

APPROVED

WR-35
Rev. 8/23/13

NAME: [Signature]
DATE: 11/17

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

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API 47-017-06287 County Doddridge District New Milton
Quad New Milton 7.5' Pad Name Stewart Pad Field/Pool Name -----
Farm name Randall & Carolyn S. Stewart Well Number Randall 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 4337765.168m Easting 529246.468m
Landing Point of Curve Northing 4337581.828m Easting 529345.500m
Bottom Hole Northing 4334321.410m Easting 530358.265m

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Elevation (ft) 1333' 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 08/13/2013 Date drilling commenced 09/23/2014 Date drilling ceased 01/17/2015
Date completion activities began 11/22/2016 Date completion activities ceased 05/08/2017
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 35', 372', 407' Open mine(s) (Y/N) depths No
Salt water depth(s) ft 964', 1136', 1752' Void(s) encountered (Y/N) depths No
Coal depth(s) ft 1907' Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

Reviewed by:

11/10/2017

API 47-017 - 06287 Farm name Randall & Carolyn S. Stewart Well number Randall 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#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	446'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2526'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	18995'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7427'		4.7#, N-80		
Packer type and depth set		N/A					

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Comment Details _____

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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	171 sx	15.6	1.18	202	0'	8 Hrs.
Surface	Class A	585 sx	15.6	1.18	690	0'	8 Hrs.
Coal							
Intermediate 1	Class A	988 sx	15.6	1.18	1166	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1067 sx (Lead) 1817 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.78 (Tail)	4771	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 18995' MD, 7324' TVD (BHL) & 7356' TVD (Deepest Point Drilled) Loggers TD (ft) 18948' MD

Deepest formation penetrated Marcellus Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 6823'

** 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 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 _____

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED N/A

API 47- 017 - 06287 Farm name Randall & Carolyn S. Stewart Well number Randall 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					

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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 (bbbls)	Amount of Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

Please insert additional pages as applicable.

API 47- 017 - 06287 Farm name Randall & Carolyn S. Stewart Well number Randall Unit 2H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7296' (TOP)	TVD	7400' (TOP) MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3950 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 11151 mcfpd Oil 38 bpd NGL --- bpd Water 805 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP		BOTTOM		DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

***PLEASE SEE ATTACHED EXHIBIT 3**

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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 Nine Energy Service
Address 125 Museum Road City Washington State PA Zip 15301

Cementing Company Allied Oil & Gas Services, LLC
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company US Well Services
Address 533 Industrial Park Drive City Jane Lew State WV Zip 26378

Please insert additional pages as applicable.

Completed by Samantha Klaas Telephone 303-357-6759
Signature [Signature] Title Permitting Agent Date 10/27/2017

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

11/10/2017

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	11/22/2016	18712	18879	60	Marcellus
2	12/15/2016	18515	18682	60	Marcellus
3	12/17/2016	18317	18484	60	Marcellus
4	12/17/2016	18119	18286	60	Marcellus
5	12/18/2016	17922	18088	60	Marcellus
6	12/18/2016	17724	17891	60	Marcellus
7	12/19/2016	17526	17693	60	Marcellus
8	12/19/2016	17329	17495	60	Marcellus
9	12/20/2016	17131	17298	60	Marcellus
10	12/20/2016	16933	17100	60	Marcellus
11	12/21/2016	16736	16902	60	Marcellus
12	12/22/2016	16538	16705	60	Marcellus
13	12/23/2016	16340	16507	60	Marcellus
14	12/26/2016	16143	16309	60	Marcellus
15	12/26/2016	15945	16112	60	Marcellus
16	12/27/2016	15747	15914	60	Marcellus
17	12/27/2016	15550	15716	60	Marcellus
18	12/28/2016	15352	15519	60	Marcellus
19	12/29/2016	15154	15321	60	Marcellus
20	12/29/2016	14957	15123	60	Marcellus
21	12/29/2016	14759	14926	60	Marcellus
22	12/29/2016	14561	14728	60	Marcellus
23	12/30/2016	14364	14530	60	Marcellus
24	12/31/2016	14166	14333	60	Marcellus
25	1/1/2017	13968	14135	60	Marcellus
26	1/1/2017	13771	13937	60	Marcellus
27	1/2/2017	13573	13740	60	Marcellus
28	1/2/2017	13375	13542	60	Marcellus
29	1/3/2017	13178	13344	60	Marcellus
30	1/3/2017	12980	13147	60	Marcellus
31	1/4/2017	12782	12949	60	Marcellus
32	1/4/2017	12585	12751	60	Marcellus
33	1/5/2017	12387	12554	60	Marcellus
34	1/5/2017	12189	12356	60	Marcellus
35	1/6/2017	11991	12158	60	Marcellus
36	1/6/2017	11794	11961	60	Marcellus
37	1/7/2017	11596	11763	60	Marcellus
38	1/8/2017	11398	11565	60	Marcellus
39	1/8/2017	11201	11368	60	Marcellus
40	1/9/2017	11003	11170	60	Marcellus
41	1/12/2017	10805	10972	60	Marcellus
42	1/13/2017	10608	10774	60	Marcellus
43	1/13/2017	10410	10577	60	Marcellus
44	1/13/2017	10212	10379	60	Marcellus
45	1/14/2017	10015	10181	60	Marcellus
46	1/14/2017	9817	9984	60	Marcellus
47	1/14/2017	9619	9786	60	Marcellus
48	1/15/2017	9422	9588	60	Marcellus
49	1/15/2017	9224	9391	60	Marcellus
50	1/15/2017	9026	9193	60	Marcellus
51	1/16/2017	8829	8995	60	Marcellus
52	1/16/2017	8631	8798	60	Marcellus
53	1/17/2017	8433	8600	60	Marcellus
54	1/17/2017	8236	8402	60	Marcellus
55	1/18/2017	8038	8205	60	Marcellus
56	1/18/2017	7840	8007	60	Marcellus
57	1/19/2017	7643	7809	60	Marcellus
58	1/19/2017	7445	7612	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	12/14/2016	72.0	8067	5453	4531	500700	10715	N/A
2	12/15/2016	76.1	8083	5819	5547	501380	14251	N/A
3	12/17/2016	78.5	8063	5641	5583	501950	10761	N/A
4	12/17/2016	78.0	7836	5519	5525	500250	11516	N/A
5	12/18/2016	75.8	7756	5775	4864	500140	10662	N/A
6	12/18/2016	76.2	7847	5454	5570	500830	10718	N/A
7	12/19/2016	74.9	7736	5686	4669	500730	10555	N/A
8	12/19/2016	73.7	7878	6211	5416	451500	10617	N/A
9	12/20/2016	75.9	7797	5535	5721	500680	10551	N/A
10	12/20/2016	75.4	7772	5455	4608	497700	10509	N/A
11	12/21/2016	73.0	7701	6437	5071	461480	18953	N/A
12	12/22/2016	51.4	7965	5464	4837	498400	20528	N/A
13	12/23/2016	76.7	7499	5675	5549	501330	12855	N/A
14	12/26/2016	74.4	7592	5408	5242	501250	12463	N/A
15	12/26/2016	77.3	7842	5589	4996	499800	10623	N/A
16	12/27/2016	74.7	7550	5408	5355	500830	10613	N/A
17	12/27/2016	77.0	7633	5696	5100	499750	10594	N/A
18	12/28/2016	70.5	7655	5585	4332	500350	13228	N/A
19	12/29/2016	77.4	7676	5391	4977	498250	10609	N/A
20	12/29/2016	74.1	7491	5636	4775	499100	12296	N/A
21	12/29/2016	71.2	7219	5347	4597	500450	10589	N/A
22	12/29/2016	76.1	7583	5924	4789	501255	10628	N/A
23	12/30/2016	75.0	7678	5232	3998	500390	11293	N/A
24	12/31/2016	74.8	7553	5653	5133	500050	11595	N/A
25	1/1/2017	76.1	7616	5671	4825	501840	10636	N/A
26	1/1/2017	76.5	7605	5571	5182	488050	10424	N/A
27	1/2/2017	76.6	7314	5381	4983	499470	10469	N/A
28	1/2/2017	76.2	7138	5408	4817	499520	10474	N/A
29	1/3/2017	76.1	7072	5316	4996	500540	10489	N/A
30	1/3/2017	74.9	6940	5404	5153	500380	10444	N/A
31	1/4/2017	74.5	7026	5848	5402	509130	10611	N/A
32	1/4/2017	75.4	7168	5746	5263	499670	10422	N/A
33	1/5/2017	75.6	7273	5804	4887	499720	10460	N/A
34	1/5/2017	75.2	7157	5518	5220	500030	10422	N/A
35	1/6/2017	75.1	7011	5471	5082	500750	10424	N/A
36	1/6/2017	76.1	7057	5777	5384	495020	10217	N/A
37	1/7/2017	74.1	7174	5175	5555	500660	11639	N/A
38	1/8/2017	73.6	7103	5408	5781	500750	10348	N/A
39	1/8/2017	70.2	7103	5174	5278	500300	17349	N/A
40	1/9/2017	75.3	7151	5353	4983	501080	10686	N/A
41	1/12/2017	74.0	7060	5669	5420	500820	10321	N/A
42	1/13/2017	74.8	7203	5715	5547	501080	10328	N/A
43	1/13/2017	73.4	7333	5617	5434	501250	11130	N/A
44	1/13/2017	73.3	7242	6084	4882	500290	10302	N/A
45	1/14/2017	74.3	7271	5698	5110	500848	11517	N/A
46	1/14/2017	73.1	7076	5560	5476	500800	10554	N/A
47	1/14/2017	71.7	7547	5742	5233	500380	10554	N/A
48	1/15/2017	70.8	6796	5655	5310	499800	10370	N/A
49	1/15/2017	68.7	7198	5587	5229	499800	12937	N/A
50	1/15/2017	71.6	7197	5821	5765	500330	12445	N/A
51	1/16/2017	74.3	7082	6150	5285	499200	11104	N/A
52	1/16/2017	71.4	7018	5438	4755	501900	12410	N/A
53	1/17/2017	74.3	6846	5170	5497	497720	11800	N/A
54	1/17/2017	73.1	6827	5893	5250	498950	10410	N/A
55	1/18/2017	72.1	6745	5639	5189	500560	10245	N/A
56	1/18/2017	76.2	7007	5812	5076	498900	10388	N/A
57	1/19/2017	73.4	6682	5745	5359	500930	10234	N/A
58	1/19/2017	77.0	6775	5545	5463	506700	10886	N/A
AVG=		74.1	7367	5,613	5,153	28,925,713	661,171	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	35'	N/A	35'	N/A
Fresh Water	372'	N/A	372'	N/A
Fresh Water	407'	N/A	407'	N/A
Shale/Siltstone	est. 0	447	est. 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	1127	est. 887	1127
Sandstone	est. 1127	1207	est. 1127	1207
Shale	est. 1207	1787	est. 1207	1787
Sandstone/Siltstone	est. 1787	1907	est. 1787	1907
Sandstone/Siltstone with trace coal	est. 1907	1967	est. 1907	1967
Shale	est. 1967	2395	est. 1967	2399
Big Lime	est. 1397	2479	est. 1397	2482
Big Injun	est. 1542	2691	est. 1542	2695
Gantz Sand	est. 1602	2839	est. 1602	2842
Fifty Foot Sandstone	2839	3051	2842	3055
Gordon	3051	3405	3055	3408
Fifth Sandstone	3405	3469	3408	3472
Bayard	3469	3745	3472	3748
Warren	3745	4016	3748	4020
Spechley	4016	4218	4020	4221
Baltown	4218	4847	4221	4851
Bradford	4847	5307	4851	5310
Benson	5307	5558	5310	5561
Alexander	5558	5785	5561	5788
Elk	5785	6327	5788	6331
Rhinestreet	6327	6852	6331	6856
Sycamore	6852	7017	6856	7029
Middlesex	7017	7166	7029	7198
Burkett	7166	7196	7198	7236
Tully	7196	7296	7236	7400
Marcellus	7296	NA	7400	NA

