

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

API 47-017-06828 County Doddridge District West Union  
Quad West Union 7.5' Pad Name Addie Pad Field/Pool Name ----  
Farm name Antero Resources Corporation Well Number Warrior 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 4353811m Easting 516757m  
Landing Point of Curve Northing 4353818m Easting 517410m  
Bottom Hole Northing 4350534m Easting 518791m

Elevation (ft) 891' 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 6/23/2017 Date drilling commenced 7/6/2017 Date drilling ceased 11/5/2017  
Date completion activities began 2/8/2018 Date completion activities ceased 7/2/2017  
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 370' Open mine(s) (Y/N) depths No  
Salt water depth(s) ft 1495', 1535' Void(s) encountered (Y/N) depths No  
Coal depth(s) ft None Identified Cavern(s) encountered (Y/N) depths No  
Is coal being mined in area (Y/N) No

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

API 47-017 - 06828 Farm name Antero Resources Corporation Well number Warrior 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"	95'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	489'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2607'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19135'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7052'		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	204 sx	15.6	1.18	241	0'	8 Hrs.
Surface	Class A	415sx	15.6	1.20	498	0'	8 Hrs.
Coal							
Intermediate 1	Class A	900 sx	15.6	1.18	1062	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	740sx (Lead) 1858sx (Tail)	13.5(Lead), 15.2 (Tail)	1.45 (Lead), 1.83 (Tail)	4473	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19135' MD, 6587' TVD (BHL), 6606' (Deepest Point Drilled) Loggers TD (ft) 19135' MD  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6450'

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 - 06828 Farm name Antero Resources Corporation Well number Warrior Unit 1H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>6461' (TOP)</u> TVD	<u>7101' (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 16771 mcfpd Oil 138 bpd NGL --- bpd Water 71 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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


Please insert additional pages as applicable.

Drilling Contractor Frontier Drilling LLC  
Address 562 Spring Run Road City Pennsboro State WV Zip 26415

Logging Company Allied Horizontal  
Address 381 Colonial Manor Rd City North Huntington State PA Zip 15642

Cementing Company C&J Energy Services  
Address 1650 Hackers Creek City Lane Jew State WV Zip 26378

Stimulating Company Keane Group  
Address 5825 North Sam Houston Parkway West, Suite 600 City Houston State TX Zip 77086

Please insert additional pages as applicable.

Completed by Karin Cox Telephone 303-357-6820  
Signature  Title Permitting Agent Date 11/9/2018

