

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

SEP 29 2017  
WV Department of  
Environmental Protection

API 47 - 033 - 05702 County Harrison District Tenmile  
Quad Salem 7.5' Pad Name Hubert Pad Field/Pool Name -----  
Farm name Hubert Jr. & Lorena Bland Well Number Ford Unit 1H  
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 4344995.601m Easting 537953.880m  
Landing Point of Curve Northing 4345357.090m Easting 538188.224m  
Bottom Hole Northing 4347948.109m Easting 537394.041m

Elevation (ft) 1376' 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

**APPROVED**

NAME: Sam Ward

DATE: 11/13/2017

Date permit issued 12/27/2012 Date drilling commenced 03/22/2014 Date drilling ceased 08/23/2014  
Date completion activities began 09/12/2014 Date completion activities ceased 06/23/2017  
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 364', 367' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft None Identified Void(s) encountered (Y/N) depths No  
Coal depth(s) ft 1737' Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

Reviewed by: \_\_\_\_\_

01/05/2018

API 47-033 - 05702 Farm name Hubert Jr. & Lorena Bland Well number Ford Unit 1H

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"	539'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2604'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16966'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7729'		4.7#, N-80		
Packer type and depth set		N/A					

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Class A	185 sx	15.6	1.18	218	0'	8 Hrs.
Surface	Class A	626 sx	15.6	1.18	739	0'	8 Hrs.
Coal							
Intermediate 1	Class A	947 sx	15.6	1.18	1117	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	1224 sx (Lead), 1426 sx (Tail)	14.5 (Lead), 15.2 (Tail)	1.3 (Lead), 1.86 (Tail)	4244	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16966' MD, 7546' TVD (BHL) & 7552' TVD (Deepest Point Drilled) Loggers TD (ft) 16909' MD

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

Plug back procedure N/A

Kick off depth (ft) 7316'

\*\* This is a subsequent well. Antero only runs wireline logs on one well on a multi-well pad (Nellie Unit 2H API# 47-033-05687). Please reference the wireline logs submitted with Form WR-35 for the Nellie Unit 2H. 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 \_\_\_\_\_ RECEIVED Office of Oil and Gas

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

SEP 29 2017

WV Department of Environmental Protection

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- 033 - 05702 Farm name Hubert Jr. & Lorena Bland Well number Ford Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
<u>Marcellus</u>	<u>7433' (TOP)</u> TVD	<u>7803' (TOP)</u> MD
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3600 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 14756 mcfpd Oil 2 bpd NGL --- bpd Water 299 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 <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.

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

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

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

Stimulating Company 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 *Samantha Klaas* Title Permitting Agent Date 09/27/2017

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

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	9/12/2014	16693	16873	60	Marcellus
2	4/8/2017	16463	16639	60	Marcellus
3	4/8/2017	16255	16431	60	Marcellus
4	4/8/2017	16046	16222	60	Marcellus
5	4/9/2017	15837	16013	60	Marcellus
6	4/15/2017	15628	15804	60	Marcellus
7	4/15/2017	15419	15595	60	Marcellus
8	4/16/2017	15211	15387	60	Marcellus
9	4/16/2017	14931	15100	60	Marcellus
10	4/16/2017	14731	14900	60	Marcellus
11	4/17/2017	14531	14700	60	Marcellus
12	4/17/2017	14331	14500	60	Marcellus
13	4/17/2017	14131	14300	60	Marcellus
14	4/17/2017	13931	14100	60	Marcellus
15	4/18/2017	13731	13900	60	Marcellus
16	4/18/2017	13531	13700	60	Marcellus
17	4/18/2017	13331	13500	60	Marcellus
18	4/18/2017	13131	13300	60	Marcellus
19	4/19/2017	12931	13100	60	Marcellus
20	4/19/2017	12731	12900	60	Marcellus
21	4/19/2017	12531	12700	60	Marcellus
22	4/19/2017	12331	12499	60	Marcellus
23	5/20/2017	12131	12299	60	Marcellus
24	5/21/2017	11931	12099	60	Marcellus
25	5/21/2017	11731	11899	60	Marcellus
26	5/21/2017	11531	11699	60	Marcellus
27	5/21/2017	11331	11499	60	Marcellus
28	5/21/2017	11131	11299	60	Marcellus
29	5/22/2017	10931	11099	60	Marcellus
30	5/22/2017	10730	10899	60	Marcellus
31	5/22/2017	10530	10699	60	Marcellus
32	5/22/2017	10330	10499	60	Marcellus
33	5/23/2017	10130	10299	60	Marcellus
34	5/23/2017	9930	10099	60	Marcellus
35	5/23/2017	9730	9899	60	Marcellus
36	5/23/2017	9530	9699	60	Marcellus
37	5/23/2017	9330	9499	60	Marcellus
38	5/24/2017	8962	9150	60	Marcellus
39	5/24/2017	8739	8927	60	Marcellus
40	5/24/2017	8516	8704	60	Marcellus
41	5/24/2017	8292	8480	60	Marcellus
42	5/25/2017	8069	8257	60	Marcellus
43	5/25/2017	7846	8034	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	4/7/2017	61.8	7551	0	4752	371350	8782	N/A
2	4/8/2017	67.8	7701	6018	4686	365720	8067	N/A
3	4/8/2017	70.1	7676	6298	4868	371810	7948	N/A
4	4/8/2017	67.8	7536	6126	5352	373180	7982	N/A
5	4/9/2017	74.9	7739	6276	5051	368650	8073	N/A
6	4/15/2017	74.5	7712	5746	4779	369890	7864	N/A
7	4/15/2017	72.7	7765	5706	4380	370450	9871	N/A
8	4/16/2017	73.1	7767	5462	4690	369340	7816	N/A
9	4/16/2017	75.0	7514	5701	4637	374490	7780	N/A
10	4/16/2017	78.0	7872	5956	4476	372940	7779	N/A
11	4/17/2017	71.6	7976	5920	4303	374340	9356	N/A
12	4/17/2017	75.7	7838	6106	4623	374570	7803	N/A
13	4/17/2017	73.0	7543	5832	4822	374560	7718	N/A
14	4/17/2017	72.0	7603	6112	4632	373600	7692	N/A
15	4/18/2017	70.0	7275	5736	4499	372440	7740	N/A
16	4/18/2017	75.9	7389	5312	5192	373080	7662	N/A
17	4/18/2017	76.4	7523	5619	4300	372920	7667	N/A
18	4/18/2017	76.0	7808	5890	4401	372890	9193	N/A
19	4/19/2017	74.0	7613	6211	4775	372620	7653	N/A
20	4/19/2017	75.3	7472	5853	4872	373730	7651	N/A
21	4/19/2017	74.4	7439	6119	4867	372380	7624	N/A
22	4/19/2017	72.0	7427	5971	4500	351880	7413	N/A
23	5/20/2017	79.9	7461	5930	4986	373280	7638	N/A
24	5/21/2017	77.8	7666	5912	4709	372650	7723	N/A
25	5/21/2017	80.6	7159	6053	4387	373610	7645	N/A
26	5/21/2017	81.2	7217	5896	4793	371190	7565	N/A
27	5/21/2017	81.6	7257	6167	4845	372400	7566	N/A
28	5/21/2017	80.9	7167	6031	4783	372050	7550	N/A
29	5/22/2017	80.4	7170	5824	4605	371820	7482	N/A
30	5/22/2017	81.3	7233	6153	4934	370570	7565	N/A
31	5/22/2017	79.0	7392	6245	4934	372370	7567	N/A
32	5/22/2017	77.0	7490	6794	4906	373420	7512	N/A
33	5/23/2017	80.0	7531	6318	5160	372040	7686	N/A
34	5/23/2017	82.1	7328	5600	4893	371800	7498	N/A
35	5/23/2017	82.4	7203	5904	5220	375640	7176	N/A
36	5/23/2017	81.0	7666	6634	5447	372840	7496	N/A
37	5/23/2017	81.0	7494	6207	5558	372050	8058	N/A
38	5/24/2017	81.0	7227	6352	5130	373150	7459	N/A
39	5/24/2017	80.7	7475	6276	5074	379870	7466	N/A
40	5/24/2017	77.8	7397	6301	5004	372550	9001	N/A
41	5/24/2017	71.0	7849	6403	4945	372370	10170	N/A
42	5/25/2017	79.0	7404	6767	4926	372070	7434	N/A
43	5/25/2017	79.0	7310	6634	4677	371920	7602	N/A
<b>AVG=</b>		<b>76.2</b>	<b>7,508</b>	<b>5,916</b>	<b>4,823</b>	<b>15,996,490</b>	<b>339,993</b>	<b>TOTAL</b>

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SEP 29 2017

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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	364'	N/A	364'	N/A
Fresh Water	367'	N/A	367'	N/A
Siltstone	0	97	0	97
Sandy shale	est. 97	317	est. 97	317
Sandstone	est. 317	507	est. 317	507
Silty Sandstone	est. 507	657	est. 507	657
Sandstone	est. 657	1027	est. 657	1027
Limestone/Dolomite	est. 1027	1117	est. 1027	1117
Siltstone	est. 1117	1297	est. 1117	1297
Sandstone	est. 1297	1327	est. 1297	1327
Limey siltstone	est. 1327	1477	est. 1327	1477
Sandstone	est. 1477	1597	est. 1477	1597
Sandy Siltstone	est. 1597	1737	est. 1597	1737
Coal	est. 1737	1757	est. 1737	1757
Sandstone	est. 1757	1797	est. 1757	1797
Siltstone	est. 1797	1817	est. 1797	1817
Sandstone	est. 1817	2097	est. 1817	2097
Limey Shale	est. 2097	2322	est. 2097	2322
Big Lime	2322	2461	2322	2461
Big Injun	2461	2807	2461	2807
Gantz Sand	2807	2908	2807	2908
Fifty Foot Sandstone	2908	3030	2908	3030
Gordon	3030	3352	3030	3352
Fifth Sandstone	3352	3393	3352	3393
Bayard	3393	3735	3393	3735
Warren	3735	3978	3735	3978
Speechley	3978	4489	3978	4489
Baltown	4489	4805	4489	4805
Bradford	4805	5328	4805	5348
Benson	5328	5619	5348	5665
Alexander	5619	5823	5665	5886
Elk	5823	6440	5886	6566
Rhinestreet	6440	6878	6566	7052
Sycamore	6878	7096	7052	7290
Middlesex	7096	7247	7290	7464
Burkett	7247	7275	7464	7499
Tully	7275	7433	7499	7803
Marcellus	7433	NA	7803	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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**Ford Unit 1H**  
**Harrison County West Virginia**  
 Northing: 14254490.84  
 Easting: 1764889.92  
**As Drilled**