*Please note Antero determines 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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Randall Unit 2H
Doddridge County WV
Northing: 14230768.22
Easting: 1736321.64
As Drilled

WELL DETAILS Randall Unit 2H
 Ground Level: 1332.0
 +N/-S 0.0 +E/-W 0.0 Northing 14230768.22 Easting 1736321.64
 39° 11' 18.784" N 80° 39' 41.494" W

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

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Randall Unit 2H	0.0	0.0	0.0	14230768.22	1736321.64	39° 11' 18.784" N	80° 39' 41.494" W
BHL Randall Unit 2H 7324.3	-11302.6	3648.8	-11302.6	14219465.64	1739970.40	39° 9' 26.890" N	80° 38' 55.692" W

Paterson 347_GL 1332 + KB 25 @ 1357.Draft
 Gr: 1332.0



Courtney Leach
 14.22, January 13, 2015
 Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, OK 73124

LEGEND

- Dorothy Unit 2H, Original Wellpath, As Drilled V0
- Swiger Unit 2H, Original Wellpath, As Drilled V0
- Cross Unit 1H, Sidetrack 1, ST1 As Drilled V0
- Cross Unit 1H, Original Wellpath, As Drilled V0
- Swiger Unit 1H, Original Wellpath, As Drilled V0
- Randall Unit 1H, Original Wellpath, As Drilled V0
- Dorothy Unit 1H, Original Wellpath, As Drilled V0
- Cross Unit 2H, Original Wellpath, As Drilled V0
- Randall Unit 2H, Original Wellpath, Plan 6 V0
- As Drilled

Vertical Section at 162.85° (2000 usft/in)

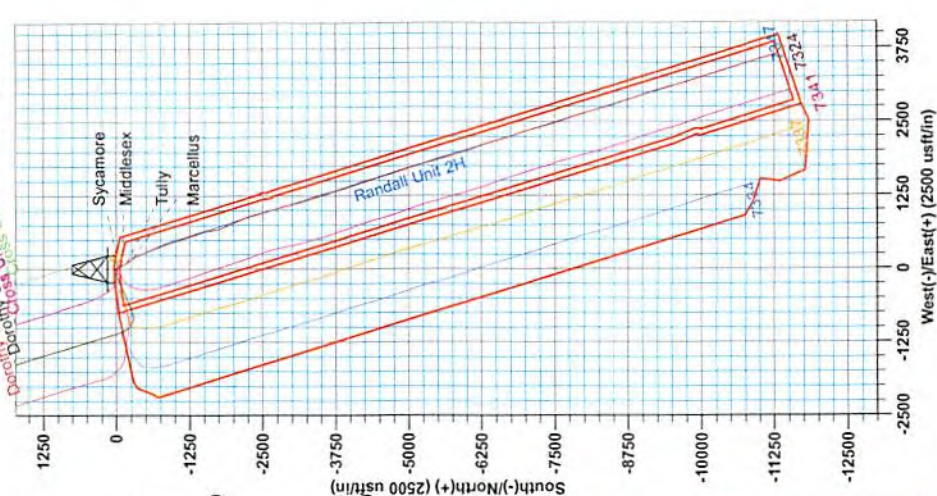
South(-)/North+() (2500 usft/in)

West(-)/East+() (2500 usft/in)

Geographic Coordinates:
 Sycamore: 7324.3, 1332.0
 Middlesex: 7324.3, 1332.0
 Tully: 7324.3, 1332.0
 Marcellus: 7324.3, 1332.0

Geologic Formations:
 Sycamore
 Middlesex
 Tully
 Marcellus

Well Path Labels:
 Dorothy Unit 1H, 2H
 Swiger Unit 1H, 2H
 Cross Unit 1H, 2H
 Randall Unit 1H, 2H



Vertical Section at 162.85° (2000 usft/in)

True Vertical Depth (2000 usft/in)

1000
2000
3000
4000
5000
6000
7000
8000
9000

0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000 13000 14000 15000 16000 17000

16000 16000

5660.1 1809.5

9005

Vertical Section at 162.85° (2000 usft/in)

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Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall 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	Randall Unit 2H, Marcellus				
-------------	----------------------------	--	--	--	--

Well Position	+N/-S	0.0 usft	Northing:	14,230,768.22 usft	Latitude:	39° 11' 18.784 N
	+E/-W	0.0 usft	Easting:	1,736,321.64 usft	Longitude:	80° 39' 41.494 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,357.0 usft	Ground Level:	1,332.0 usft

Wellbore	Original Wellpath				
-----------------	-------------------	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	9/15/2014	-8.54	66.75	52,160

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	162.85

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Survey Program	Date	1/13/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
37.0	2,497.2	Survey #4 Def Int Survey (Original Wellpat	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
2,557.0	18,995.0	Survey #5 SDI MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

WV Department of
Environmental Protection

Survey									
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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
37.0	0.10	184.11	37.0	0.0	0.0	0.0	0.27
62.0	0.20	184.11	62.0	-0.1	0.0	0.1	0.40
87.0	0.30	184.11	87.0	-0.2	0.0	0.2	0.40
112.0	0.40	184.11	112.0	-0.4	0.0	0.3	0.40
137.0	0.56	182.29	137.0	-0.6	0.0	0.5	0.64
162.0	0.63	182.59	162.0	-0.8	0.0	0.8	0.28
187.0	0.58	168.46	187.0	-1.1	0.0	1.0	0.63
212.0	0.34	204.22	212.0	-1.3	0.0	1.2	1.45
237.0	0.33	198.74	237.0	-1.4	-0.1	1.3	0.13
262.0	0.31	179.21	262.0	-1.6	-0.1	1.5	0.44