API 47-017-06828 Farm Name Antero Resources Corp Well Number Warrior Unit 1H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	2/8/2018	18871	19039	48	Marcellus
2	3/21/2018	18671	18839	48	Marcellus
3	3/21/2018	18472	18640	48	Marcellus
4	3/22/2018	18273	18441	48	Marcellus
5	3/22/2018	18074	18242	48	Marcellus
6	3/22/2018	17875	18043	48	Marcellus
7	3/23/2018	17676	17844	48	Marcellus
8	3/24/2018	17477	17645	48	Marcellus
9	3/24/2018	17277	17445	48	Marcellus
10	3/25/2018	17078	17246	48	Marcellus
11	3/25/2018	16879	17047	48	Marcellus
12	3/26/2018	16680	16848	48	Marcellus
13	3/27/2018	16481	16649	48	Marcellus
14	3/27/2018	16282	16450	48	Marcellus
15	3/28/2018	16083	16251	48	Marcellus
16	3/29/2018	15883	16051	48	Marcellus
17	3/29/2018	15684	15852	48	Marcellus
18	3/29/2018	15485	15653	48	Marcellus
19	3/30/2018	15286	15454	48	Marcellus
20	3/30/2018	15087	15255	48	Marcellus
21	3/30/2018	14888	15056	48	Marcellus
22	3/31/2018	14689	14857	48	Marcellus
23	4/1/2018	14489	14657	48	Marcellus
24	4/4/2018	14290	14458	48	Marcellus
25	4/4/2018	14091	14259	48	Marcellus
26	4/5/2018	13892	14060	48	Marcellus
27	4/5/2018	13693	13861	48	Marcellus
28	4/5/2018	13494	13662	48	Marcellus
29	4/6/2018	13295	13463	48	Marcellus
30	4/6/2018	13095	13263	48	Marcellus
31	4/6/2018	12896	13064	48	Marcellus
32	4/6/2018	12697	12865	48	Marcellus
33	4/7/2018	12498	12666	48	Marcellus
34	4/7/2018	12299	12467	48	Marcellus
35	4/8/2018	12100	12268	48	Marcellus
36	4/8/2018	11901	12069	48	Marcellus
37	4/8/2018	11702	11869	48	Marcellus
38	4/8/2018	11502	11670	48	Marcellus
39	4/9/2018	11303	11471	48	Marcellus
40	4/9/2018	11104	11272	48	Marcellus
41	4/9/2018	10905	11073	48	Marcellus
42	4/10/2018	10706	10874	48	Marcellus
43	4/10/2018	10507	10675	48	Marcellus
44	4/10/2018	10308	10475	48	Marcellus
45	4/10/2018	10108	10276	48	Marcellus
46	4/11/2018	9909	10077	48	Marcellus
47	4/11/2018	9710	9878	48	Marcellus
48	4/11/2018	9511	9679	48	Marcellus
49	4/12/2018	9312	9480	48	Marcellus
50	4/12/2018	9113	9281	48	Marcellus
51	4/12/2018	8914	9081	48	Marcellus
52	4/13/2018	8714	8882	48	Marcellus
53	4/13/2018	8515	8683	48	Marcellus
54	4/13/2018	8316	8484	48	Marcellus
55	4/13/2018	8117	8285	48	Marcellus
56	4/14/2018	7918	8086	48	Marcellus
57	4/14/2018	7719	7887	48	Marcellus
58	4/14/2018	7520	7688	48	Marcellus
59	4/14/2018	7321	7488	48	Marcellus
60	4/15/2018	7121	7289	48	Marcellus