To convert Magnetic North to Grid, Subtract 8.90°  
 To convert True North to Grid, Subtract 0.28°

Azimuths to Grid North  
 True North: -0.28°  
 Magnetic North: -8.90°

Magnetic Field  
 Strength: 52205.6snT  
 Dip Angle: 66.81°  
 Date: 7/2/2014  
 Model: BGGM2014

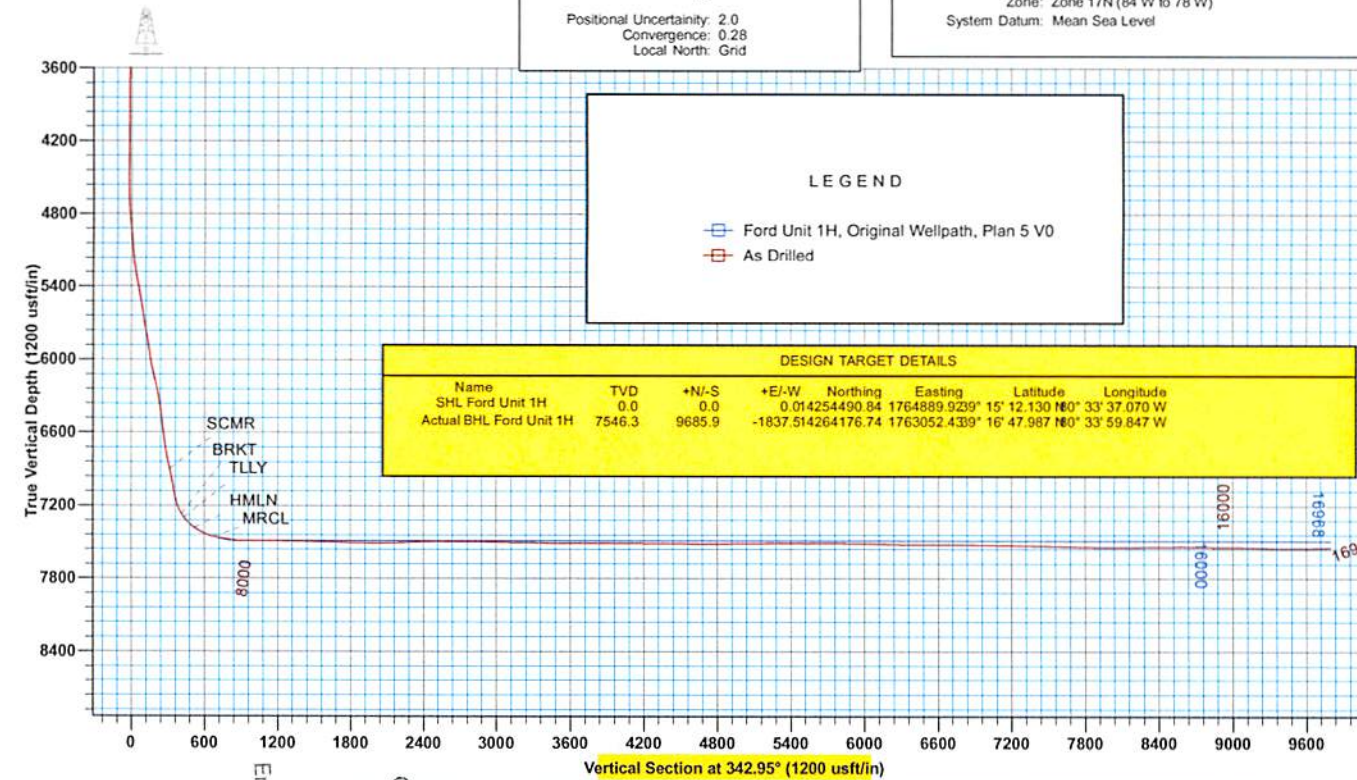
WELL DETAILS						
Ground Level: 1374.0						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	14254490.84	1764889.92	39° 15' 12.130 N	80° 33' 37.070 W	

Genie Lightfoot  
 14.03, August 27 2014  
 Scientific Drilling  
 421 South Eagle Lane  
 Oklahoma City, OK 73124

**SITE DETAILS:** Ruth/Norris/Nellie/Ford Pad  
 Site Center: Ruth Unit 2H  
 Site Centre Northing: 14254530.66  
 Easting: 1764845.07  
 Positional Uncertainty: 2.0  
 Convergence: 0.28  
 Local North: Grid

**PROJECT DETAILS:** Harrison County West Virginia  
 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

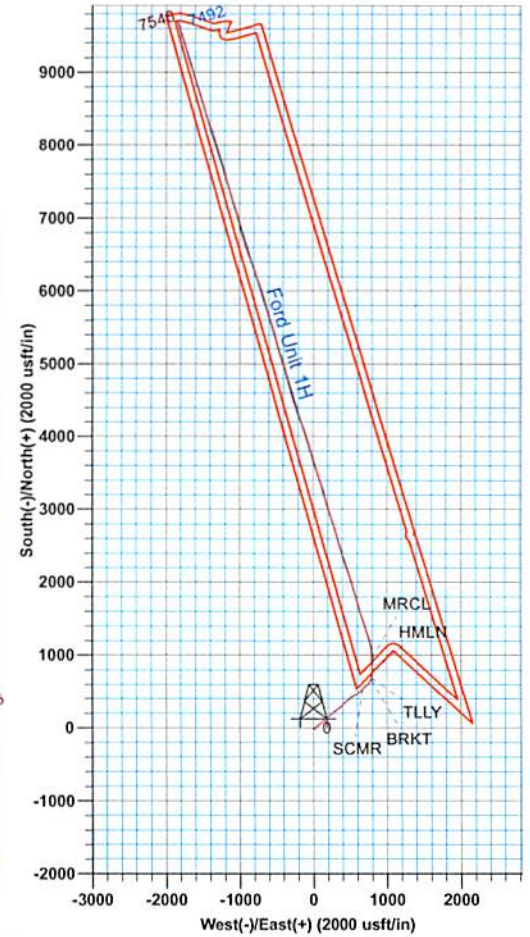
Patterson 340: GL 1374' + 24' RKB @ 1398.0usft  
 1374.0



**LEGEND**

- Ford Unit 1H, Original Wellpath, Plan 5 V0
- As Drilled

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Ford Unit 1H	0.0	0.0	0.0	14254490.84	1764889.9239°	15° 12' 13.0 N	80° 33' 37.070 W
Actual BHL Ford Unit 1H	7546.3	9685.9	-1837.514264176.74	1763052.4399°	16° 47' 9.87 N	80° 33' 59.847 W	



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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

<b>Project</b>	Harrison County West Virginia, Harrison County, USA		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 17N (84 W to 78 W)		

<b>Site</b>	Ruth/Norris/Nellie/Ford Pad		
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<b>Site Position:</b>		<b>Northing:</b>	14,254,530.66 usft	<b>Latitude:</b>	39° 15' 12.526 N
<b>From:</b>	Map	<b>Easting:</b>	1,764,845.07 usft	<b>Longitude:</b>	80° 33' 37.638 W
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.28 °

<b>Well</b>	Ford Unit 1H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,254,490.84 usft	<b>Latitude:</b>	39° 15' 12.130 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,764,889.92 usft	<b>Longitude:</b>	80° 33' 37.070 W
<b>Position Uncertainty</b>		2.0 usft	<b>Wellhead Elevation:</b>	1,398.0 usft	<b>Ground Level:</b>	1,374.0 usft

<b>Wellbore</b>	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	7/2/2014	-8.62	66.81	52,206

<b>Design</b>	As Drilled				
---------------	------------	--	--	--	--

<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	342.95	

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<b>Survey Program</b>	Date 8/27/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
95.7	7,174.9	Survey #6 Gyro to KOP (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
7,175.0	16,966.0	Survey #7 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
95.7	0.20	300.40	95.7	0.1	-0.1	0.1	0.21
120.7	0.05	154.57	120.7	0.1	-0.2	0.1	0.97
145.7	0.04	40.68	145.7	0.1	-0.2	0.1	0.30
170.7	0.09	27.36	170.7	0.1	-0.2	0.2	0.21
195.7	0.17	10.74	195.7	0.2	-0.1	0.2	0.35
220.7	0.19	338.26	220.7	0.2	-0.1	0.3	0.41
245.7	0.17	310.31	245.7	0.3	-0.2	0.4	0.36
270.7	0.10	217.02	270.7	0.3	-0.2	0.4	0.81
295.7	0.13	179.99	295.7	0.3	-0.2	0.3	0.31
320.7	0.13	157.85	320.7	0.2	-0.2	0.3	0.20