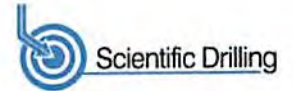


Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	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)
287.0	0.07	108.72	287.0	-1.6	-0.1	1.5	1.18
312.0	0.19	154.79	312.0	-1.7	-0.1	1.6	0.60
337.0	0.21	203.32	337.0	-1.7	-0.1	1.6	0.66
362.0	0.26	201.22	362.0	-1.8	-0.1	1.7	0.20
387.0	0.24	149.20	387.0	-1.9	-0.1	1.8	0.88
412.0	0.34	151.82	412.0	-2.0	0.0	1.9	0.40
437.0	0.25	130.19	437.0	-2.1	0.0	2.1	0.57
462.0	0.45	142.93	462.0	-2.3	0.1	2.2	0.85
487.0	0.91	138.37	487.0	-2.5	0.3	2.5	1.85
512.0	2.12	134.62	512.0	-3.0	0.8	3.1	4.85
537.0	2.99	132.82	537.0	-3.7	1.6	4.0	3.49
562.0	3.20	134.02	561.9	-4.7	2.6	5.2	0.88
587.0	3.68	134.73	586.9	-5.7	3.7	6.5	1.93
612.0	4.20	134.56	611.8	-6.9	4.9	8.0	2.08
637.0	4.35	133.09	636.7	-8.2	6.2	9.7	0.74
662.0	5.66	125.83	661.7	-9.6	7.9	11.5	5.81
687.0	6.10	123.46	686.5	-11.0	10.0	13.5	2.01
712.0	6.77	123.83	711.4	-12.6	12.4	15.7	2.69
737.0	7.44	123.92	736.2	-14.3	14.9	18.1	2.68
762.0	7.62	123.63	761.0	-16.1	17.6	20.6	0.74
787.0	7.68	123.48	785.7	-18.0	20.4	23.2	0.25
812.0	7.74	123.74	810.5	-19.8	23.2	25.8	0.28
837.0	7.53	127.41	835.3	-21.8	25.9	28.4	2.12
862.0	7.29	131.22	860.1	-23.8	28.4	31.1	2.19
887.0	7.22	133.01	884.9	-25.9	30.7	33.8	0.95
912.0	7.03	135.34	909.7	-28.1	33.0	36.5	1.38
937.0	6.34	140.89	934.5	-30.2	34.9	39.2	3.78
962.0	5.70	143.78	959.4	-32.3	36.5	41.6	2.83
987.0	4.98	143.83	984.3	-34.2	37.9	43.8	2.88
1,012.0	4.78	143.44	1,009.2	-35.9	39.2	45.8	0.81
1,037.0	4.36	143.05	1,034.1	-37.5	40.3	47.7	1.68
1,062.0	4.12	143.89	1,059.0	-39.0	41.5	49.5	0.99
1,087.0	3.80	142.83	1,084.0	-40.4	42.5	51.1	1.31
1,112.0	3.43	143.46	1,108.9	-41.6	43.4	52.6	1.49
1,137.0	3.18	143.31	1,133.9	-42.8	44.3	53.9	1.00
1,162.0	2.98	143.31	1,158.8	-43.9	45.1	55.2	0.80
1,187.0	2.78	144.88	1,183.8	-44.9	45.8	56.4	0.86
1,212.0	2.39	147.54	1,208.8	-45.8	46.5	57.5	1.63
1,237.0	2.32	147.16	1,233.8	-46.7	47.0	58.5	0.29
1,262.0	2.01	147.35	1,258.7	-47.5	47.5	59.4	1.24
1,287.0	1.62	145.04	1,283.7	-48.1	48.0	60.1	1.59
1,312.0	1.38	147.48	1,308.7	-48.7	48.3	60.8	0.99
1,337.0	1.37	144.34	1,333.7	-49.2	48.7	61.3	0.30
1,362.0	1.30	146.10	1,358.7	-49.6	49.0	61.9	0.32

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Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall 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)
1,387.0	1.13	140.75	1,383.7	-50.1	49.3	62.4	0.82
1,412.0	1.07	144.25	1,408.7	-50.4	49.6	62.8	0.36
1,437.0	1.16	139.33	1,433.7	-50.8	49.9	63.3	0.53
1,462.0	0.94	143.41	1,458.7	-51.2	50.2	63.7	0.93
1,487.0	0.71	148.19	1,483.7	-51.5	50.4	64.1	0.96
1,512.0	0.64	147.03	1,508.7	-51.7	50.5	64.3	0.29
1,537.0	0.69	152.23	1,533.7	-52.0	50.7	64.6	0.31
1,562.0	0.55	147.06	1,558.7	-52.2	50.8	64.9	0.60
1,587.0	0.43	139.78	1,583.7	-52.4	51.0	65.1	0.54
1,612.0	0.32	131.95	1,608.7	-52.5	51.1	65.2	0.48
1,637.0	0.39	121.44	1,633.7	-52.6	51.2	65.4	0.38
1,662.0	0.53	139.67	1,658.7	-52.7	51.5	65.5	0.80
1,687.0	0.34	135.65	1,683.7	-52.9	51.5	65.7	0.77
1,712.0	0.32	142.43	1,708.7	-53.0	51.6	65.8	0.18
1,737.0	0.19	152.38	1,733.7	-53.1	51.6	65.9	0.55
1,762.0	0.10	130.45	1,758.7	-53.1	51.7	66.0	0.42
1,787.0	0.08	92.52	1,783.7	-53.1	51.7	66.0	0.25
1,812.0	0.15	114.51	1,808.7	-53.2	51.7	66.0	0.33
1,837.0	0.14	125.07	1,833.7	-53.2	51.8	66.1	0.11
1,862.0	0.08	170.08	1,858.7	-53.2	51.8	66.1	0.40
1,887.0	0.16	118.21	1,883.7	-53.3	51.9	66.2	0.51
1,912.0	0.25	119.47	1,908.7	-53.3	51.9	66.2	0.36
1,937.0	0.17	114.52	1,933.7	-53.3	52.0	66.3	0.33
1,962.0	0.16	134.16	1,958.7	-53.4	52.1	66.4	0.23
1,987.0	0.19	181.61	1,983.7	-53.4	52.1	66.4	0.57
2,012.0	0.13	140.50	2,008.7	-53.5	52.1	66.5	0.50
2,037.0	0.15	195.73	2,033.7	-53.6	52.1	66.5	0.52
2,062.0	0.01	121.33	2,058.7	-53.6	52.1	66.6	0.59
2,087.0	0.08	66.56	2,083.7	-53.6	52.1	66.6	0.30
2,112.0	0.18	91.09	2,108.7	-53.6	52.2	66.6	0.45
2,137.0	0.21	112.18	2,133.7	-53.6	52.3	66.6	0.31
2,162.0	0.22	89.56	2,158.7	-53.6	52.4	66.7	0.34
2,187.0	0.23	114.65	2,183.7	-53.6	52.5	66.7	0.39
2,212.0	0.29	136.03	2,208.7	-53.7	52.5	66.8	0.45
2,237.0	0.16	178.76	2,233.7	-53.8	52.6	66.9	0.82
2,262.0	0.29	131.00	2,258.7	-53.9	52.6	67.0	0.87
2,287.0	0.07	124.12	2,283.7	-53.9	52.7	67.1	0.88
2,312.0	0.14	94.39	2,308.7	-53.9	52.7	67.1	0.35
2,337.0	0.31	103.51	2,333.7	-53.9	52.8	67.1	0.69
2,362.0	0.31	63.10	2,358.7	-53.9	53.0	67.1	0.86
2,387.0	0.30	99.47	2,383.7	-53.9	53.1	67.2	0.76
2,412.0	0.21	109.06	2,408.7	-53.9	53.2	67.2	0.40
2,437.0	0.17	167.57	2,433.7	-54.0	53.2	67.3	0.76
2,462.0	0.14	118.92	2,458.7	-54.0	53.3	67.3	0.52
2,487.0	0.17	129.62	2,483.7	-54.1	53.3	67.4	0.17



