	90.31	342.84	7,344.0	1,467.9	-1,566.2	1,862.1	0.73	
9,366.0	89.52	342.05	7,344.2	1,558.5	-1,594.9	1,957.1	1.18	
9,461.0	89.25	340.82	7,345.2	1,648.6	-1,625.1	2,052.1	1.33	
9,555.0	90.04	341.53	7,345.8	1,737.5	-1,655.5	2,146.0	1.13	
9,650.0	89.87	341.00	7,345.8	1,827.5	-1,686.0	2,241.0	0.59	
9,745.0	89.96	340.65	7,346.0	1,917.2	-1,717.2	2,335.9	0.38	
9,839.0	90.40	344.07	7,345.7	2,006.8	-1,745.7	2,429.9	3.67	
9,934.0	90.57	344.87	7,344.9	2,098.3	-1,771.1	2,524.8	0.86	
10,029.0	89.96	343.81	7,344.4	2,189.8	-1,796.7	2,619.8	1.29	
10,123.0	91.10	343.55	7,343.6	2,280.0	-1,823.1	2,713.8	1.24	
10,218.0	91.10	343.81	7,341.7	2,371.2	-1,849.8	2,808.8	0.27	
10,313.0	90.75	344.51	7,340.2	2,462.5	-1,875.8	2,903.7	0.82	
10,408.0	90.04	343.99	7,339.6	2,554.0	-1,901.5	2,998.7	0.93	
10,503.0	89.34	343.55	7,340.1	2,645.2	-1,928.1	3,093.7	0.87	
10,598.0	89.87	343.46	7,340.7	2,736.3	-1,955.1	3,188.7	0.57	
10,693.0	89.87	344.07	7,340.9	2,827.5	-1,981.6	3,283.7	0.64	
10,788.0	90.57	343.81	7,340.6	2,918.8	-2,007.9	3,378.7	0.79	
10,882.0	90.04	342.23	7,340.1	3,008.7	-2,035.4	3,472.7	0.77	
10,977.0	89.43	342.32	7,340.5	3,099.2	-2,064.3	3,567.7	0.65	
11,072.0	90.40	341.88	7,340.7	3,189.6	-2,093.5	3,662.6	1.12	
11,167.0	90.40	342.32	7,340.0	3,280.0	-2,122.7	3,757.6	0.46	
11,262.0	89.87	341.70	7,339.8	3,370.3	-2,152.0	3,852.6	0.86	
11,357.0	89.25	342.23	7,340.5	3,460.6	-2,181.4	3,947.6	0.86	
11,452.0	90.48	341.79	7,340.7	3,551.0	-2,210.8	4,042.6	1.98	
11,546.0	90.13	341.97	7,340.2	3,640.3	-2,240.0	4,136.6	0.42	