SEP 29 2017



EOW Completion Report



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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
345.7	0.10	123.60	345.7	0.2	-0.2	0.2	0.29
370.7	0.06	57.84	370.7	0.2	-0.2	0.2	0.37
395.7	0.05	19.44	395.7	0.2	-0.2	0.2	0.15
420.7	0.03	136.96	420.7	0.2	-0.2	0.2	0.28
445.7	0.21	166.83	445.7	0.1	-0.1	0.2	0.74
470.7	0.31	163.16	470.7	0.0	-0.1	0.1	0.41
495.7	0.27	148.34	495.7	-0.1	-0.1	-0.1	0.34
520.7	0.28	134.67	520.7	-0.2	0.0	-0.2	0.26
545.7	0.28	123.61	545.7	-0.2	0.1	-0.3	0.22
570.7	0.25	123.13	570.7	-0.3	0.2	-0.4	0.12
595.7	0.13	130.57	595.7	-0.4	0.3	-0.4	0.49
620.7	0.22	177.71	620.7	-0.4	0.3	-0.5	0.65
645.7	0.23	171.23	645.7	-0.5	0.3	-0.6	0.11
670.7	0.32	169.77	670.7	-0.6	0.3	-0.7	0.36
695.7	0.37	149.49	695.7	-0.8	0.4	-0.9	0.52
720.7	0.34	142.36	720.7	-0.9	0.5	-1.0	0.21
745.7	0.40	139.24	745.7	-1.0	0.6	-1.2	0.25
770.7	0.26	127.50	770.7	-1.1	0.7	-1.3	0.62
795.7	0.14	133.14	795.7	-1.2	0.7	-1.4	0.49
820.7	0.11	170.14	820.7	-1.2	0.8	-1.4	0.34
845.7	0.13	164.31	845.7	-1.3	0.8	-1.5	0.09
870.7	0.17	186.97	870.7	-1.4	0.8	-1.5	0.28
895.7	0.23	199.28	895.7	-1.4	0.8	-1.6	0.29
920.7	0.25	180.03	920.7	-1.5	0.7	-1.7	0.33
945.7	0.31	183.57	945.7	-1.7	0.7	-1.8	0.25
970.7	0.28	164.03	970.7	-1.8	0.8	-1.9	0.42
995.7	0.20	130.30	995.7	-1.9	0.8	-2.0	0.64
1,020.7	0.09	108.88	1,020.7	-1.9	0.9	-2.1	0.48
1,045.7	0.08	105.80	1,045.7	-1.9	0.9	-2.1	0.04
1,070.7	0.02	236.99	1,070.7	-1.9	0.9	-2.1	0.38
1,095.7	0.08	274.73	1,095.7	-1.9	0.9	-2.1	0.26
1,120.7	0.10	224.46	1,120.7	-1.9	0.8	-2.1	0.31
1,145.7	0.15	230.29	1,145.7	-2.0	0.8	-2.1	0.21
1,170.7	0.21	171.98	1,170.7	-2.0	0.8	-2.2	0.73
1,195.7	0.07	138.98	1,195.7	-2.1	0.8	-2.2	0.62
1,220.7	0.05	196.16	1,220.7	-2.1	0.8	-2.3	0.24
1,245.7	0.03	115.94	1,245.7	-2.1	0.8	-2.3	0.22
1,270.7	0.05	23.17	1,270.7	-2.1	0.8	-2.3	0.24
1,295.7	0.08	302.54	1,295.7	-2.1	0.8	-2.3	0.35
1,320.7	0.17	274.29	1,320.7	-2.1	0.8	-2.2	0.43
1,345.7	0.08	232.82	1,345.7	-2.1	0.7	-2.2	0.49
1,370.7	0.17	238.70	1,370.7	-2.1	0.7	-2.2	0.36
1,395.7	0.15	217.58	1,395.7	-2.2	0.6	-2.3	0.25
1,420.7	0.22	185.01	1,420.7	-2.3	0.6	-2.3	0.49

SEP 29 2017



EOW Completion Report

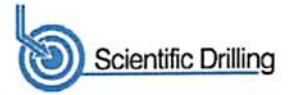
WV Department of  
Environmental Protection



Scientific Drilling

<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	
1,445.7	0.09	191.34	1,445.7	-2.3	0.6	-2.4	0.52	
1,470.7	0.04	73.85	1,470.7	-2.3	0.6	-2.4	0.46	
1,495.7	0.09	308.90	1,495.7	-2.3	0.6	-2.4	0.47	
1,520.7	0.12	265.91	1,520.7	-2.3	0.5	-2.4	0.33	
1,545.7	0.16	242.12	1,545.7	-2.3	0.5	-2.4	0.28	
1,570.7	0.22	243.96	1,570.7	-2.4	0.4	-2.4	0.24	
1,595.7	0.36	224.99	1,595.7	-2.4	0.3	-2.4	0.67	
1,620.7	0.29	207.18	1,620.7	-2.6	0.2	-2.5	0.49	
1,645.7	0.26	199.80	1,645.7	-2.7	0.2	-2.6	0.19	
1,670.7	0.23	184.31	1,670.7	-2.8	0.2	-2.7	0.29	
1,695.7	0.15	159.18	1,695.7	-2.8	0.2	-2.8	0.45	
1,720.7	0.08	241.73	1,720.7	-2.9	0.2	-2.8	0.64	
1,745.7	0.17	229.94	1,745.7	-2.9	0.1	-2.8	0.37	
1,770.7	0.28	252.56	1,770.7	-3.0	0.0	-2.8	0.56	
1,795.7	0.31	238.81	1,795.7	-3.0	-0.1	-2.9	0.31	
1,820.7	0.34	235.71	1,820.7	-3.1	-0.2	-2.9	0.14	
1,845.7	0.23	213.46	1,845.7	-3.2	-0.3	-2.9	0.62	
1,870.7	0.37	214.29	1,870.7	-3.3	-0.4	-3.0	0.56	
1,895.7	0.44	207.89	1,895.7	-3.4	-0.5	-3.2	0.33	
1,920.7	0.39	207.49	1,920.7	-3.6	-0.5	-3.3	0.20	
1,945.7	0.30	191.18	1,945.7	-3.7	-0.6	-3.4	0.53	
1,970.7	0.28	187.98	1,970.7	-3.9	-0.6	-3.5	0.10	
1,995.7	0.15	214.33	1,995.7	-3.9	-0.6	-3.6	0.64	
2,020.7	0.22	222.07	2,020.7	-4.0	-0.7	-3.6	0.30	
2,045.7	0.28	209.75	2,045.7	-4.1	-0.8	-3.7	0.32	
2,070.7	0.28	211.54	2,070.7	-4.2	-0.8	-3.8	0.03	
2,095.7	0.36	211.59	2,095.7	-4.3	-0.9	-3.9	0.32	
2,120.7	0.40	202.54	2,120.7	-4.5	-1.0	-4.0	0.29	
2,145.7	0.38	190.51	2,145.7	-4.6	-1.0	-4.1	0.34	
2,170.7	0.37	181.22	2,170.7	-4.8	-1.0	-4.3	0.25	
2,195.7	0.46	160.67	2,195.7	-5.0	-1.0	-4.5	0.69	
2,220.7	0.27	176.59	2,220.7	-5.1	-1.0	-4.6	0.85	
2,245.7	0.30	148.30	2,245.7	-5.2	-0.9	-4.7	0.57	
2,270.7	0.20	146.22	2,270.7	-5.3	-0.9	-4.8	0.40	
2,295.7	0.25	149.93	2,295.7	-5.4	-0.8	-4.9	0.21	
2,320.7	0.25	148.60	2,320.7	-5.5	-0.8	-5.0	0.02	
2,345.7	0.20	150.39	2,345.7	-5.6	-0.7	-5.1	0.20	
2,370.7	0.18	163.03	2,370.7	-5.7	-0.7	-5.2	0.19	
2,395.7	0.21	180.73	2,395.7	-5.8	-0.7	-5.3	0.27	
2,420.7	0.32	193.19	2,420.7	-5.9	-0.7	-5.4	0.49	
2,445.7	0.16	188.26	2,445.7	-6.0	-0.7	-5.5	0.64	
2,470.7	0.27	165.37	2,470.7	-6.1	-0.7	-5.6	0.55	
2,495.7	0.40	168.64	2,495.7	-6.2	-0.7	-5.7	0.53	
2,520.7	0.48	169.30	2,520.7	-6.4	-0.6	-5.9	0.32	
2,545.7	0.36	149.99	2,545.7	-6.6	-0.6	-6.1	0.74	