## 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	2/8/2018	69	8109	5389	3533	402920	8556	N/A
2	3/21/2018	70.6	8135	5798	3837	402575	8839	N/A
3	3/21/2018	71.3	8016	4704	3693	403950	8296	N/A
4	3/22/2018	68.4	7895	6292	4087	402475	8291	N/A
5	3/22/2018	73.2	7784	6036	3714	403830	8551	N/A
6	3/22/2018	73.9	7911	5858	4010	412575	9491	N/A
7	3/23/2018	74	7967	5939	3896	403330	8580	N/A
8	3/24/2018	71.3	7904	5874	3872	402635	8691	N/A
9	3/24/2018	72.4	7734	5883	4062	402575	8547	N/A
10	3/25/2018	75.3	8180	6259	3918	403480	8180	N/A
11	3/25/2018	73.7	7914	5669	4319	403080	8321	N/A
12	3/26/2018	62.9	7553	5687	3825	402760	8466	N/A
13	3/27/2018	73.1	8033	5187	4216	402575	10149	N/A
14	3/27/2018	72.9	7915	5848	4301	403170	8381	N/A
15	3/28/2018	70.8	8013	5860	4087	397495	10561	N/A
16	3/29/2018	73.2	7966	5554	4319	408890	9137	N/A
17	3/29/2018	74.7	7779	5619	4702	402000	8267	N/A
18	3/29/2018	73.4	7594	4402	4578	403000	8589	N/A
19	3/30/2018	76.5	7750	6228	5087	403000	8226	N/A
20	3/30/2018	74.8	7646	5497	4867	403000	8444	N/A
21	3/30/2018	75	7637	4634	3933	410980	8487	N/A
22	3/31/2018	75.2	7600	5781	4226	403000	8582	N/A
23	4/1/2018	73.5	7461	5369	4022	402575	8380	N/A
24	4/4/2018	73.7	7710	5547	4318	403000	8288	N/A
25	4/4/2018	71.6	7464	5892	3685	403860	8366	N/A
26	4/5/2018	70.8	7373	5521	4081	403000	8287	N/A
27	4/5/2018	71.3	7240	5577	3985	403000	8307	N/A
28	4/5/2018	76.4	7686	6194	3806	403520	8341	N/A
29	4/6/2018	75.8	7463	5863	4072	402800	8372	N/A
30	4/6/2018	78	7704	5632	4236	403000	8032	N/A
31	4/6/2018	77.3	7525	5508	3815	403300	8085	N/A
32	4/6/2018	75.6	7324	5983	3969	403830	7973	N/A
33	4/7/2018	75.7	7373	5468	4270	402000	8112	N/A
34	4/7/2018	74.2	7351	5217	4164	408000	8038	N/A
35	4/8/2018	75.8	7310	6193	3954	403000	10693	N/A
36	4/8/2018	78.8	7336	5320	4169	402000	7929	N/A
37	4/8/2018	75.1	7456	5412	3855	403000	8200	N/A
38	4/8/2018	76.6	7269	5804	4306	403360	8130	N/A
39	4/9/2018	77.8	7330	6232	4210	403000	8096	N/A
40	4/9/2018	71.5	7257	5279	4254	408000	8570	N/A
41	4/9/2018	77.3	7352	6420	4632	403700	8760	N/A
42	4/10/2018	78.6	7525	6295	4323	403640	8516	N/A
43	4/10/2018	75.2	7377	5695	3806	403000	7965	N/A
44	4/10/2018	77	7406	6156	4281	403750	7973	N/A
45	4/10/2018	75.2	7086	6151	3909	403240	7809	N/A
46	4/11/2018	73.5	7126	6340	4032	402575	7806	N/A
47	4/11/2018	72.5	7081	5788	3918	402575	7889	N/A
48	4/11/2018	78.4	7101	6494	4149	403200	7846	N/A
49	4/12/2018	76.1	6857	6293	4329	402575	7806	N/A
50	4/12/2018	75.9	6995	5896	4978	402575	9017	N/A
51	4/12/2018	77.5	6913	5697	3943	402950	7784	N/A
52	4/13/2018	74.8	6823	5438	4195	403200	7879	N/A
53	4/13/2018	77.5	7000	5888	4045	402575	7768	N/A
54	4/13/2018	79.2	7114	5966	4167	403080	7806	N/A
55	4/13/2018	78.8	6861	5464	3975	402950	7793	N/A
56	4/14/2018	79.8	6808	5760	4009	403245	7771	N/A
57	4/14/2018	79.2	6675	5833	4178	408386	7693	N/A
58	4/14/2018	77.9	6750	5700	4619	402810	8936	N/A
59	4/14/2018	78.1	6795	5998	4303	403780	7683	N/A
40	4/15/2018	78.7	6882	6056	4179	403320	7650	N/A
	AVG=	75	7,453	5,756	4,137	24,214,666	501,981	TOTAL

## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Shale	0	197	0	197
Sandy shale	197	357	197	357
Sandstone	357	417	357	417
Sandstone tr coal	417	437	417	437
Sandy shale	437	537	437	537
Shale	537	737	537	737
Silty sandstone	737	817	737	817
Silty shale	817	997	817	997
Sandstone	997	1,017	997	1,017
Silty shale	1,017	1,277	1,017	1,277
Sandstone	1,277	1,417	1,277	1,417
Sandy shale	1,417	1,677	1,417	1,677
Silty shale	1,677	1,745	1,677	1,758
Big Lime	1,745	2,299	1,758	2,332
Fifty Foot Sandstone	2,299	2,507	2,332	2,546
Gordon	2,507	2,707	2,546	2,751
Fifth Sandstone	2,707	2,778	2,751	2,824
Bayard	2,778	3,562	2,824	3,650
Speechley	3,562	3,746	3,650	3,857
Balltown	3,746	4,366	3,857	4,565
Bradford	4,366	4,793	4,565	5,049
Benson	4,793	5,091	5,049	5,385
Alexander	5,091	6,049	5,385	6,458
Sycamore	6,049	6,231	6,458	6,684
Middlesex	6,231	6,362	6,684	6,896
Burkett	6,362	6,392	6,896	6,960
Tully	6,392	6,436	6,960	7,076
Marcellus	6,436	NA	7,076	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.