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall 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)
2,497.2	0.15	98.63	2,493.9	-54.1	53.4	67.4	0.86
2,557.0	0.34	67.27	2,553.7	-54.0	53.6	67.4	0.38
2,651.0	0.36	78.48	2,647.7	-53.9	54.2	67.4	0.08
2,745.0	0.46	316.41	2,741.7	-53.5	54.2	67.1	0.76
2,839.0	0.69	320.80	2,835.7	-52.8	53.6	66.3	0.25
2,933.0	0.62	10.94	2,929.7	-51.9	53.3	65.3	0.59
3,028.0	0.11	61.98	3,024.7	-51.3	53.5	64.8	0.59
3,122.0	0.45	309.93	3,118.7	-51.0	53.3	64.5	0.53
3,216.0	0.32	252.50	3,212.7	-50.9	52.7	64.2	0.41
3,310.0	0.46	44.95	3,306.7	-50.7	52.8	64.0	0.81
3,404.0	0.50	354.84	3,400.7	-50.0	53.0	63.4	0.43
3,498.0	0.25	197.14	3,494.6	-49.8	52.9	63.2	0.78
3,593.0	0.41	281.83	3,589.6	-49.9	52.5	63.2	0.48
3,687.0	0.37	341.73	3,683.6	-49.6	52.1	62.7	0.42
3,781.0	0.60	86.87	3,777.6	-49.3	52.5	62.6	0.83
3,875.0	0.66	35.96	3,871.6	-48.8	53.3	62.3	0.58
3,969.0	0.21	263.36	3,965.6	-48.4	53.4	62.0	0.87
4,063.0	0.73	73.36	4,059.6	-48.2	53.8	62.0	1.00
4,158.0	0.62	75.45	4,154.6	-47.9	54.9	62.0	0.12
4,252.0	0.34	310.03	4,248.6	-47.6	55.2	61.8	0.92
4,346.0	0.78	350.52	4,342.6	-46.8	54.9	60.9	0.60
4,440.0	0.44	279.34	4,436.6	-46.1	54.4	60.1	0.81
4,534.0	0.53	247.80	4,530.6	-46.2	53.6	60.0	0.30
4,628.0	0.63	321.70	4,624.6	-46.0	52.9	59.6	0.75
4,722.0	0.60	347.28	4,718.6	-45.1	52.5	58.6	0.29
4,816.0	0.49	316.65	4,812.6	-44.3	52.1	57.7	0.33
4,911.0	0.27	272.88	4,907.6	-44.0	51.6	57.3	0.37
5,005.0	0.53	317.85	5,001.6	-43.7	51.1	56.8	0.41
5,099.0	0.53	3.08	5,095.6	-42.9	50.8	56.0	0.43
5,193.0	0.53	38.81	5,189.6	-42.2	51.1	55.4	0.35
5,287.0	0.66	21.60	5,283.6	-41.3	51.6	54.7	0.23
5,381.0	0.62	31.24	5,377.6	-40.4	52.1	53.9	0.12
5,475.0	0.53	346.59	5,471.6	-39.5	52.2	53.2	0.47
5,570.0	0.79	349.58	5,566.6	-38.5	52.0	52.1	0.28
5,664.0	0.26	21.04	5,660.6	-37.6	52.0	51.3	0.62
5,758.0	0.77	332.52	5,754.6	-36.9	51.7	50.5	0.67
5,852.0	0.71	328.37	5,848.6	-35.8	51.1	49.3	0.09
5,946.0	0.14	35.19	5,942.6	-35.2	50.9	48.7	0.71
6,040.0	0.70	22.80	6,036.5	-34.6	51.2	48.1	0.60
6,134.0	0.79	26.76	6,130.5	-33.5	51.7	47.2	0.11
6,228.0	0.70	60.15	6,224.5	-32.6	52.5	46.6	0.46
6,322.0	0.58	15.24	6,318.5	-31.9	53.1	46.1	0.53
6,416.0	0.09	78.70	6,412.5	-31.4	53.3	45.7	0.58
6,510.0	0.51	359.35	6,506.5	-31.0	53.4	45.3	0.53

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Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall 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)	
6,604.0	0.11	244.19	6,600.5	-30.6	53.3	44.9	0.60	
6,699.0	0.44	35.51	6,695.5	-30.3	53.4	44.7	0.57	
6,742.0	0.19	166.65	6,738.5	-30.3	53.5	44.7	1.36	
6,793.0	0.59	182.92	6,789.5	-30.6	53.5	45.0	0.81	
6,823.0	3.90	195.16	6,819.5	-31.7	53.3	46.0	11.09	
6,853.0	7.92	198.29	6,849.3	-34.7	52.4	48.6	13.44	
6,880.0	11.47	196.03	6,875.9	-39.0	51.0	52.4	13.22	
6,881.0	11.56	195.86	6,876.9	-39.2	51.0	52.5	9.47	
Sycamore								
6,910.0	14.16	191.88	6,905.2	-45.5	49.5	58.1	9.47	
6,940.0	15.46	184.45	6,934.2	-53.1	48.4	65.0	7.66	
6,970.0	16.86	177.21	6,963.0	-61.4	48.3	72.9	8.17	
7,000.0	18.13	169.74	6,991.6	-70.4	49.3	81.8	8.59	
7,030.0	19.72	161.91	7,020.0	-79.8	51.7	91.5	9.98	
7,054.0	21.38	158.51	7,042.5	-87.7	54.6	99.9	8.53	
Middlesex								
7,060.0	21.81	157.74	7,048.1	-89.7	55.4	102.1	8.53	
7,075.0	22.98	156.46	7,061.9	-95.0	57.6	107.8	8.45	
7,090.0	24.33	154.39	7,075.7	-100.5	60.2	113.7	10.57	
7,105.0	25.45	152.54	7,089.3	-106.1	63.0	120.0	9.09	
7,120.0	26.73	150.90	7,102.7	-111.9	66.1	126.4	9.79	
7,135.0	27.96	150.26	7,116.1	-117.9	69.5	133.2	8.43	
7,150.0	29.17	148.64	7,129.2	-124.1	73.1	140.1	9.58	
7,165.0	30.61	149.04	7,142.2	-130.5	77.0	147.4	9.69	
7,180.0	31.77	148.08	7,155.1	-137.1	81.1	154.9	8.41	
7,210.0	34.52	146.88	7,180.2	-150.9	89.9	170.7	9.42	
7,240.0	37.94	146.04	7,204.4	-165.7	99.7	187.7	11.52	
7,261.0	40.68	145.38	7,220.6	-176.7	107.2	200.5	13.18	
Tully								
7,270.0	41.85	145.12	7,227.4	-181.6	110.6	206.1	13.18	
7,285.0	43.88	144.58	7,238.4	-189.9	116.4	215.8	13.75	
7,300.0	45.98	143.61	7,249.0	-198.5	122.6	225.8	14.73	
7,315.0	47.80	143.18	7,259.3	-207.3	129.2	236.2	12.31	
7,327.0	48.80	143.00	7,267.3	-214.5	134.6	244.6	8.41	
7,357.0	52.56	142.65	7,286.3	-232.9	148.6	266.4	12.57	
7,382.0	57.02	142.29	7,300.7	-249.1	161.0	285.5	17.88	
7,412.0	62.96	143.80	7,315.7	-269.9	176.6	310.0	20.27	
7,425.0	65.54	145.01	7,321.3	-279.4	183.4	321.1	21.56	
Marcellus								
7,442.0	68.93	146.53	7,327.9	-292.4	192.2	336.1	21.56	
7,475.0	75.80	149.68	7,337.9	-319.1	208.8	366.5	22.72	
7,511.0	83.66	154.12	7,344.3	-350.3	225.5	401.2	24.97	
7,541.0	86.65	157.42	7,346.8	-377.5	237.7	430.9	14.81	
7,571.0	86.65	158.89	7,348.6	-405.3	248.9	460.7	4.89	
7,601.0	86.41	158.57	7,350.4	-433.2	259.8	490.6	1.33	