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,570.7	0.42	147.82	2,570.7	-6.7	-0.5	-6.3	0.25	
2,595.7	0.34	142.99	2,595.7	-6.8	-0.4	-6.4	0.34	
2,620.7	0.29	159.55	2,620.7	-7.0	-0.3	-6.6	0.41	
2,645.7	0.36	174.90	2,645.7	-7.1	-0.3	-6.7	0.44	
2,670.7	0.43	178.03	2,670.7	-7.3	-0.3	-6.9	0.29	
2,695.7	0.39	159.04	2,695.7	-7.4	-0.2	-7.0	0.56	
2,720.7	0.54	164.33	2,720.7	-7.6	-0.2	-7.2	0.62	
2,745.7	0.56	156.19	2,745.7	-7.9	-0.1	-7.5	0.32	
2,770.7	0.56	156.89	2,770.7	-8.1	0.0	-7.7	0.03	
2,795.7	0.52	148.14	2,795.7	-8.3	0.1	-8.0	0.37	
2,820.7	0.49	140.99	2,820.7	-8.5	0.2	-8.2	0.28	
2,845.7	0.41	147.56	2,845.7	-8.6	0.3	-8.4	0.38	
2,870.7	0.36	165.00	2,870.7	-8.8	0.4	-8.5	0.51	
2,895.7	0.46	170.27	2,895.7	-9.0	0.5	-8.7	0.43	
2,920.7	0.53	162.28	2,920.7	-9.2	0.5	-8.9	0.39	
2,945.7	0.60	154.59	2,945.7	-9.4	0.6	-9.2	0.41	
2,970.7	0.60	142.95	2,970.7	-9.6	0.7	-9.4	0.49	
2,995.7	0.59	136.36	2,995.7	-9.8	0.9	-9.6	0.28	
3,020.7	0.48	128.48	3,020.7	-10.0	1.1	-9.9	0.53	
3,045.7	0.49	141.25	3,045.7	-10.1	1.2	-10.0	0.43	
3,070.7	0.44	151.97	3,070.7	-10.3	1.3	-10.2	0.40	
3,095.7	0.51	157.00	3,095.7	-10.5	1.4	-10.4	0.33	
3,120.7	0.50	154.61	3,120.7	-10.7	1.5	-10.7	0.09	
3,145.7	0.54	149.92	3,145.7	-10.9	1.6	-10.9	0.23	
3,170.7	0.62	143.32	3,170.7	-11.1	1.8	-11.1	0.42	
3,195.7	0.57	141.31	3,195.7	-11.3	1.9	-11.4	0.22	
3,220.7	0.58	128.86	3,220.7	-11.5	2.1	-11.6	0.50	
3,245.7	0.53	125.29	3,245.7	-11.6	2.3	-11.8	0.24	
3,270.7	0.44	127.92	3,270.7	-11.7	2.5	-11.9	0.37	
3,295.7	0.40	145.86	3,295.7	-11.9	2.6	-12.1	0.55	
3,320.7	0.36	151.78	3,320.7	-12.0	2.7	-12.3	0.22	
3,345.7	0.43	140.29	3,345.7	-12.2	2.8	-12.4	0.42	
3,370.7	0.43	149.75	3,370.7	-12.3	2.9	-12.6	0.28	
3,395.7	0.56	137.75	3,395.7	-12.5	3.0	-12.8	0.66	
3,420.7	0.53	135.62	3,420.7	-12.7	3.2	-13.0	0.14	
3,445.7	0.39	121.67	3,445.7	-12.8	3.3	-13.2	0.71	
3,470.7	0.35	140.36	3,470.7	-12.9	3.4	-13.3	0.51	
3,495.7	0.40	138.86	3,495.7	-13.0	3.5	-13.5	0.20	
3,520.7	0.40	142.28	3,520.7	-13.1	3.7	-13.6	0.10	
3,545.7	0.42	159.90	3,545.7	-13.3	3.7	-13.8	0.51	
3,570.7	0.45	147.58	3,570.7	-13.5	3.8	-14.0	0.39	
3,595.7	0.44	148.70	3,595.7	-13.6	3.9	-14.2	0.05	
3,620.7	0.39	144.32	3,620.7	-13.8	4.0	-14.4	0.24	
3,645.7	0.38	140.62	3,645.7	-13.9		-14.5	0.11	

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EOW Completion Report



<b>Company:</b> Antero Resources	<b>Local Co-ordinate Reference:</b> Well Ford Unit 1H
<b>Project:</b> Harrison County West Virginia	<b>TVD Reference:</b> Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b> Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b> Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b> Ford Unit 1H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Original Wellpath	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
3,670.7	0.37	142.29	3,670.7	-14.0	4.2	-14.7	0.06
3,695.7	0.41	137.50	3,695.7	-14.2	4.3	-14.8	0.21
3,720.7	0.40	137.63	3,720.7	-14.3	4.5	-15.0	0.04
3,745.7	0.37	126.86	3,745.6	-14.4	4.6	-15.1	0.31
3,770.7	0.42	119.46	3,770.6	-14.5	4.7	-15.3	0.29
3,795.7	0.41	113.92	3,795.6	-14.6	4.9	-15.4	0.17
3,820.7	0.42	119.98	3,820.6	-14.7	5.0	-15.5	0.18
3,845.7	0.49	117.19	3,845.6	-14.8	5.2	-15.7	0.29
3,870.7	0.34	125.15	3,870.6	-14.9	5.4	-15.8	0.64
3,895.7	0.35	123.95	3,895.6	-14.9	5.5	-15.9	0.05
3,920.7	0.28	143.81	3,920.6	-15.0	5.6	-16.0	0.51
3,945.7	0.31	141.93	3,945.6	-15.1	5.7	-16.1	0.13
3,970.7	0.42	138.73	3,970.6	-15.3	5.8	-16.3	0.45
3,995.7	0.37	150.40	3,995.6	-15.4	5.9	-16.5	0.38
4,020.7	0.62	140.54	4,020.6	-15.6	6.0	-16.7	1.05
4,045.7	0.63	133.34	4,045.6	-15.8	6.2	-16.9	0.32
4,070.7	0.63	126.86	4,070.6	-16.0	6.4	-17.1	0.28
4,095.7	0.55	113.33	4,095.6	-16.1	6.6	-17.3	0.64
4,120.7	0.50	124.14	4,120.6	-16.2	6.8	-17.5	0.44
4,145.7	0.41	127.54	4,145.6	-16.3	7.0	-17.6	0.38
4,170.7	0.51	120.95	4,170.6	-16.4	7.2	-17.8	0.45
4,195.7	0.57	131.25	4,195.6	-16.6	7.3	-18.0	0.46
4,220.7	0.65	125.52	4,220.6	-16.7	7.5	-18.2	0.40
4,245.7	0.72	120.45	4,245.6	-16.9	7.8	-18.4	0.37
4,270.7	0.70	118.39	4,270.6	-17.0	8.1	-18.7	0.13
4,295.7	0.63	115.05	4,295.6	-17.2	8.3	-18.9	0.32
4,320.7	0.58	117.42	4,320.6	-17.3	8.6	-19.0	0.22
4,345.7	0.60	124.26	4,345.6	-17.4	8.8	-19.2	0.29
4,370.7	0.70	123.86	4,370.6	-17.6	9.0	-19.4	0.40
4,395.7	0.70	113.55	4,395.6	-17.7	9.3	-19.7	0.50
4,420.7	0.60	110.90	4,420.6	-17.8	9.5	-19.8	0.42
4,445.7	0.45	126.66	4,445.6	-17.9	9.7	-20.0	0.83
4,470.7	0.39	132.21	4,470.6	-18.1	9.9	-20.2	0.29
4,495.7	0.82	125.57	4,495.6	-18.2	10.1	-20.4	1.74
4,520.7	0.88	124.71	4,520.6	-18.4	10.4	-20.7	0.25
4,545.7	0.66	114.62	4,545.6	-18.6	10.7	-20.9	1.03
4,570.7	0.74	108.63	4,570.6	-18.7	11.0	-21.1	0.43
4,595.7	0.89	105.84	4,595.6	-18.8	11.3	-21.3	0.62
4,620.7	1.16	75.61	4,620.6	-18.8	11.7	-21.4	2.38
4,645.7	1.93	57.11	4,645.6	-18.5	12.3	-21.3	3.63
4,670.7	3.16	47.10	4,670.6	-17.8	13.2	-20.9	5.21
4,695.7	4.50	42.35	4,695.5	-16.6	14.4	-20.1	5.50
4,720.7	5.80	39.73	4,720.4	-14.9	15.8	-18.9	5.28
4,745.7	6.87	38.32	4,745.3	-12.8	17.6	-17.4	4.32

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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
4,770.7	7.69	37.27	4,770.1	-10.3	19.5	-15.5	3.32
4,795.7	8.13	36.76	4,794.8	-7.5	21.6	-13.5	1.78
4,820.7	8.57	37.04	4,819.6	-4.6	23.8	-11.4	1.77
4,845.7	9.21	37.18	4,844.3	-1.5	26.1	-9.1	2.56
4,870.7	9.64	37.48	4,868.9	1.7	28.6	-6.7	1.73
4,895.7	9.98	38.73	4,893.6	5.1	31.2	-4.3	1.60
4,920.7	10.36	44.25	4,918.2	8.4	34.1	-2.0	4.18
4,945.7	11.11	45.22	4,942.7	11.7	37.4	0.2	3.09
4,970.7	11.96	46.86	4,967.2	15.1	41.0	2.4	3.64
4,995.7	12.54	48.08	4,991.6	18.7	44.9	4.7	2.54
5,020.7	13.20	50.16	5,016.0	22.4	49.1	7.0	3.23
5,045.7	13.61	51.09	5,040.3	26.0	53.6	9.2	1.85
5,070.7	14.15	51.22	5,064.6	29.8	58.3	11.4	2.16
5,095.7	14.90	51.53	5,088.8	33.7	63.2	13.7	3.02
5,120.7	15.45	51.49	5,112.9	37.8	68.3	16.1	2.20
5,145.7	16.44	51.46	5,137.0	42.1	73.7	18.6	3.96
5,170.7	17.29	51.45	5,160.9	46.6	79.3	21.3	3.40
5,195.7	17.62	51.29	5,184.7	51.3	85.2	24.0	1.33
5,220.7	18.17	51.07	5,208.5	56.1	91.2	26.9	2.22
5,245.7	18.72	50.42	5,232.3	61.1	97.3	29.9	2.35
5,270.7	19.39	49.83	5,255.9	66.3	103.6	33.0	2.79
5,295.7	20.37	49.20	5,279.4	71.8	110.0	36.4	4.01
5,320.7	21.31	48.58	5,302.8	77.7	116.7	40.0	3.86
5,345.7	22.13	47.99	5,326.0	83.8	123.6	43.9	3.39
5,370.7	22.78	47.28	5,349.1	90.3	130.7	48.0	2.82
5,395.7	22.98	47.15	5,372.1	96.9	137.8	52.2	0.83
5,420.7	23.34	46.79	5,395.1	103.6	145.0	56.5	1.55
5,445.7	23.50	46.86	5,418.0	110.4	152.3	60.9	0.65
5,470.7	24.08	47.82	5,440.9	117.2	159.7	65.3	2.79
5,495.7	24.09	49.99	5,463.7	123.9	167.4	69.4	3.54
5,520.7	23.64	50.35	5,486.6	130.4	175.1	73.3	1.89
5,545.7	23.35	50.43	5,509.5	136.8	182.8	77.1	1.17
5,570.7	23.55	51.25	5,532.5	143.0	190.5	80.9	1.53
5,595.7	23.80	52.25	5,555.4	149.3	198.4	84.5	1.89
5,620.7	23.63	52.20	5,578.3	155.4	206.4	88.1	0.68
5,645.7	23.16	51.49	5,601.2	161.6	214.2	91.7	2.19
5,670.7	22.21	50.47	5,624.3	167.6	221.7	95.3	4.11
5,695.7	21.42	49.77	5,647.5	173.6	228.8	98.9	3.33
5,720.7	21.16	49.25	5,670.8	179.5	235.7	102.5	1.29
5,745.7	21.37	49.25	5,694.1	185.4	242.6	106.1	0.84
5,770.7	21.76	49.31	5,717.3	191.4	249.5	109.8	1.56
5,795.7	22.46	49.57	5,740.5	197.5	256.7	113.6	2.83
5,820.7	23.28	49.85	5,763.5	203.8	264.1	117.4	3.31
5,845.7	24.36	50.01	5,786.4	210.3	271.8	121.3	4.33