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Dorothy Unit 2H
Project:	Doddridge County WV	TVD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Site:	Stewart Pad	MD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Well:	Dorothy Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
11,641.0	89.87	341.39	7,340.2	3,730.5	-2,269.9	4,231.5	0.67
11,736.0	90.04	342.23	7,340.3	3,820.8	-2,299.5	4,326.5	0.90
11,831.0	89.87	343.02	7,340.4	3,911.4	-2,327.9	4,421.5	0.85
11,925.0	89.43	343.37	7,340.9	4,001.4	-2,355.1	4,515.5	0.60
12,020.0	88.90	342.76	7,342.3	4,092.3	-2,382.7	4,610.5	0.85
12,115.0	90.66	344.87	7,342.7	4,183.5	-2,409.2	4,705.5	2.89
12,210.0	90.84	343.81	7,341.5	4,275.0	-2,434.9	4,800.4	1.13
12,305.0	88.72	342.58	7,341.8	4,365.9	-2,462.3	4,895.4	2.58
12,400.0	88.46	342.41	7,344.2	4,456.5	-2,490.9	4,990.4	0.33
12,495.0	89.43	342.58	7,345.9	4,547.1	-2,519.5	5,085.4	1.04
12,590.0	90.84	343.28	7,345.7	4,637.9	-2,547.3	5,180.4	1.66
12,686.0	90.48	342.23	7,344.6	4,729.6	-2,575.8	5,276.4	1.16
12,781.0	91.28	343.20	7,343.1	4,820.3	-2,604.0	5,371.4	1.32
12,875.0	90.48	343.02	7,341.7	4,910.2	-2,631.3	5,465.3	0.87
12,970.0	89.69	342.23	7,341.5	5,000.9	-2,659.7	5,560.3	1.18
13,065.0	90.22	344.25	7,341.6	5,091.8	-2,687.1	5,655.3	2.20
13,160.0	89.34	342.76	7,342.0	5,182.9	-2,714.1	5,750.3	1.82
13,255.0	93.21	346.71	7,339.9	5,274.5	-2,739.1	5,845.2	5.82
13,350.0	91.36	346.10	7,336.1	5,366.8	-2,761.4	5,940.0	2.05
13,445.0	90.57	343.90	7,334.5	5,458.5	-2,786.0	6,034.9	2.46
13,539.0	91.45	343.81	7,332.8	5,548.8	-2,812.1	6,128.9	0.94
13,632.0	90.40	342.32	7,331.3	5,637.7	-2,839.2	6,221.8	1.96
13,727.0	89.96	342.84	7,331.0	5,728.4	-2,867.6	6,316.8	0.72
13,822.0	90.84	341.17	7,330.3	5,818.7	-2,897.0	6,411.8	1.99
13,917.0	90.75	340.12	7,329.0	5,908.3	-2,928.4	6,506.7	1.11
14,011.0	90.75	343.72	7,327.8	5,997.7	-2,957.6	6,600.7	3.83
14,106.0	90.66	344.43	7,326.6	6,089.0	-2,983.7	6,695.7	0.75
14,201.0	90.13	343.11	7,326.0	6,180.2	-3,010.2	6,790.7	1.50
14,296.0	89.16	343.20	7,326.6	6,271.1	-3,037.7	6,885.7	1.03
14,391.0	88.81	343.20	7,328.2	6,362.1	-3,065.2	6,980.6	0.37
14,486.0	90.57	344.16	7,328.8	6,453.2	-3,091.9	7,075.6	2.11
14,581.0	89.52	343.90	7,328.7	6,544.6	-3,118.0	7,170.6	1.14
14,676.0	88.72	342.49	7,330.1	6,635.5	-3,145.5	7,265.6	1.71
14,795.0	91.14	342.59	7,330.3	6,749.0	-3,181.2	7,384.6	2.04
14,847.0	90.50	342.59	7,329.5	6,798.6	-3,196.8	7,436.6	1.23

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Dorothy Unit 2H
Project:	Doddridge County WV	TVD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Site:	Stewart Pad	MD Reference:	1332' GL + 22.5 RKB @ 1354.5usft
Well:	Dorothy Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,415.0	7,174.9	-236.5	-988.0	Middlesex
7,599.0	7,281.1	-120.8	-1,081.3	Burkett
7,648.0	7,301.3	-81.1	-1,101.7	Tully
7,876.0	7,343.7	130.2	-1,171.1	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/31/2014
Job End Date:	6/12/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06244-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Dorothy Unit 2H
Longitude:	-80.66145600
Latitude:	39.18855300
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	7,343
Total Base Water Volume (gal):	9,162,258
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
Freshwater	Republic Energy	Frac Base	Water	7732-18-5	100.00000	91.84152	None
40/70 White Sand	JS Silica	Proppant	Sand	14808-60-7	100.00000	4.30439	None
20/40 White Sand	JS Silica	Proppant	Sand	14808-60-7	100.00000	2.87850	None
100 Mesh	JS Silica	Proppant	Sand	14808-60-7	100.00000	0.54900	None
SOS 1545	Ultrablend	Guar Gel	Hydrocarbons	64741-85-1	70.00000	0.07185	None
Plexslick 953	Chemplex	Friction Reducer	Water	7732-18-5	35.00000	0.02183	None
			Polyacrylamide-co-acrylic acid	Proprietary	32.00000	0.01996	None
			Hydrotreated Petroleum Distillate	64742-47-8	30.00000	0.01871	None
			Alcohol Ethoxylate Surfactants	Proprietary	8.00000	0.00499	None
HCl Acid 19-15%	GoFrac	Acid	Hydrochloric Acid	7647-01-0	15.00000	0.03379	None
Plexicide 15G	Chemplex	Biocide	Water	7732-18-5	90.00000	0.01267	None