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OCT 30 2017



EOW Completion Report



Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall 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)
7,631.0	86.00	158.77	7,352.4	-461.1	270.6	520.4	1.52
7,661.0	87.96	158.76	7,354.0	-489.1	281.5	550.3	6.53
7,691.0	89.16	158.87	7,354.7	-517.0	292.3	580.2	4.02
7,721.0	88.99	158.77	7,355.2	-545.0	303.2	610.2	0.66
7,751.0	89.78	159.03	7,355.5	-573.0	314.0	640.1	2.77
7,781.0	90.77	158.20	7,355.4	-600.9	324.9	670.0	4.31
7,811.0	90.57	157.38	7,355.0	-628.7	336.2	699.9	2.81
7,879.0	91.65	156.90	7,353.7	-691.3	362.7	767.5	1.74
7,973.0	91.71	158.67	7,351.0	-778.3	398.2	861.1	1.88
8,067.0	90.60	162.23	7,349.1	-866.9	429.6	955.0	3.97
8,161.0	89.56	160.47	7,348.9	-955.9	459.7	1,049.0	2.17
8,255.0	91.01	162.29	7,348.5	-1,045.0	489.7	1,142.9	2.48
8,349.0	91.14	162.50	7,346.7	-1,134.6	518.1	1,236.9	0.26
8,443.0	90.57	162.09	7,345.3	-1,224.1	546.7	1,330.9	0.75
8,538.0	90.27	162.36	7,344.6	-1,314.6	575.7	1,425.9	0.42
8,632.0	92.19	163.70	7,342.6	-1,404.4	603.1	1,519.8	2.49
8,726.0	90.07	163.18	7,340.7	-1,494.5	629.9	1,613.8	2.32
8,820.0	90.04	171.69	7,340.6	-1,586.2	650.3	1,707.4	9.05
8,914.0	90.37	170.68	7,340.3	-1,679.1	664.8	1,800.4	1.13
9,008.0	88.32	162.54	7,341.4	-1,770.4	686.5	1,894.1	8.93
9,102.0	86.71	154.20	7,345.5	-1,857.7	721.1	1,987.7	9.03
9,196.0	90.47	156.00	7,347.8	-1,942.9	760.6	2,080.8	4.43
9,290.0	89.43	155.82	7,347.9	-2,028.7	799.0	2,174.1	1.12
9,384.0	88.26	158.98	7,349.8	-2,115.4	835.1	2,267.6	3.58
9,479.0	89.56	159.86	7,351.6	-2,204.4	868.5	2,362.4	1.65
9,573.0	90.77	161.84	7,351.3	-2,293.1	899.3	2,456.4	2.47
9,667.0	90.97	161.63	7,349.9	-2,382.4	928.8	2,550.3	0.31
9,761.0	89.87	164.49	7,349.2	-2,472.3	956.2	2,644.3	3.26
9,855.0	88.76	164.68	7,350.3	-2,562.9	981.2	2,738.3	1.20
9,949.0	90.34	164.33	7,351.0	-2,653.5	1,006.3	2,832.2	1.72
10,043.0	89.90	164.80	7,350.8	-2,744.1	1,031.3	2,926.2	0.68
10,137.0	89.19	165.46	7,351.6	-2,835.0	1,055.4	3,020.1	1.03
10,232.0	90.67	164.25	7,351.7	-2,926.6	1,080.2	3,115.0	2.01
10,326.0	90.37	164.89	7,350.9	-3,017.3	1,105.2	3,209.0	0.75
10,420.0	89.53	164.08	7,350.9	-3,107.8	1,130.4	3,303.0	1.24
10,514.0	90.00	161.23	7,351.3	-3,197.5	1,158.4	3,397.0	3.07
10,608.0	90.10	163.99	7,351.2	-3,287.2	1,186.5	3,490.9	2.94
10,703.0	90.84	165.03	7,350.5	-3,378.8	1,211.9	3,585.9	1.34
10,797.0	90.34	164.24	7,349.5	-3,469.4	1,236.8	3,679.8	0.99
10,891.0	90.00	163.21	7,349.2	-3,559.6	1,263.1	3,773.8	1.15
10,985.0	89.76	162.12	7,349.4	-3,649.4	1,291.1	3,867.8	1.19
11,079.0	90.97	161.81	7,348.8	-3,738.8	1,320.2	3,961.8	1.33
11,173.0	89.73	162.58	7,348.2	-3,828.2	1,349.0	4,055.8	1.55
11,268.0	89.26	161.97	7,349.1	-3,918.7	1,377.9	4,150.8	0.81
11,362.0	90.17	163.70	7,349.5	-4,008.5	1,405.6	4,244.8	2.08

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EOW Completion Report



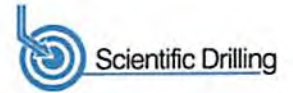
Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	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)
11,456.0	90.97	162.30	7,348.6	-4,098.4	1,433.1	4,338.8	1.72
11,550.0	90.40	162.70	7,347.5	-4,188.1	1,461.4	4,432.8	0.74
11,645.0	89.33	163.47	7,347.7	-4,279.0	1,489.0	4,527.8	1.39
11,739.0	90.67	163.13	7,347.7	-4,369.0	1,516.0	4,621.8	1.47
11,833.0	90.07	161.84	7,347.1	-4,458.6	1,544.3	4,715.8	1.51
11,927.0	91.18	162.36	7,346.1	-4,548.1	1,573.2	4,809.7	1.30
12,021.0	90.87	163.91	7,344.4	-4,638.0	1,600.5	4,903.7	1.68
12,115.0	90.20	162.16	7,343.5	-4,727.9	1,627.9	4,997.7	1.99
12,210.0	90.27	160.28	7,343.1	-4,817.9	1,658.5	5,092.7	1.98
12,304.0	91.48	161.06	7,341.7	-4,906.5	1,689.6	5,186.6	1.53
12,398.0	91.71	163.52	7,339.1	-4,996.0	1,718.2	5,280.5	2.63
12,488.0	90.00	164.08	7,337.7	-5,082.5	1,743.3	5,370.5	2.00
12,579.0	91.31	164.85	7,336.7	-5,170.1	1,767.6	5,461.5	1.67
12,670.0	88.99	163.26	7,336.4	-5,257.6	1,792.6	5,552.4	3.09
12,763.0	90.47	163.52	7,336.9	-5,346.7	1,819.2	5,645.4	1.62
12,856.0	90.30	164.09	7,336.3	-5,436.0	1,845.2	5,738.4	0.64
12,948.0	89.63	165.13	7,336.3	-5,524.7	1,869.6	5,830.4	1.34
13,041.0	90.23	164.02	7,336.4	-5,614.4	1,894.3	5,923.3	1.36
13,133.0	89.09	161.95	7,337.0	-5,702.3	1,921.2	6,015.3	2.57
13,225.0	89.76	162.64	7,337.9	-5,790.0	1,949.2	6,107.3	1.05
13,317.0	91.31	162.90	7,337.0	-5,877.9	1,976.5	6,199.3	1.71
13,408.0	91.51	162.50	7,334.8	-5,964.7	2,003.5	6,290.3	0.49
13,501.0	91.31	162.48	7,332.5	-6,053.4	2,031.5	6,383.2	0.22
13,595.0	88.86	157.86	7,332.4	-6,141.8	2,063.4	6,477.1	5.56
13,689.0	90.40	160.37	7,333.0	-6,229.6	2,096.9	6,570.9	3.13
13,783.0	90.13	161.52	7,332.5	-6,318.4	2,127.5	6,664.8	1.26
13,877.0	89.87	162.14	7,332.5	-6,407.7	2,156.9	6,758.8	0.72
13,971.0	90.70	164.10	7,332.1	-6,497.7	2,184.2	6,852.8	2.26
14,065.0	90.81	164.58	7,330.8	-6,588.2	2,209.5	6,946.8	0.52
14,159.0	90.34	163.85	7,329.9	-6,678.6	2,235.1	7,040.7	0.92
14,253.0	89.90	161.94	7,329.7	-6,768.5	2,262.7	7,134.7	2.09
14,348.0	89.50	160.86	7,330.2	-6,858.5	2,293.0	7,229.7	1.21
14,442.0	89.23	163.27	7,331.2	-6,947.9	2,322.0	7,323.7	2.58
14,536.0	89.26	163.76	7,332.5	-7,038.1	2,348.7	7,417.7	0.52
14,630.0	88.96	164.16	7,333.9	-7,128.4	2,374.6	7,511.6	0.53
14,724.0	89.60	163.80	7,335.1	-7,218.7	2,400.6	7,605.6	0.78
14,818.0	89.63	163.34	7,335.8	-7,308.9	2,427.1	7,699.6	0.49
14,913.0	89.53	164.13	7,336.4	-7,400.1	2,453.8	7,794.6	0.84
15,007.0	90.30	162.43	7,336.6	-7,490.1	2,480.8	7,888.6	1.99
15,101.0	90.54	161.71	7,335.9	-7,579.5	2,509.7	7,982.6	0.81
15,195.0	90.30	162.26	7,335.2	-7,668.9	2,538.8	8,076.6	0.64
15,289.0	90.87	162.38	7,334.3	-7,758.5	2,567.4	8,170.6	0.62
15,383.0	90.54	162.56	7,333.1	-7,848.1	2,595.7	8,264.5	0.40
15,477.0	90.94	162.84	7,331.9	-7,937.8	2,623.6	8,358.5	0.52