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<b>Company:</b> Antero Resources	<b>Local Co-ordinate Reference:</b> Well Ford Unit 1H
<b>Project:</b> Harrison County West Virginia	<b>TVD Reference:</b> Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b> Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b> Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b> Ford Unit 1H	<b>North Reference:</b> Grid
<b>Wellbore:</b> Original Wellpath	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> As Drilled	<b>Database:</b> Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,870.7	24.91	49.98	5,809.1	217.0	279.8	125.4	2.20	
5,895.7	24.79	50.12	5,831.8	223.7	287.9	129.5	0.53	
5,920.7	24.93	51.40	5,854.5	230.4	296.0	133.5	2.22	
5,945.7	25.18	52.32	5,877.1	236.9	304.3	137.3	1.85	
5,970.7	25.07	53.07	5,899.8	243.3	312.8	140.9	1.35	
5,995.7	24.87	55.51	5,922.4	249.5	321.3	144.3	4.20	
6,020.7	24.70	56.11	5,945.1	255.4	330.0	147.4	1.21	
6,045.7	24.61	54.47	5,967.8	261.3	338.6	150.6	2.76	
6,070.7	25.07	52.86	5,990.5	267.6	347.0	154.0	3.27	
6,095.7	25.37	51.52	6,013.1	274.1	355.4	157.8	2.58	
6,120.7	25.44	49.35	6,035.7	280.9	363.7	161.9	3.73	
6,145.7	25.10	46.27	6,058.3	288.1	371.6	166.5	5.43	
6,170.7	24.85	43.61	6,081.0	295.6	379.1	171.4	4.60	
6,195.7	25.51	42.21	6,103.6	303.3	386.3	176.7	3.56	
6,220.7	26.04	41.80	6,126.1	311.4	393.6	182.3	2.24	
6,245.7	26.13	42.20	6,148.6	319.6	400.9	188.0	0.79	
6,270.7	26.23	42.57	6,171.0	327.7	408.4	193.6	0.77	
6,295.7	25.91	43.52	6,193.5	335.8	415.9	199.1	2.10	
6,320.7	25.83	44.52	6,216.0	343.6	423.5	204.3	1.77	
6,345.7	25.58	45.91	6,238.5	351.2	431.2	209.4	2.61	
6,370.7	25.27	47.91	6,261.1	358.6	439.0	214.1	3.65	
6,395.7	24.60	49.40	6,283.8	365.5	446.9	218.4	3.67	
6,420.7	23.70	51.25	6,306.6	372.1	454.8	222.4	4.70	
6,445.7	23.14	53.02	6,329.5	378.2	462.6	225.9	3.60	
6,470.7	22.77	54.18	6,352.5	384.0	470.5	229.1	2.34	
6,495.7	22.42	54.01	6,375.6	389.6	478.2	232.2	1.42	
6,520.7	22.17	53.29	6,398.7	395.2	485.9	235.4	1.48	
6,545.7	22.25	51.88	6,421.9	401.0	493.4	238.7	2.16	
6,570.7	22.72	50.79	6,445.0	406.9	500.8	242.2	2.51	
6,595.7	23.04	50.82	6,468.0	413.1	508.4	245.9	1.28	
6,620.7	22.99	52.39	6,491.0	419.1	516.0	249.4	2.46	
6,645.7	23.01	53.96	6,514.0	425.0	523.9	252.7	2.46	
6,670.7	23.23	55.46	6,537.0	430.7	531.9	255.8	2.51	
6,695.7	23.59	56.81	6,560.0	436.2	540.1	258.7	2.58	
6,720.7	24.15	58.52	6,582.8	441.6	548.7	261.3	3.56	
6,745.7	24.67	59.19	6,605.6	447.0	557.5	263.8	2.36	
6,770.7	25.37	59.46	6,628.3	452.3	566.6	266.3	2.84	
6,795.7	26.13	59.08	6,650.8	457.9	575.9	268.9	3.11	
6,820.7	27.19	58.39	6,673.1	463.7	585.5	271.7	4.42	
6,845.7	27.23	58.01	6,695.3	469.7	595.2	274.6	0.71	
6,870.7	27.32	56.55	6,717.6	475.9	604.9	277.7	2.70	
6,895.7	26.98	54.92	6,739.8	482.4	614.3	281.0	3.27	
6,920.7	26.80	52.73	6,762.1	489.0	623.4	284.7	4.03	
6,945.7	27.21	50.19	6,784.4	496.1	632.3	288.9	4.90	

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01/05/2018



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,970.7	25.89	47.82	6,806.7	503.4	640.7	293.4	6.77
6,995.7	26.38	45.67	6,829.2	511.0	648.8	298.3	4.26
7,020.7	25.44	42.84	6,851.7	518.8	656.4	303.5	6.21
7,045.7	25.30	40.41	6,874.3	526.8	663.5	309.1	4.20
7,070.7	25.04	40.45	6,896.9	534.9	670.4	314.8	1.04
7,075.0	25.09	40.78	6,900.8	536.3	671.6	315.8	3.50
<b>SCMR</b>							
7,095.7	25.34	42.38	6,919.5	542.9	677.4	320.4	3.50
7,120.7	24.13	44.63	6,942.2	550.5	684.6	325.5	6.13
7,145.7	23.26	45.59	6,965.1	557.6	691.7	330.2	3.81
7,170.7	22.77	47.18	6,988.1	564.3	698.8	334.6	3.17
7,174.9	22.69	47.48	6,992.0	565.4	700.0	335.3	3.32
7,226.0	22.69	50.95	7,039.1	578.3	714.9	343.2	2.62
7,256.0	22.45	50.85	7,066.8	585.5	723.9	347.5	0.81
7,286.0	22.93	47.25	7,094.5	593.1	732.6	352.2	4.90
7,316.0	23.99	42.87	7,122.0	601.5	741.0	357.8	6.80
7,346.0	25.73	39.29	7,149.3	611.1	749.3	364.5	7.67
7,376.0	27.62	37.32	7,176.1	621.6	757.7	372.2	6.95
7,406.0	29.84	34.84	7,202.4	633.3	766.1	380.8	8.40
7,436.0	32.12	28.89	7,228.1	646.4	774.3	391.0	12.72
7,466.0	34.21	21.52	7,253.2	661.2	781.2	403.1	15.13
7,487.0	36.56	16.84	7,270.3	672.7	785.2	412.9	17.07
<b>BRKT</b>							
7,496.0	37.62	15.00	7,277.5	677.9	786.7	417.5	17.07
7,522.0	40.87	10.74	7,297.7	694.0	790.3	431.7	16.22
<b>TLLY</b>							
7,526.0	41.38	10.14	7,300.7	696.6	790.8	434.1	16.22
7,556.0	44.19	7.14	7,322.7	716.7	793.8	452.4	11.57
7,586.0	46.34	4.39	7,343.8	737.9	796.0	472.1	9.68
7,616.0	49.93	1.90	7,363.8	760.2	797.2	493.0	13.47
7,646.0	54.84	0.39	7,382.1	783.9	797.6	515.6	16.84
7,647.0	54.95	0.36	7,382.7	784.8	797.7	516.4	11.79
<b>HMLN</b>							
7,676.0	58.29	359.45	7,398.7	809.0	797.6	539.6	11.79
7,706.0	61.82	358.54	7,413.6	835.0	797.1	564.5	12.06
7,736.0	65.40	358.25	7,427.0	861.8	796.4	590.4	11.96
7,766.0	69.34	358.22	7,438.5	889.5	795.5	617.1	13.13
7,796.0	73.62	358.43	7,448.0	917.9	794.7	644.6	14.28
7,826.0	75.84	358.62	7,455.9	946.9	794.0	672.4	7.43
<b>MRCL</b>							
7,856.0	76.80	359.29	7,463.0	976.0	793.4	700.5	3.87
7,886.0	78.30	0.15	7,469.5	1,005.3	793.3	728.5	5.73
7,916.0	80.11	358.26	7,475.1	1,034.8	792.9	756.8	8.64
7,946.0	80.93	354.92	7,480.1	1,064.3	791.1	785.5	11.32
7,976.0	81.37	352.05	7,484.7	1,093.7	787.0	814.7	9.57