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			Glutaraldehyde	111-30-8	14.00000	0.00197	None
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00042	None
			Alkyl Dimethyl Benzyl Ammonium Chloride	68424-85-1	3.00000	0.00042	None
			Ethanol	64-17-5	3.00000	0.00042	None
Plexaid 673	Chemplex	Scale Inhibitor					
			Water	7732-18-5	85.00000	0.01137	None
			Methyl Alcohol	67-56-1	25.00000	0.00334	None
			Sodium Salt of Phosphonodimethylated Diamine	Proprietary	5.00000	0.00067	None
Sodium Persulfate	Chemplex	Active Breaker					
			Sodium Persulfate	7775-27-1	100.00000	0.00133	None
Greenflush	Chemplex	Cleaner					
			Alcohol Ethoxyate Surfactants	Proprietary	10.00000	0.00063	None
Ferriplex 66	Chemplex	Iron Control					
			Acetic Acid	64-19-7	50.00000	0.00025	None
			Water	7732-18-5	35.00000	0.00017	None
			Citric Acid	77-92-9	30.00000	0.00015	None
Plexhib 256	Chemplex	Corrosion Inhibitor					
			Methyl Alcohol	67-56-1	70.00000	0.00026	None
			Alcohol Ethoxyate Surfactants	Proprietary	30.00000	0.00011	None
			Thiourea-formaldehyde copolymer	68527-49-1	30.00000	0.00011	None
			n-olefins	Proprietary	10.00000	0.00004	None
			Propargyl Alcohol	107-19-7	8.00000	0.00003	None
Plexbreak 145	Chemplex	Non-Emulsifier					
			Water	7732-18-5	66.00000	0.00027	None
			Methyl Alcohol	67-56-1	15.00000	0.00006	None
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00000	0.00006	None
			Cocamide Diethanolamine Salt	68603-42-9	10.00000	0.00004	None
			Diethanolamine	111-42-2	5.00000	0.00002	None

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)

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LATITUDE 39°12'30"

10,334'

1,696' TO BOTTOM HOLE

2H BOTTOM HOLE

LATITUDE 39°12'30"

LONGITUDE 80°40'00"

7.197'