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Project: Doddridge County WV	TVD Reference: Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site: Stewart Pad	MD Reference: Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well: Randall 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)
15,571.0	90.54	163.19	7,330.7	-8,027.7	2,651.1	8,452.5	0.57
15,665.0	90.17	163.43	7,330.1	-8,117.8	2,678.1	8,546.5	0.47
15,759.0	91.24	163.10	7,328.9	-8,207.8	2,705.1	8,640.5	1.19
15,853.0	90.81	163.28	7,327.2	-8,297.8	2,732.3	8,734.5	0.50
15,947.0	90.67	164.16	7,326.0	-8,388.0	2,758.7	8,828.5	0.95
16,042.0	90.60	164.31	7,325.0	-8,479.4	2,784.5	8,923.4	0.17
16,136.0	90.10	163.12	7,324.4	-8,569.6	2,810.8	9,017.4	1.37
16,230.0	89.40	161.15	7,324.8	-8,659.1	2,839.7	9,111.4	2.22
16,324.0	90.07	162.42	7,325.2	-8,748.4	2,869.0	9,205.4	1.53
16,418.0	90.47	162.36	7,324.8	-8,838.0	2,897.5	9,299.4	0.43
16,513.0	89.70	159.84	7,324.7	-8,927.8	2,928.2	9,394.3	2.77
16,607.0	90.13	161.17	7,324.8	-9,016.4	2,959.6	9,488.3	1.49
16,701.0	89.90	162.30	7,324.8	-9,105.7	2,989.1	9,582.2	1.23
16,795.0	89.50	161.46	7,325.3	-9,195.0	3,018.3	9,676.2	0.99
16,890.0	90.17	164.18	7,325.5	-9,285.8	3,046.4	9,771.2	2.95
16,984.0	90.40	164.05	7,325.1	-9,376.2	3,072.1	9,865.2	0.28
17,078.0	90.40	163.77	7,324.4	-9,466.5	3,098.1	9,959.2	0.30
17,172.0	90.60	164.03	7,323.6	-9,556.8	3,124.2	10,053.1	0.35
17,266.0	90.17	163.70	7,323.0	-9,647.1	3,150.3	10,147.1	0.58
17,361.0	89.56	163.41	7,323.2	-9,738.2	3,177.2	10,242.1	0.71
17,455.0	90.40	163.40	7,323.2	-9,828.3	3,204.1	10,336.1	0.89
17,549.0	88.76	163.20	7,323.9	-9,918.3	3,231.1	10,430.1	1.76
17,643.0	88.79	163.20	7,325.9	-10,008.3	3,258.3	10,524.1	0.03
17,738.0	89.09	163.20	7,327.7	-10,099.2	3,285.7	10,619.1	0.32
17,832.0	89.96	162.81	7,328.5	-10,189.1	3,313.2	10,713.1	1.01
17,926.0	90.31	163.08	7,328.2	-10,279.0	3,340.7	10,807.1	0.47
18,020.0	90.20	162.69	7,327.8	-10,368.8	3,368.4	10,901.1	0.43
18,114.0	90.13	162.77	7,327.6	-10,458.6	3,396.3	10,995.1	0.11
18,208.0	90.17	162.39	7,327.3	-10,548.3	3,424.5	11,089.1	0.41
18,302.0	90.22	163.34	7,327.0	-10,638.1	3,452.2	11,183.1	1.01
18,396.0	91.08	163.88	7,325.9	-10,728.3	3,478.7	11,277.0	1.08
18,490.0	91.04	163.13	7,324.2	-10,818.4	3,505.4	11,371.0	0.80
18,584.0	91.28	163.18	7,322.3	-10,908.4	3,532.6	11,465.0	0.26
18,678.0	89.43	163.39	7,321.7	-10,998.4	3,559.6	11,559.0	1.98
18,866.0	89.43	163.66	7,323.6	-11,178.6	3,612.9	11,747.0	0.14
18,936.0	89.78	163.96	7,324.0	-11,245.9	3,632.5	11,817.0	0.66
18,995.0	89.78	163.96	7,324.3	-11,302.6	3,648.8	11,875.9	0.00

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Company:	Antero	Local Co-ordinate Reference:	Well Randall Unit 2H
Project:	Doddridge County WV	TVD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Site:	Stewart Pad	MD Reference:	Patterson 347: GL 1332' + KB 25' @ 1357.0usft
Well:	Randall 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)	
6,881.0	6,876.9	-39.2	51.0	Sycamore
7,054.0	7,042.5	-87.7	54.6	Middlesex
7,261.0	7,220.6	-176.7	107.2	Tully
7,425.0	7,321.3	-279.4	183.4	Marcellus

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

Job Start Date:	12/14/2016
Job End Date:	1/19/2017
State:	West Virginia
County:	Doddridge
API Number:	47-017-06287-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Randall 2H
Latitude:	39.18855000
Longitude:	-80.66152500
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,355
Total Base Water Volume (gal):	28,588,072
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
Water	Antero Resources	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.99135	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	10.79645	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.09105	
			Hydrogen Chloride	7647-01-0	17.50000	0.02117	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.02133	
			Petroleum Distillates	64742-47-8	60.00000	0.02020	
			Suspending agent (solid)	14808-60-7	3.00000	0.00326	
			Surfactant	68439-51-0	3.00000	0.00128	
WFRA-405	U.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with 2-propenamide	29003-06-9	30.00000	0.01983	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01596	

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SI-1100	U.S. Well Services, LLC	Scale Inhibitor				
			Ethylene Glycol	107-21-1	40.00000	0.00730
			Copolymer of Maleic and Acrylic acid	52255-49-9	10.00000	0.00151
			Potassium salt of diethylene triamine penta (methylene phosphonic acid)	15827-60-8	3.00000	0.00052
			Phosphino carboxylic acid polymer	71050-62-9	3.00000	0.00050
			Hexamethylene tramine penta (methylene phosphonic acid)	34690-00-1	3.00000	0.00050
Bioclear 2000	U.S. Well Services, LLC	Anti-Bacterial Agent				
			2,2-dibromo-3-nitripropionamide	10222-01-2	20.00000	0.00412
			Deionized Water	7732-18-5	28.00000	0.00236
WFRA-500	U.S. Well Services, LLC	Friction Reducer				
			2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.00042
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.00034
AP One	U.S. Well Services, LLC	Gel Breakers				
			Ammonium Persulfate	7727-54-0	100.00000	0.00049
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors				
			Ethylene glycol	107-21-1	40.00000	0.00003
			Formic acid	64-18-6	20.00000	0.00001
			Polyether	Proprietary	10.00000	0.00001
			Cinnamaldehyde	104-55-2	20.00000	0.00001
			Butyl cellosolve	111-76-2	20.00000	0.00001
			Acetophenone, thiourea, formaldehyde polymer	68527-49-1	5.00000	0.00000

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.

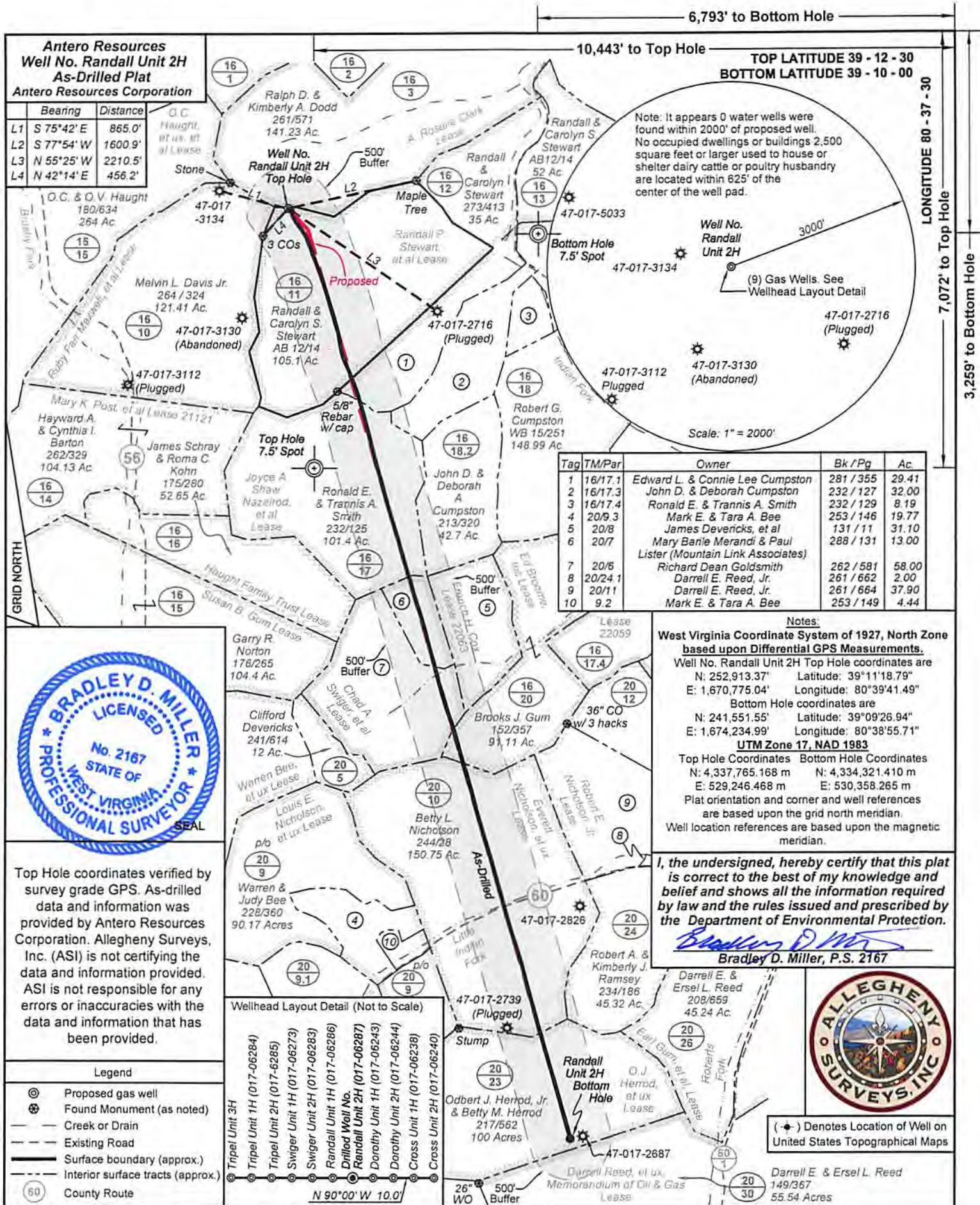
* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** 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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Antero Resources Well No. Randall Unit 2H As-Drilled Plat
Antero Resources Corporation