# ANTERO RESOURCES CORPORATION

Location: Doddridge Co., WV  
 Field: Doddridge  
 Facility: Addle Pad

Slot: Slot #04  
 Well: Warrior Unit 1H  
 Wellbore: Warrior Unit 1H PWP

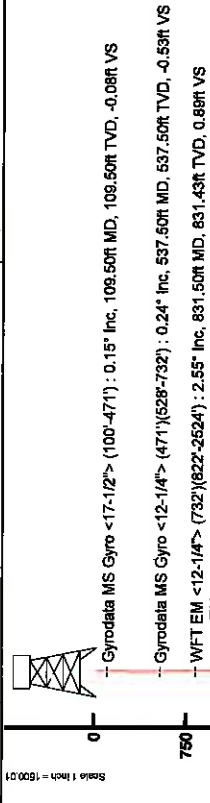
Pier reference wellbore is Warrior Unit 1H PWP Rev-A.0	
True vertical depths are referenced to Frontier 22 (RKB)	
Measured depths are referenced to Frontier 22 (RKB)	
Frontier 22 (RKB) to Mean Sea Level 914.5 feet	
Mean Sea Level to Mud line (At Slot: Slot #04): -880 feet	
Coordinates are in feet referenced to Slot	

Grid System: NAD27 / UTM Zone 17 North, US feet	
North Reference: Grid north	
Scale: True distance	
Depths are in feet	
Created by: dclauson on 2018-01-10	
Database: WVA_MPL_EasternUS_Datm	

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Addle Pad	1695225.147	14283415.126	80°49'20.530"W
Slot	Local E (ft)	Local N (US ft)	Longitude
Slot #04	20.43	14283414.159	80°48'20.670"W
Comment: Warrior Unit 1H			
Frontier 22 (RKB) to Mud line (At Slot: Slot #04)			
Mean Sea Level to Mud line (At Slot: Slot #04)			
Frontier 22 (RKB) to Mean Sea Level			

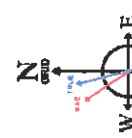


Well Profile Data						
Design Comment	MD (ft)	Inc (")	Az (")	TVD (ft)	Local E (ft)	Local N (ft)
Tie On	6797.50	49.890	143.740	6316.84	560.61	1959.35
Prof. To Bottom	6871.50	54.660	147.970	6362.11	512.15	1991.13
End of 3D Arc	6878.41	63.802	148.227	6417.24	433.51	2040.07
POE	7091.73	88.193	157.581	6463.00	342.26	2066.60
Landing Pt.	7309.60	90.000	157.581	6504.00	145.50	2167.77
BHL	19136.67	90.000	157.581	-10787.48	6676.30	0.00
						12518.14