<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey

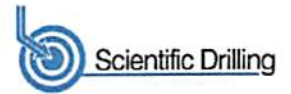
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
8,012.0	83.80	348.64	7,489.3	1,128.9	781.8	850.1	11.57
8,070.0	90.20	344.08	7,492.4	1,185.2	768.1	907.9	13.54
8,166.0	90.34	341.52	7,491.9	1,276.9	739.7	1,003.8	2.67
8,260.0	89.93	341.49	7,491.7	1,366.0	709.9	1,097.8	0.44
8,354.0	89.16	342.20	7,492.4	1,455.3	680.6	1,191.8	1.11
8,447.0	88.83	342.68	7,494.1	1,544.0	652.6	1,284.8	0.63
8,542.0	88.42	342.27	7,496.3	1,634.5	624.0	1,379.7	0.61
8,636.0	89.06	343.49	7,498.4	1,724.3	596.3	1,473.7	1.47
8,730.0	88.39	345.30	7,500.5	1,814.9	571.0	1,567.7	2.05
8,824.0	87.92	342.71	7,503.5	1,905.2	545.1	1,661.6	2.80
8,919.0	88.63	342.48	7,506.4	1,995.8	516.7	1,756.5	0.79
9,013.0	89.19	340.06	7,508.2	2,084.8	486.6	1,850.5	2.64
9,106.0	88.81	341.61	7,509.8	2,172.6	456.0	1,943.4	1.72
9,200.0	89.03	342.76	7,511.6	2,262.1	427.3	2,037.4	1.25
9,294.0	92.11	343.12	7,510.6	2,351.9	399.7	2,131.4	3.30
9,388.0	93.49	343.61	7,506.0	2,441.9	372.8	2,225.2	1.56
9,482.0	92.85	344.44	7,500.8	2,532.1	347.0	2,319.1	1.11
9,576.0	92.21	344.90	7,496.7	2,622.7	322.2	2,412.9	0.84
9,670.0	88.99	341.91	7,495.7	2,712.7	295.3	2,506.9	4.67
9,763.0	89.60	340.57	7,496.9	2,800.8	265.4	2,599.9	1.58
9,858.0	90.37	341.72	7,496.9	2,890.7	234.7	2,694.8	1.46
9,951.0	89.30	344.07	7,497.1	2,979.6	207.4	2,787.8	2.78
10,045.0	89.60	345.55	7,498.1	3,070.3	182.8	2,881.7	1.61
10,137.0	88.09	345.51	7,499.9	3,159.3	159.8	2,973.6	1.64
10,230.0	88.02	342.59	7,503.1	3,248.7	134.2	3,066.5	3.14
10,325.0	88.89	341.44	7,505.6	3,339.0	104.9	3,161.5	1.52
10,419.0	89.93	342.05	7,506.6	3,428.3	75.5	3,255.5	1.28
10,513.0	87.71	344.17	7,508.5	3,518.2	48.2	3,349.4	3.27
10,607.0	89.46	343.16	7,510.8	3,608.4	21.7	3,443.4	2.15
10,701.0	91.01	343.61	7,510.5	3,698.4	-5.1	3,537.4	1.72
10,795.0	89.46	342.56	7,510.1	3,788.4	-32.5	3,631.4	1.99
10,889.0	90.27	343.86	7,510.3	3,878.4	-59.6	3,725.4	1.63
10,982.0	89.73	343.36	7,510.3	3,967.6	-85.9	3,818.4	0.79
11,076.0	89.83	340.39	7,510.7	4,056.9	-115.1	3,912.3	3.16
11,171.0	90.23	340.22	7,510.6	4,146.3	-147.1	4,007.2	0.46
11,265.0	89.70	339.90	7,510.7	4,234.7	-179.2	4,101.1	0.66
11,358.0	89.50	342.15	7,511.3	4,322.6	-209.4	4,194.1	2.43
11,452.0	89.93	339.41	7,511.8	4,411.4	-240.4	4,288.0	2.95
11,546.0	89.29	343.65	7,512.4	4,500.5	-270.1	4,381.9	4.56
11,640.0	89.50	342.40	7,513.4	4,590.4	-297.6	4,475.9	1.35
11,734.0	89.46	345.48	7,514.3	4,680.7	-323.6	4,569.9	3.28
11,828.0	90.00	345.69	7,514.7	4,771.8	-347.0	4,663.8	0.62
11,922.0	89.93	344.70	7,514.8	4,862.7	-371.0	4,757.7	1.06
12,016.0	90.40	342.32	7,514.5	4,952.8	-397.7	4,851.7	2.58

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SEP 29 2017 COMPASS 5000.1 Build 70

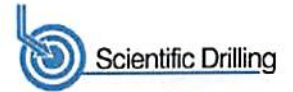
WV Department of  
Environmental Protection

01/05/2018



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Ford Unit 1H
<b>Project:</b>	Harrison County West Virginia	<b>TVD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Site:</b>	Ruth/Norris/Nellie/Ford Pad	<b>MD Reference:</b>	Patterson 340: GL 1374' + 24' RKB @ 1398.0usft
<b>Well:</b>	Ford Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
12,109.0	90.92	341.52	7,513.4	5,041.2	-426.5	4,944.7	1.03	
12,200.0	90.47	343.44	7,512.3	5,128.0	-453.9	5,035.7	2.17	
12,290.0	89.83	345.32	7,512.1	5,214.6	-478.2	5,125.6	2.21	
12,381.0	90.40	346.96	7,511.9	5,303.0	-500.0	5,216.5	1.91	
12,472.0	88.79	343.99	7,512.6	5,391.0	-522.8	5,307.4	3.71	
12,563.0	90.91	342.28	7,512.8	5,478.1	-549.2	5,398.4	2.99	
12,654.0	89.80	340.90	7,512.2	5,564.5	-577.9	5,489.4	1.95	
12,745.0	90.50	344.12	7,512.0	5,651.2	-605.3	5,580.3	3.62	
12,835.0	90.00	344.12	7,511.6	5,737.8	-629.9	5,670.3	0.56	
12,926.0	89.63	346.52	7,511.9	5,825.8	-653.0	5,761.2	2.67	
13,017.0	89.03	343.26	7,513.0	5,913.7	-676.7	5,852.2	3.64	
13,108.0	89.33	341.56	7,514.3	6,000.4	-704.2	5,943.1	1.90	
13,199.0	90.00	342.81	7,514.8	6,087.0	-732.0	6,034.1	1.56	
13,293.0	88.69	342.43	7,515.9	6,176.7	-760.1	6,128.1	1.45	
13,387.0	88.46	340.69	7,518.2	6,265.9	-789.8	6,222.1	1.87	
13,481.0	88.76	340.78	7,520.5	6,354.6	-820.8	6,316.0	0.33	
13,575.0	90.23	336.87	7,521.3	6,442.2	-854.8	6,409.7	4.44	
13,670.0	90.24	340.67	7,520.9	6,530.8	-889.2	6,504.4	4.00	
13,764.0	89.73	339.80	7,520.9	6,619.2	-920.9	6,598.3	1.07	
13,858.0	90.07	345.14	7,521.1	6,708.8	-949.2	6,692.3	5.69	
13,952.0	90.10	344.33	7,521.0	6,799.5	-974.0	6,786.2	0.86	
14,046.0	90.40	346.13	7,520.6	6,890.4	-998.0	6,880.2	1.94	
14,140.0	87.95	344.42	7,521.9	6,981.3	-1,021.8	6,974.1	3.18	
14,234.0	87.82	343.99	7,525.4	7,071.7	-1,047.4	7,068.0	0.48	
14,328.0	89.36	343.16	7,527.7	7,161.8	-1,074.0	7,161.9	1.86	
14,422.0	89.46	343.93	7,528.7	7,251.9	-1,100.6	7,255.9	0.83	
14,516.0	88.05	343.46	7,530.7	7,342.1	-1,127.0	7,349.9	1.58	
14,610.0	88.52	343.86	7,533.5	7,432.3	-1,153.4	7,443.8	0.66	
14,704.0	88.76	344.76	7,535.7	7,522.8	-1,178.8	7,537.8	0.99	
14,798.0	89.66	344.44	7,537.0	7,613.4	-1,203.8	7,631.7	1.02	
14,892.0	88.36	344.42	7,538.7	7,703.9	-1,229.0	7,725.7	1.38	
14,986.0	89.56	344.86	7,540.4	7,794.6	-1,253.9	7,819.6	1.36	
15,080.0	87.85	342.79	7,542.5	7,884.8	-1,280.1	7,913.6	2.86	
15,174.0	90.74	342.14	7,543.7	7,974.4	-1,308.4	8,007.6	3.15	
15,268.0	91.94	342.33	7,541.5	8,063.9	-1,337.1	8,101.5	1.29	
15,362.0	90.10	342.63	7,539.8	8,153.5	-1,365.4	8,195.5	1.98	
15,456.0	89.53	340.65	7,540.1	8,242.7	-1,395.0	8,289.5	2.19	
15,550.0	90.64	340.22	7,539.9	8,331.3	-1,426.5	8,383.4	1.27	
15,644.0	91.11	342.71	7,538.5	8,420.4	-1,456.3	8,477.3	2.70	
15,738.0	89.53	345.32	7,538.0	8,510.8	-1,482.2	8,571.3	3.25	
15,832.0	88.93	344.17	7,539.3	8,601.4	-1,506.9	8,665.3	1.38	
15,926.0	89.63	343.23	7,540.4	8,691.7	-1,533.3	8,759.2	1.25	
16,020.0	89.73	342.27	7,541.0	8,781.4	-1,561.2	8,853.2	1.03	
16,114.0	88.96	342.21	7,542.0	8,870.9	-1,589.9	8,947.2	0.82	
16,208.0	89.87	344.75	7,543.0	8,961.0	-1,616.6	9,041.2	2.87	