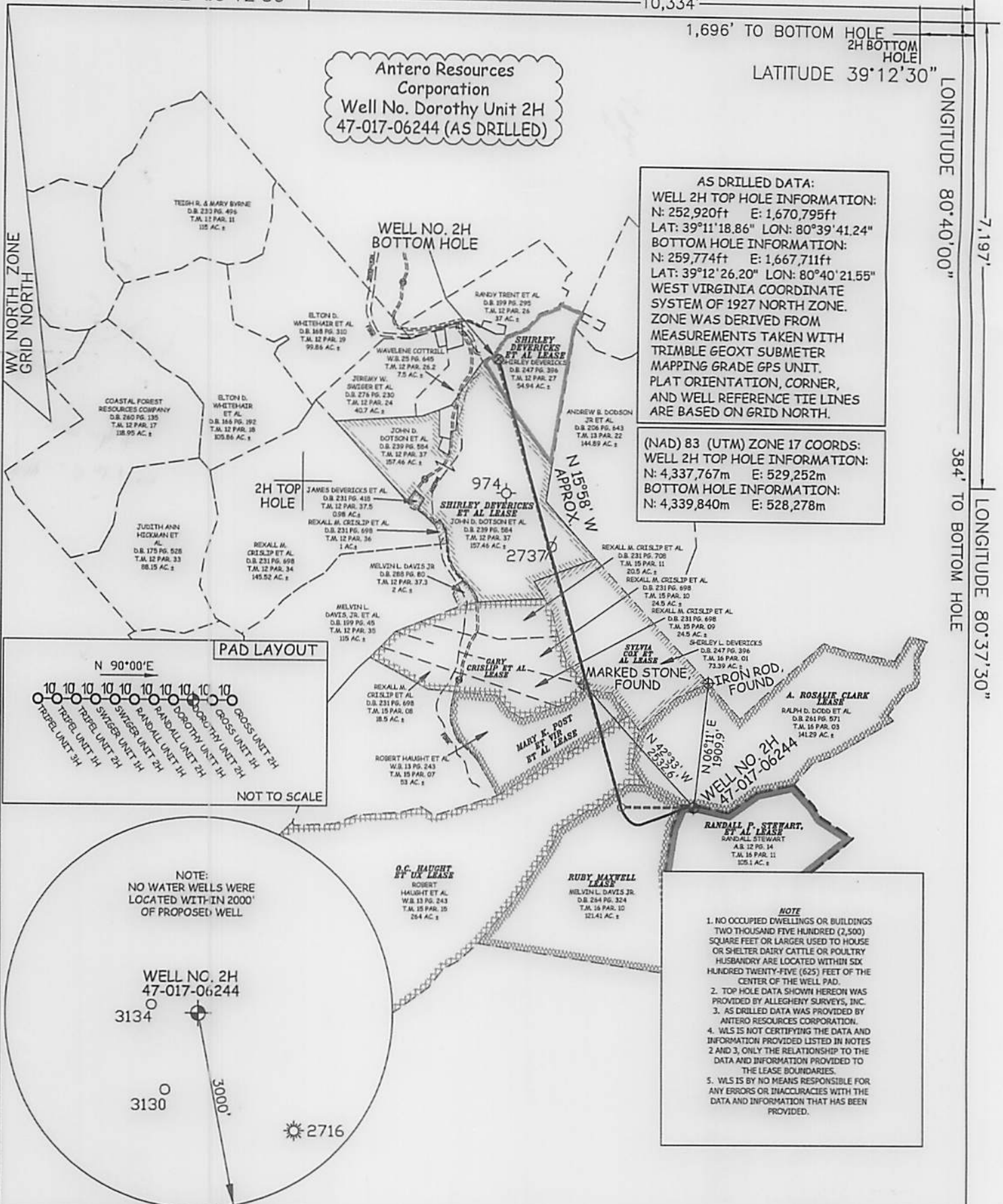
384' TO BOTTOM HOLE

LONGITUDE 80°37'30"

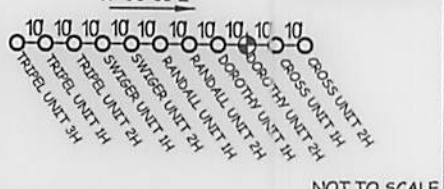
Antero Resources Corporation
Well No. Dorothy Unit 2H
47-017-06244 (AS DRILLED)

AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
N: 252,920ft E: 1,670,795ft
LAT: 39°11'18.86" LON: 80°39'41.24"
BOTTOM HOLE INFORMATION:
N: 259,774ft E: 1,667,711ft
LAT: 39°12'26.20" LON: 80°40'21.55"
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: 4,337,767m E: 529,252m
BOTTOM HOLE INFORMATION:
N: 4,339,840m E: 528,278m



PAD LAYOUT



NOT TO SCALE

NOTE:
NO WATER WELLS WERE LOCATED WITHIN 2000' OF PROPOSED WELL



- 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 # 12-119WA
DRAWING # DOROTHY2HAD
SCALE 1" = 2000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

WILLOW LAND SURVEYING PLLC
P.O. BOX 17
PENNSBORO, WV 26415

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

STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

DATE 04/23/15
OPERATOR'S WELL# DOROTHY UNIT #2H

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 1,361' ORIGINAL - 1,334' AS-DRILLED WATERSHED HEADWATERS MIDDLE ISLAND CREEK
QUADRANGLE NEW MILTON 7.5' DISTRICT NEW MILTON COUNTY DODDRIDGE

API WELL # 47 - 017 - 06244
STATE COUNTY PERMIT

SURFACE OWNER RANDALL STEWART ACREAGE 105.1 ACRES +/-
OIL & GAS ROYALTY COWNER RANDALL P. STEWART, ET AL; RUBY MAXWELL; O.C. HAUGHT, ET UX; LEASE ACREAGE 195 ACRES±; 121 ACRES±; 264 ACRES±;
MARY K. POST ET VIR ET AL; GARY CRISLIP ET AL; SYLVIA COX ET AL; SHIRLEY DEVERICKS ET AL; SHIRLEY DEVERICKS ET AL 53 ACRES±; 88 ACRES±; 73 ACRES±; 157 ACRES±; 57.475 ACRES±
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 7,330' TVD 14,847' MD

WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

10/23/2015

COUNTY NAME PERMIT