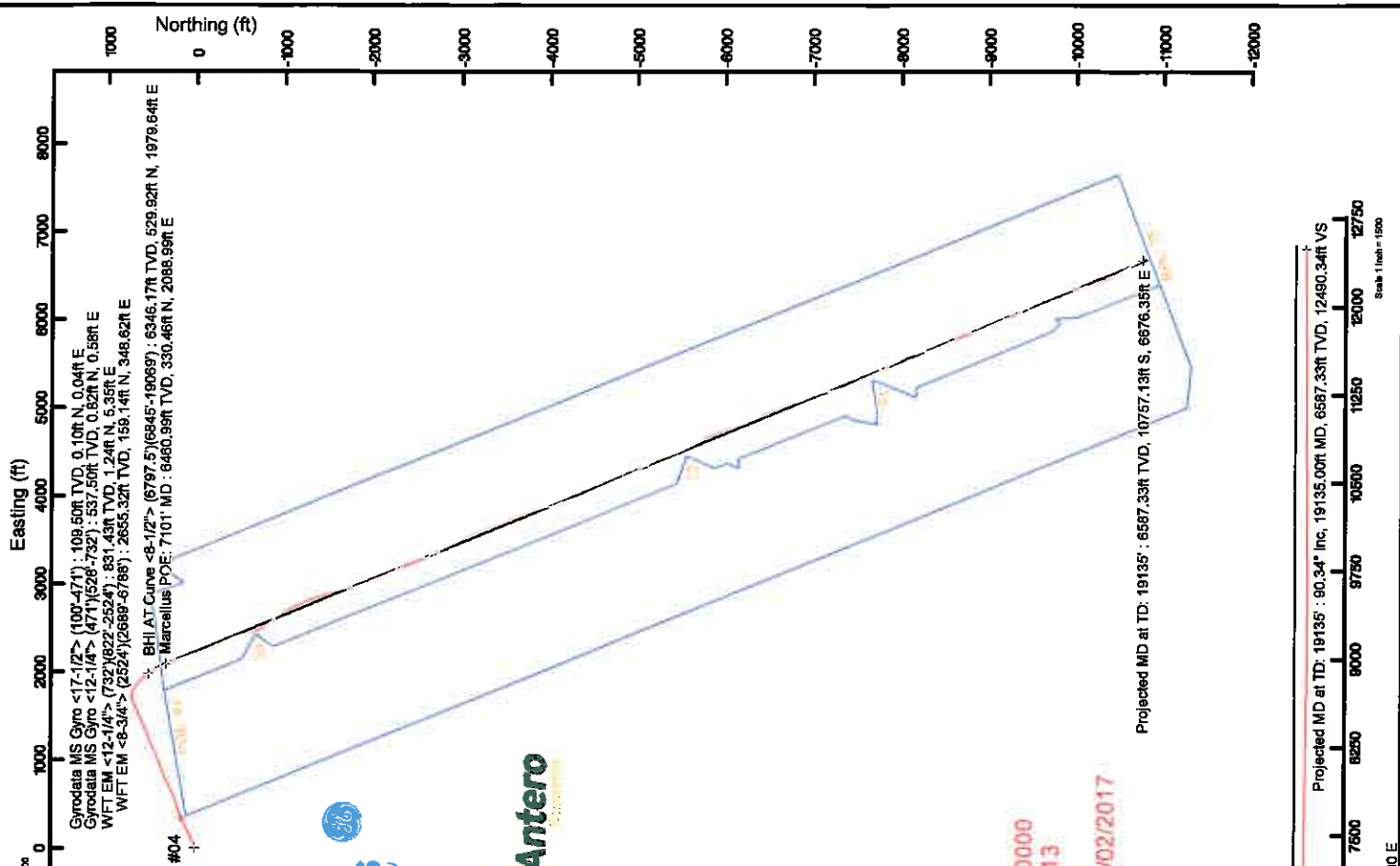
Well Data		
Slot	Well	Wellbore
Slot #04	Warrior Unit 1H	Warrior Unit 1H PWP
		Warrior Unit 1H AWB
		Warrior Unit 1H PWP Rev-A.0

API: 47-017-06828-0000  
 BHI Job #: 8837613  
 Rig: Frontier 22  
 Duration: 10/30/2017-11/02/2017

User specified Dip: 66.60°  
 Magnetic North: 66.60° West of True North (at 27/Oct/2017)  
 Grid North: 66.60° West of True North (at 27/Oct/2017)  
 To correct azimuth from True to Grid subtract 0.12 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.76 degrees



BHI AT Curve <8-1/2"> (6797.5)(6845-19069) : 53.83° Inc, 6845.00ft MD, 6346.17ft TVD, 265.15ft VS  
 Marcellus POE: 7101° MD : 68.72° Inc, 7101.00ft MD, 6460.99ft TVD, 491.24ft VS  
 Projected MD at TD: 19135° : 90.34° Inc, 19135.00ft MD, 6587.33ft TVD, 12490.34ft VS







# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addle Pad
Slot	Slot #04
Well	Warrior Unit 1H
Wellbore	Warrior Unit 1H AWB