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<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey

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16,302.0	88.59	344.19	7,544.3	9,051.6	-1,641.8	9,135.2	1.49
16,397.0	88.08	341.63	7,547.0	9,142.4	-1,669.7	9,230.1	2.75
16,492.0	88.86	341.73	7,549.6	9,232.5	-1,699.5	9,325.1	0.83
16,586.0	89.33	342.72	7,551.0	9,322.0	-1,728.2	9,419.0	1.17
16,680.0	90.07	343.52	7,551.5	9,412.0	-1,755.5	9,513.0	1.16
16,774.0	91.17	343.72	7,550.5	9,502.1	-1,782.0	9,607.0	1.19
16,868.0	91.01	343.03	7,548.7	9,592.2	-1,808.9	9,701.0	0.75
16,909.0	91.58	343.10	7,547.8	9,631.4	-1,820.8	9,742.0	1.40
16,966.0	91.50	342.90	7,546.3	9,685.9	-1,837.5	9,799.0	0.38

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,075.0	6,900.8	536.3	671.6	SCMR
7,487.0	7,270.3	672.7	785.2	BRKT
7,522.0	7,297.7	694.0	790.3	TLLY
7,647.0	7,382.7	784.8	797.7	HMLN
7,826.0	7,455.9	946.9	794.0	MRCL

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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Office of Oil and Gas

SEP 29 2017

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/7/2017
Job End Date:	5/25/2017
State:	West Virginia
County:	Harrison
API Number:	47-033-05702-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Ford 1H
Latitude:	39.25336944
Longitude:	-80.56029722
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,551
Total Base Water Volume (gal):	14,746,718
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	88.29823	
Sand	U.S. Well Services, LLC	Proppant	Crystalline Silica, quartz	14808-60-7	100.00000	11.48458	
HCL Acid (12.6%-17.5%)	U.S. Well Services, LLC	Bulk Acid	Water	7732-18-5	87.40000	0.13070	
			Hydrogen Chloride	7647-01-0	17.50000	0.03039	
WFRA-500	U.S. Well Services, LLC	Friction Reducer	2-Propenoic acid, polymer with 2 propenamide	9003-06-9	30.00000	0.01352	
			Hydrated light distillate (petroleum)	64742-47-8	30.00000	0.01088	
LGC-15	U.S. Well Services, LLC	Gelling Agents	Guar Gum	9000-30-0	50.00000	0.01101	
			Petroleum Distillates	64742-47-8	60.00000	0.01043	
			Suspending agent (solid)	14808-60-7	3.00000	0.00168	
			Surfactant	68439-51-0	3.00000	0.00066	

Bioclear 2000	U.S. Well Services, LLC	Anti-Bacterial Agent					
			2,2-dibromo-3-nitrilopropionamide	10222-01-2	20.00000	0.00424	
			Deionized Water	7732-18-5	28.00000	0.00242	
SI-1200s	U.S. Well Services, LLC	Scale Inhibitor					
			Alkyl Phosphonic Acid	Proprietary	5.00000	0.00063	
			Ammonia	7664-41-7	0.50000	0.00010	
AP One	U.S. Well Services, LLC	Gel Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00042	
AI-303	U.S. Well Services, LLC	Acid Corrosion Inhibitors					
			Ethylene glycol	107-21-1	40.00000	0.00004	
			Formic acid	64-18-6	20.00000	0.00002	
			Cinnamaldehyde	104-55-2	20.00000	0.00002	
			Butyl cellosolve	111-76-2	20.00000	0.00001	
			Polyether	60828-78-6	10.00000	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.

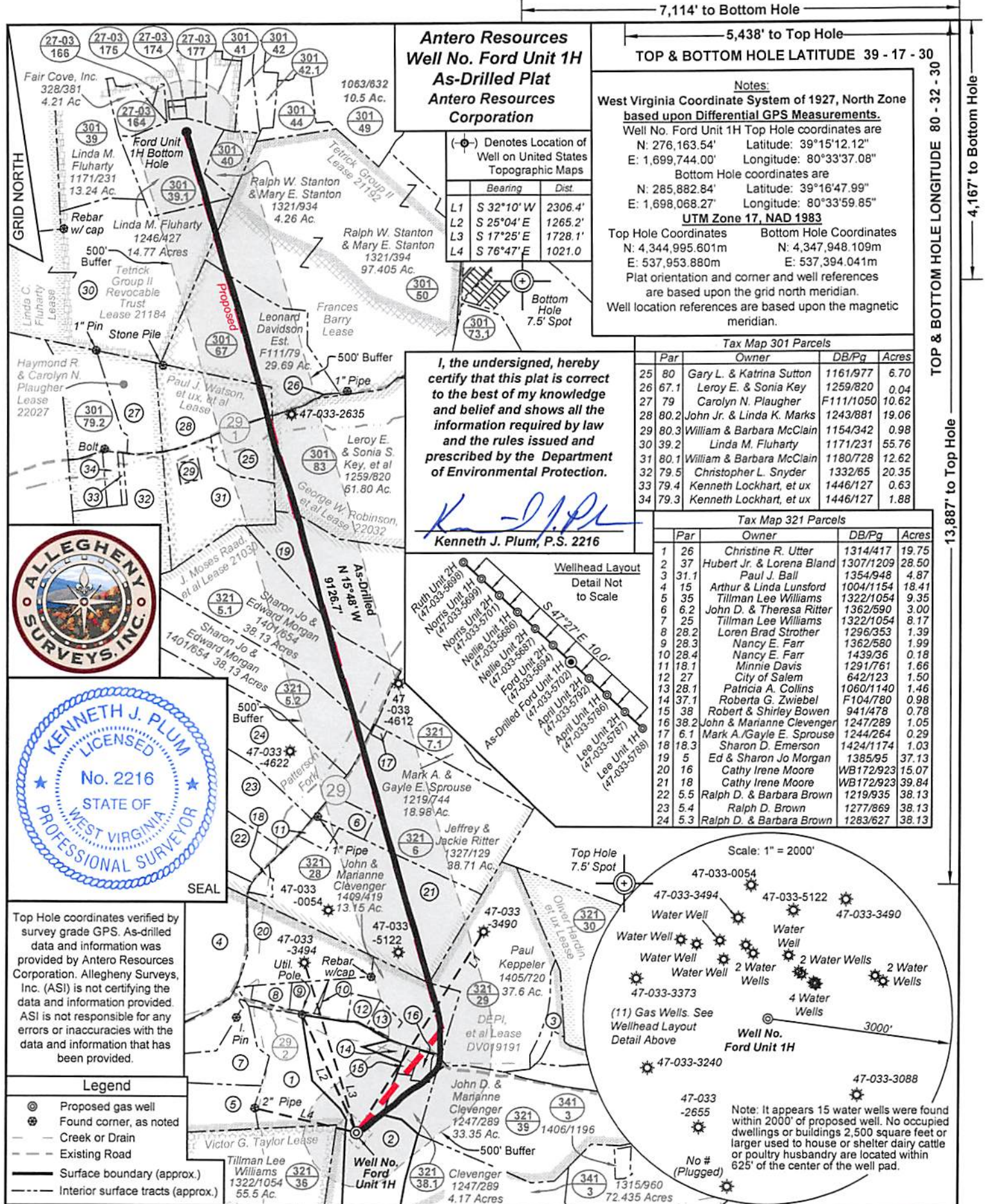
\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* 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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 Office of Oil and Gas  
 SEP 29 2017  
 WV Department of  
 Environmental Protection



**Antero Resources  
Well No. Ford Unit 1H  
As-Drilled Plat  
Antero Resources  
Corporation**

7,114' to Bottom Hole  
5,438' to Top Hole  
TOP & BOTTOM HOLE LATITUDE 39 - 17 - 30

**Notes:**  
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
Well No. Ford Unit 1H Top Hole coordinates are  
N: 276,163.54' Latitude: 39°15'12.12"  
E: 1,699,744.00' Longitude: 80°33'37.08"  
Bottom Hole coordinates are  
N: 285,882.84' Latitude: 39°16'47.99"  
E: 1,698,068.27' Longitude: 80°33'59.85"  
**UTM Zone 17, NAD 1983**  
Top Hole Coordinates Bottom Hole Coordinates  
N: 4,344,995.601m N: 4,347,948.109m  
E: 537,953.880m E: 537,394.041m  
Plat orientation and corner and well references are based upon the grid north meridian.  
Well location references are based upon the magnetic meridian.