Bearing	Distance
L1 S 75°42' E	865.0'
L2 S 77°54' W	1600.9'
L3 N 55°25' W	2210.5'
L4 N 42°14' E	456.2'

Tag	TM/Par	Owner	Bk /Pg	Ac.
1	16/17.1	Edward L. & Connie Lee Cumpston	281 / 355	29.41
2	16/17.3	John D. & Deborah Cumpston	232 / 127	32.00
3	16/17.4	Ronald E. & Trannis A. Smith	232 / 129	8.19
4	20/9.3	Mark E. & Tara A. Bee	253 / 146	19.77
5	20/8	James Devencks, et al	131 / 11	31.10
6	20/7	Mary Barlie Merandi & Paul Lister (Mountain Link Associates)	288 / 131	13.00
7	20/6	Richard Dean Goldsmith	262 / 581	58.00
8	20/24.1	Darrell E. Reed, Jr.	261 / 662	2.00
9	20/11	Darrell E. Reed, Jr.	261 / 664	37.90
10	9.2	Mark E. & Tara A. Bee	253 / 149	4.44

Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Randall Unit 2H Top Hole coordinates are
N: 252,913.37' Longitude: 80°39'41.49"
E: 1,670,775.04'
Bottom Hole coordinates are
N: 241,551.55' Longitude: 39°09'26.94"
E: 1,674,234.99' Longitude: 80°38'55.71"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,337,765.168 m N: 4,334,321.410 m
E: 529,246.468 m E: 530,358.265 m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.
Bradley D. Miller
Bradley D. Miller, P.S. 2167



Top Hole coordinates verified by survey grade GPS. As-drilled data and information was provided by Antero Resources Corporation. Allegheny Surveys, Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

Legend

- ⊙ Proposed gas well
- ⊛ Found Monument (as noted)
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)
- 60 County Route

Wellhead Layout Detail (Not to Scale)

Triplet Unit 3H	Triplet Unit 1H (017-06284)
Triplet Unit 2H (017-6285)	Triplet Unit 2H (017-06273)
Swiger Unit 1H (017-06283)	Swiger Unit 2H (017-06286)
Randall Unit 1H (017-06287)	Randall Unit 2H (017-06287)
Dorothy Unit 1H (017-06243)	Dorothy Unit 2H (017-06244)
Cross Unit 1H (017-06238)	Cross Unit 2H (017-06240)

FILE NO: 74-30-NM-13
DRAWING NO: As-Drilled Randall 2H Well
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: July 13 2017
OPERATOR'S WELL NO. Randall Unit 2H
API WELL NO. 47-017-06287
COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: Original - 1361' WATERSHED: Headwaters Middle Island Creek QUADRANGLE: New Milton
DISTRICT: New Milton COUNTY: Doddridge
SURFACE OWNER: Randall & Carolyn S. Stewart
ROYALTY OWNER: Joyce A. Shaw Nazelrod, et al; Randall P. Stewart, et al; O.J. Herrod, et ux LEASE NO: 21994 ACREAGE: 69.54; 87.01; 384
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313



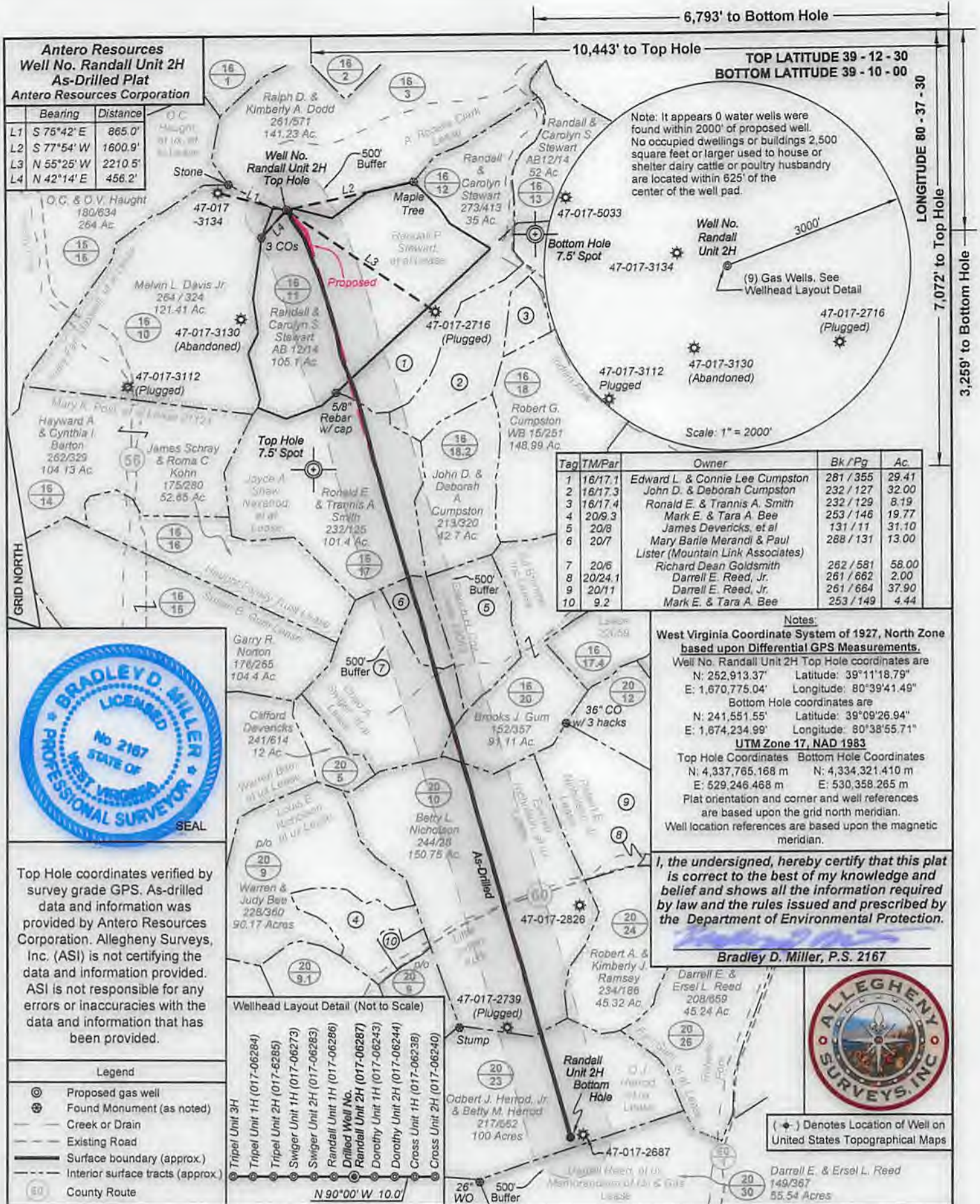
(⊙) Denotes Location of Well on United States Topographical Maps

RECEIVED
Office of Oil and Gas
OCT 30 2017



[Faint handwritten signature]

11/10/2017



Antero Resources
Well No. Randall Unit 2H
As-Drilled Plat
Antero Resources Corporation

Bearing	Distance
L1 S 75°42' E	865.0'
L2 S 77°54' W	1600.9'
L3 N 55°25' W	2210.5'
L4 N 42°14' E	456.2'

6,793' to Bottom Hole
10,443' to Top Hole
TOP LATITUDE 39 - 12 - 30
BOTTOM LATITUDE 39 - 10 - 00
LONGITUDE 80 - 37 - 30
LONGITUDE 80 - 37 - 30
7,072' to Top Hole
3,259' to Bottom Hole

Note: It appears 0 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

Tag	TM/Par	Owner	Bk /Pg	Ac.
1	16/17.1	Edward L. & Connie Lee Cumpston	281 / 355	29.41
2	16/17.3	John D. & Deborah Cumpston	232 / 127	32.00
3	16/17.4	Ronald E. & Trannis A. Smith	232 / 129	8.19
4	20/9.3	Mark E. & Tara A. Bee	253 / 146	19.77
5	20/8	James Devericks, et al	131 / 11	31.10
6	20/7	Mary Barile Merandi & Paul Lister (Mountain Link Associates)	288 / 131	13.00
7	20/6	Richard Dean Goldsmith	262 / 581	58.00
8	20/24.1	Darrell E. Reed, Jr.	261 / 662	2.00
9	20/11	Darrell E. Reed, Jr.	261 / 664	37.90
10	9.2	Mark E. & Tara A. Bee	253 / 149	4.44



Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Well No. Randall Unit 2H Top Hole coordinates are
N: 252,913.37' Latitude: 39°11'18.79"
E: 1,670,775.04' Longitude: 80°39'41.49"
Bottom Hole coordinates are
N: 241,551.55' Latitude: 39°09'26.94"
E: 1,674,234.99' Longitude: 80°38'55.71"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,337,765.168 m N: 4,334,321.410 m
E: 529,246.468 m E: 530,358.265 m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Top Hole coordinates verified by survey grade GPS. As-drilled data and information was provided by Antero Resources Corporation. Allegheny Surveys, Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Bradley D. Miller, P.S. 2167