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999603
Convergence at slot	0.12° East
Software System	WellArchitect® 5.1
User	Delaset
Report Generated	10/Jan/2018 at 16:49
Database/Source file	WA_MPL_EasternUS_DefrnWarrior_Unit_1H_AWP_Proj_19135_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North [ft]	East [ft]	Northing [US ft]	Latitude	Longitude	
Slot Location	-0.97	20.43	14283414.16	39°20'00.520"N	80°48'20.670"W	
Facility Reference Pt		1695325.15	14283415.13	39°20'00.530"N	80°48'20.930"W	
Field Reference Pt		0.00	0.00	0°00'00.000"	85°29'19.301"W	

WELLPATH DATUM		
Calculation method	Minimum curvature	
Horizontal Reference Pt	Slot	
Vertical Reference Pt	Frontier 22 (RKB)	
MD Reference Pt	Frontier 22 (RKB)	
Field Vertical Reference	Mean Sea Level	
	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
	Frontier 22 (RKB) to Mean Sea Level	914.50ft
	Frontier 22 (RKB) to Mud Line at Slot (Slot #04)	24.50ft
	Section Origin	N 0.00, E 0.00 ft
	Section Azimuth	157.58°



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Addle Pad	Well	Warrior Unit 1H
				Wellbore	Warrior Unit 1H AWB