(⊕) Denotes Location of Well on United States Topographic Maps

	Bearing	Dist.
L1	S 32°10' W	2306.4'
L2	S 25°04' E	1265.2'
L3	S 17°25' E	1728.1'
L4	S 76°47' E	1021.0'

**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.**

*Kenneth J. Plum*  
**Kenneth J. Plum, P.S. 2216**

**Tax Map 301 Parcels**

Par	Owner	DB/Pg	Acres
25	80 Gary L. & Katrina Sutton	1161/977	6.70
26	67.1 Leroy E. & Sonia Key	1259/820	0.04
27	79 Carolyn N. Plaugher	F111/1050	10.62
28	80.2 John Jr. & Linda K. Marks	1243/881	19.06
29	80.3 William & Barbara McClain	1154/342	0.98
30	39.2 Linda M. Fluharty	1171/231	55.76
31	80.1 William & Barbara McClain	1180/728	12.62
32	79.5 Christopher L. Snyder	1332/65	20.35
33	79.4 Kenneth Lockhart, et ux	1446/127	0.63
34	79.3 Kenneth Lockhart, et ux	1446/127	1.88

**Tax Map 321 Parcels**

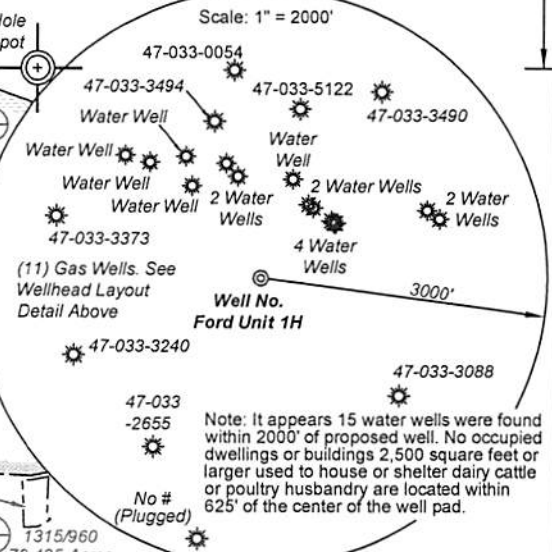
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1	26 Christine R. Utter	1314/417	19.75
2	37 Hubert Jr. & Lorena Bland	1307/1209	28.50
3	31.1 Paul J. Ball	1354/948	4.87
4	15 Arthur & Linda Lunsford	1004/1154	18.41
5	35 Tillman Lee Williams	1322/1054	9.35
6	6.2 John D. & Theresa Ritter	1362/590	3.00
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8	28.2 Loren Brad Strother	1296/353	1.39
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18	18.3 Sharon D. Emerson	1424/1174	1.03
19	5 Ed & Sharon Jo Morgan	1385/95	37.13
20	16 Cathy Irene Moore	WB172/923	15.07
21	18 Cathy Irene Moore	WB172/923	39.84
22	5.5 Ralph D. & Barbara Brown	1219/935	38.13
23	5.4 Ralph D. Brown	1277/869	38.13
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Top Hole coordinates verified by survey grade GPS. As-drilled data and information was provided by Antero Resources Corporation. Allegany 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 corner, as noted
- - - Creek or Drain
- - - Existing Road
- Surface boundary (approx.)
- - - Interior surface tracts (approx.)



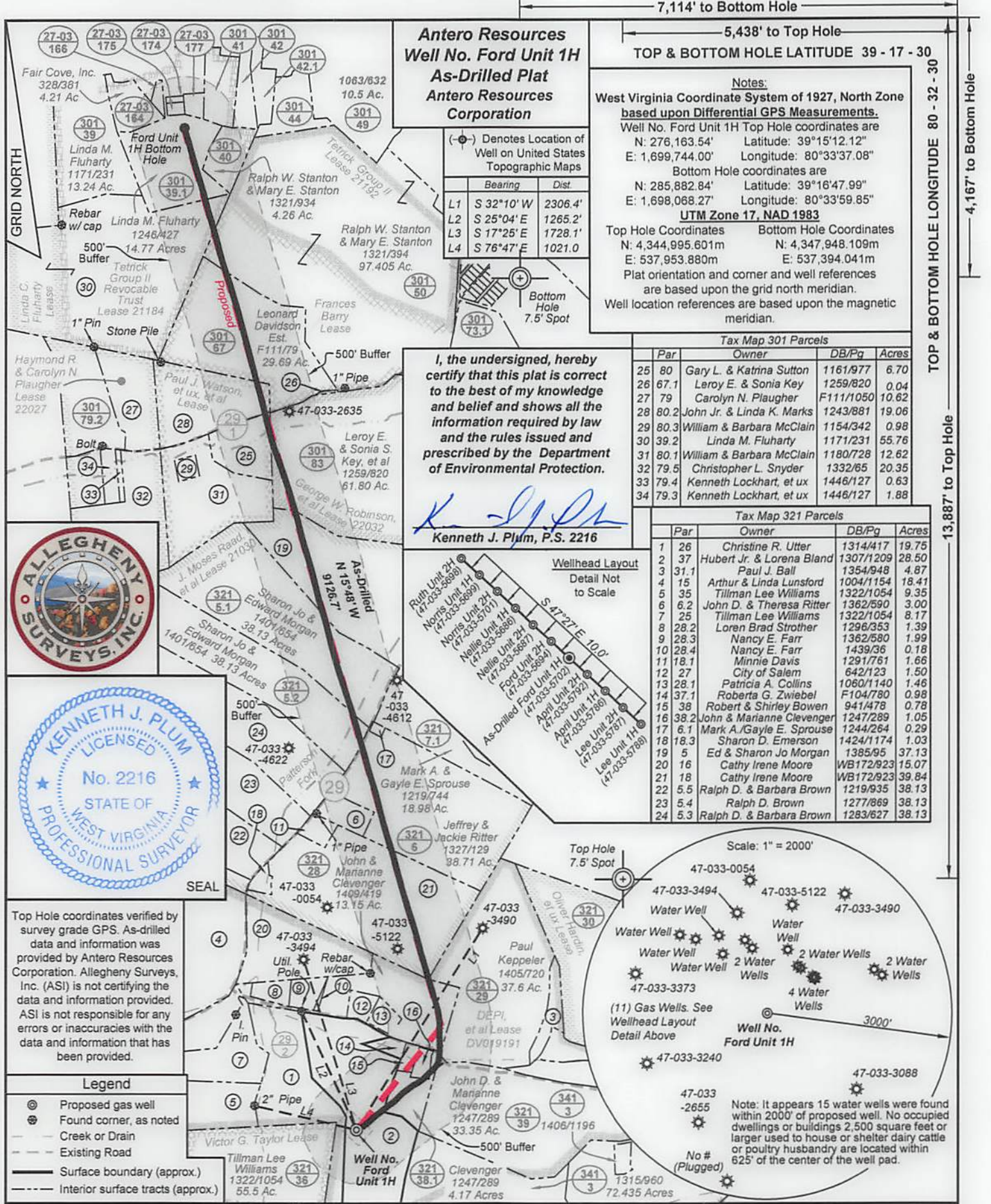
FILE NO: 11-36-TM-12  
DRAWING NO: Ford 1H As-Drilled Plat  
SCALE: 1" = 1200'  
MINIMUM DEGREE OF ACCURACY: Submeter  
PROVEN SOURCE OF ELEVATION: WVDOT, Bridgeport, WV

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

DATE: August 28 2017  
OPERATOR'S WELL NO. Ford Unit 1H  
API WELL NO  
47 - 033 - 05702  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: Original Grade - 1395' Existing Grade - 1376' WATERSHED: Tenmile Creek QUADRANGLE: Salem  
DISTRICT: Tenmile COUNTY: Harrison  
SURFACE OWNER: Hubert Jr. & Lorena Bland Paul J. Watson, et ux, et al ACREAGE: 28.50  
ROYALTY OWNER: DEPI, et al; Tetrick Group II Revocable Trust; J. Moses Raad, et al LEASE NO: DV019191; 21030 ACREAGE: 283; 447; 40  
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY)  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale DEPTH: 10,965 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



**Antero Resources  
Well No. Ford Unit 1H  
As-Drilled Plat  
Antero Resources  
Corporation**

(+) Denotes Location of Well on United States Topographic Maps

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5,438' to Top Hole

TOP & BOTTOM HOLE LATITUDE 39 - 17 - 30

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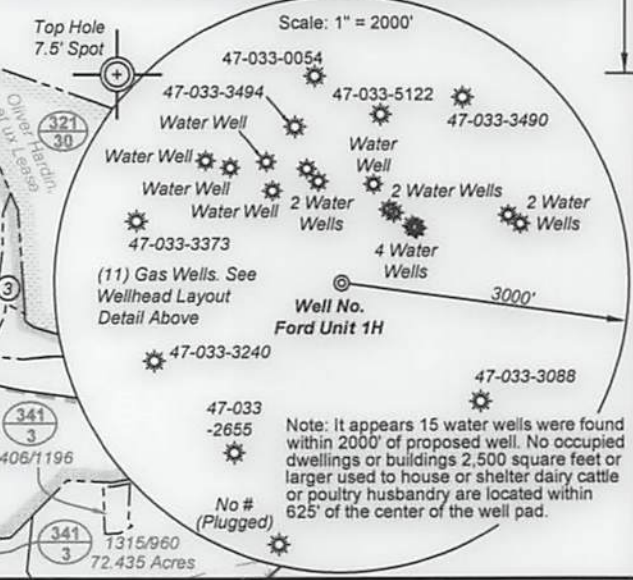
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DEPARTMENT OF ENVIRONMENTAL PROTECTION  
**OIL AND GAS DIVISION**

DATE: August 28 2017  
OPERATOR'S WELL NO. Ford Unit 1H  
API WELL NO  
47 - 033 - 05702  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
Original Grade - 1395'  
Existing Grade - 1376'  
LOCATION: ELEVATION: \_\_\_\_\_ WATERSHED: Tenmile Creek QUADRANGLE: Salem  
DISTRICT: Tenmile COUNTY: Harrison  
SURFACE OWNER: Hubert Jr. & Lorena Bland Paul J. Watson, et ux, et al 22032; 21184 ACREAGE: 28.50  
ROYALTY OWNER: DEPI, et al; Tetrick Group II Revocable Trust; J. Moses Raad, et al LEASE NO: DV019191; 21030 ACREAGE: 283; 447; 108  
PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ 7,546' TVD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale DEPTH: 16,966' 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

01/05/2018