Wellhead Layout Detail (Not to Scale)

Triplet Unit 3H	Triplet Unit 1H (017-06284)
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Swiger Unit 1H	Swiger Unit 1H (017-06273)
Swiger Unit 2H	Swiger Unit 2H (017-06283)
Randall Unit 1H	Randall Unit 1H (017-06286)
Randall Unit 2H	Randall Unit 2H (017-06287)
Dorothy Unit 1H	Dorothy Unit 1H (017-06243)
Dorothy Unit 2H	Dorothy Unit 2H (017-06244)
Cross Unit 1H	Cross Unit 1H (017-06238)
Cross Unit 2H	Cross Unit 2H (017-06240)



Legend

- Proposed gas well
- Found Monument (as noted)
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)
- County Route

FILE NO: 74-30-NM-13
DRAWING NO: As-Drilled Randall 2H Well
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: July 13 2017
OPERATOR'S WELL NO. Randall Unit 2H
API WELL NO
47 - 017 - 06287
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
Existing - 1333'
LOCATION: ELEVATION: Original - 1361' WATERSHED: Headwaters Middle Island Creek QUADRANGLE: New Milton
DISTRICT: New Milton COUNTY: Doddridge
SURFACE OWNER: Randall & Carolyn S. Stewart Ed Broome, Inc, Chad A. Swiger, et al; ACREAGE: 105.1 195; 150;
ROYALTY OWNER: Joyce A. Shaw Nazelrod, et al; Randall P. Stewart, et al; O.J. Herrod, et ux LEASE NO: 21994 ACREAGE: 69.54; 87.01; 384
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled 7,324' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale DEPTH: 18,995' MD

WELL OPERATOR: Antero Resources Corporation DESIGNATED AGENT: Dianna Stamper - CT Corporation System
ADDRESS: 1615 Wynkoop Street ADDRESS: 5400 D Big Tyler Road
Denver, CO 80202 Charleston, WV 25313

WELL OPERATOR: Antero Resources Corporation
 ADDRESS: 1615 Wynkoop Street, Denver, CO 80202
 ADDRESS: 6400 D Big Tyler Road, Charleston, WV 25313
 DESIGNATED AGENT: Diana Stamber - CT Corporation System

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Original - 1381' Existing - 1333'
 WATERSHED: Headwaters Middle Island Creek QUADRANGLE: New Milton
 COUNTY: Doddridge
 DISTRICT: New Milton
 SURFACE OWNER: Randall & Carolyn S. Stewart
 ROYALTY OWNER: Joyce A. Shaw Hazelton, et al.; Randall P. Stewart, et al.; O.L. Herold, et al.; Ed Broome, Inc.; Chad A. Swiger, et al.; Everett Nicholson, et al.
 LEASE NO: 21994
 ACREAGE: 89.54; 87.01; 38.4
 ACREAGE: 108.1
 STATE: COUNTY PERMIT
 47 - 017 - 06287
 API WELL NO
 OPERATORS WELL NO: Randall Unit 2H
 DATE: July 13 2017

PROVEN SOURCE OF ELEVATION: WDOT, Bridgeport, WV
 MINIMUM DEGREE OF ACCURACY: 2m
 SCALE: 1" = 1500'
 DRAWING NO: As-Drilled Randall 2H Well
 FILE NO: 74-30-IM-13

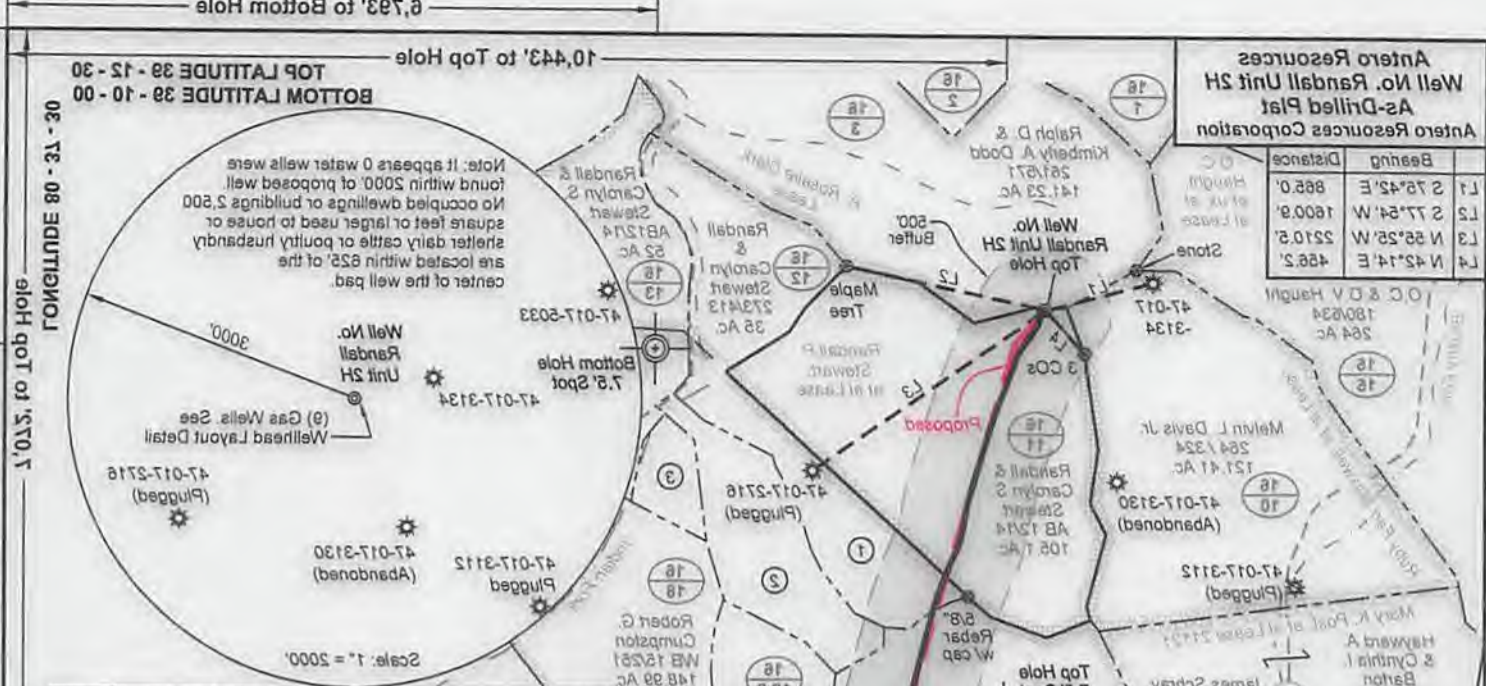
United States Topographical Maps
 () Denotes Location of Well on United States Topographical Maps
 Daniel E. & Erel L. Reed
 149387
 55.54 Acres

the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Bradley D. Miller, P.S. 2167

Well location references are based upon the magnetic meridian.
 Plat orientation and corner and well references are based upon the grid north meridian.
 Top Hole Coordinates: Bottom Hole Coordinates
 N: 4,327,785.168 m E: 520,246.488 m
 N: 4,324,321.410 m E: 520,288.288 m
 UTM Zone 17, NAD 1983
 E: 1,874,234.99 Longitude: 80°38'25.71"
 N: 241,251.52 Longitude: 80°38'25.94"
 E: 1,870,775.04 Longitude: 80°39'41.48"
 Well No. Randall Unit 2H Top Hole coordinates are: E: 1,825,913.37 Longitude: 80°11'18.70"
 Bottom Hole coordinates are: E: 1,820,775.04 Longitude: 80°39'41.48"
 based upon Differential GPS Measurements.

Ac	Bk F&P	Owner	T&P
29.41	281.135	Edward L. & Connie Lee Cumpston	1
32.00	232.127	John D. & Deborah Cumpston	2
8.19	232.129	Ronald E. & Tannis A. Smith	3
19.77	253.146	Mark E. & Tara A. Bee	4
131.11	258.131	James Devencak, et al	5
13.00	258.131	Mary Barile Merend & Paul	6
25.00	252.181	Richard Dean Goldsmith	7
2.00	251.682	Daniel E. Reed, Jr.	8
37.90	251.684	Daniel E. Reed, Jr.	9
4.44	253.149	Mark E. & Tara A. Bee	10



Top Hole coordinates verified by survey grade GPS. As-Drilled data and information was provided by Antero Resources Corporation. Allegany Surveying, Inc. (ASI) is not certifying the data and information provided. ASI is not responsible for any errors or inaccuracies with the data and information that has been provided.

Legend

	Proposed gas well
	Found Monument (as noted)
	Creek or Drain
	Existing Road
	Surface boundary (approx.)
	Interior surface tracts (approx.)
	County Route