WELLPATH DATA (226 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)	(ft)	(°)	(ft/100ft)	(ft/100ft)	(°/100ft)	
0.00	0.00	22.390	0.00	0.00	0.00	0.00	1695345.57	14283414.16	39°20'00.520"N	80°48'20.670"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.00	22.390	24.50	0.00	0.00	0.00	1695345.57	14283414.16	39°20'00.520"N	80°48'20.670"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.150	22.390	109.50	-0.08	0.10	0.04	1695345.61	14283414.26	39°20'00.521"N	80°48'20.669"W	0.11	22.390	0.18	0.18	26.34	Gyrodata MS Gyro <17-1/2"> (100-471)
209.50	0.160	41.260	209.50	-0.23	0.33	0.18	1695345.75	14283414.49	39°20'00.523"N	80°48'20.668"W	0.38	29.270	0.05	0.01	18.87	
309.50	0.160	11.590	309.50	-0.41	0.57	0.30	1695345.87	14283414.73	39°20'00.528"N	80°48'20.668"W	0.65	28.083	0.08	0.00	-28.67	
409.50	0.070	46.050	409.50	-0.55	0.75	0.38	1695345.95	14283414.91	39°20'00.527"N	80°48'20.665"W	0.84	26.682	0.11	-0.09	34.48	
480.50	0.160	38.490	480.50	-0.61	0.82	0.47	1695346.04	14283415.02	39°20'00.528"N	80°48'20.664"W	0.98	26.698	0.13	0.13	-10.65	
537.50	0.240	149.680	537.50	-0.53	0.86	0.58	1695346.15	14283414.98	39°20'00.528"N	80°48'20.663"W	1.00	35.344	0.58	0.14	195.07	Gyrodata MS Gyro <12-1/4"> (471)(528-732)
627.50	0.430	118.480	627.50	-0.09	0.49	0.97	1695346.54	14283414.65	39°20'00.525"N	80°48'20.668"W	1.09	63.089	0.29	0.21	-34.67	
741.50	1.250	89.320	741.48	0.71	0.30	2.59	1695348.16	14283414.46	39°20'00.523"N	80°48'20.637"W	2.31	83.313	0.79	0.72	-25.58	
831.50	2.550	62.360	831.43	0.89	1.24	5.35	1695350.81	14283415.40	39°20'00.532"N	80°48'20.602"W	5.49	76.898	1.72	1.44	-28.96	MFT EM <12-1/4"> (732)(822-2524)
927.50	4.210	58.360	927.26	0.13	4.08	10.24	1695355.80	14283418.24	39°20'00.560"N	80°48'20.540"W	11.02	68.255	1.75	1.73	-4.17	
1021.50	5.940	56.670	1020.89	-1.34	8.57	17.24	1695362.80	14283422.72	39°20'00.604"N	80°48'20.450"W	19.25	63.577	1.85	1.84	-1.80	
1116.50	6.920	54.850	1115.29	-3.54	14.56	26.03	1695371.59	14283428.72	39°20'00.663"N	80°48'20.338"W	29.82	60.772	1.05	1.03	-1.92	
1210.50	7.010	61.150	1208.60	-5.43	20.59	35.98	1695381.24	14283434.74	39°20'00.729"N	80°48'20.215"W	41.20	60.012	0.82	0.10	6.70	
1304.50	7.480	69.800	1301.85	-5.83	25.47	46.45	1695392.00	14283439.62	39°20'00.771"N	80°48'20.078"W	52.97	61.261	1.26	0.50	9.20	
1398.50	9.730	73.830	1394.79	-4.73	29.80	59.92	1695405.37	14283443.94	39°20'00.813"N	80°48'19.908"W	66.83	63.522	2.48	2.39	4.29	
1492.50	12.290	71.510	1487.05	-3.18	35.18	76.94	1695422.48	14283449.33	39°20'00.866"N	80°48'19.690"W	84.60	65.427	2.76	2.72	-2.47	
1587.50	13.760	66.850	1579.61	-2.63	42.83	96.92	1695442.45	14283456.97	39°20'00.941"N	80°48'19.435"W	105.98	66.158	1.90	1.55	-4.91	
1682.50	14.380	62.980	1671.76	-3.72	52.63	117.82	1695463.34	14283466.77	39°20'01.038"N	80°48'19.189"W	129.04	65.928	1.19	0.85	-4.07	
1776.50	15.400	62.590	1762.77	-5.69	63.39	138.73	1695484.25	14283477.52	39°20'01.144"N	80°48'18.903"W	152.53	65.444	0.26	0.23	-0.41	
1871.50	16.440	66.950	1854.53	-6.87	73.85	161.00	1695508.51	14283487.98	39°20'01.247"N	80°48'18.619"W	177.13	65.358	1.48	0.88	4.59	
1966.50	16.610	66.700	1945.83	-7.21	84.18	185.11	1695530.50	14283498.30	39°20'01.348"N	80°48'18.312"W	203.35	65.547	1.23	1.23	-0.26	
2060.50	14.820	66.020	2036.36	-7.74	94.31	208.29	1695553.78	14283508.43	39°20'01.448"N	80°48'18.017"W	228.65	65.639	2.13	-2.12	-0.72	
2154.50	13.920	65.310	2127.46	-6.51	103.86	229.40	1695574.88	14283517.97	39°20'01.542"N	80°48'17.748"W	251.82	65.642	0.77	-0.74	-0.76	
2249.50	14.760	65.100	2219.50	-9.49	113.73	250.76	1695596.23	14283527.84	39°20'01.639"N	80°48'17.476"W	275.34	65.605	0.89	0.88	-0.22	
2343.50	14.300	66.700	2310.49	-10.19	123.36	272.28	1695617.75	14283537.47	39°20'01.733"N	80°48'17.201"W	298.92	65.627	0.65	-0.49	1.70	
2438.50	14.020	67.490	2402.61	-10.39	132.40	293.69	1695639.14	14283546.51	39°20'01.822"N	80°48'16.929"W	322.16	65.733	0.36	-0.29	0.83	
2533.50	13.790	64.510	2484.82	-11.01	141.68	314.54	1695659.99	14283555.79	39°20'01.914"N	80°48'16.663"W	344.98	65.751	0.79	-0.24	-3.14	
2698.50	13.060	61.150	2695.32	-14.15	159.14	348.62	1695694.05	14283573.24	39°20'02.085"N	80°48'16.229"W	383.23	65.464	0.65	-0.44	-2.04	MFT EM <8-3/4"> (2524)(2689-6788)



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Doddridge Co., WV	Well	Warrior Unit 1H
Field	Doddridge	Wellbore	Warrior Unit 1H AWB
Facility	Addie Pad		

## WELLPATH DATA (226 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US N)	Grid North (US N)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
2792.50	14.320	67.490	2746.65	-15.36	168.72	368.67	1695714.09	14283562.81	39°20'02.180"N	80°48'15.974"W	405.44	65.409	2.08	1.34	6.74	
2887.50	14.000	67.290	2838.76	-15.44	177.65	390.12	1695735.54	14283591.74	39°20'02.268"N	80°48'15.700"W	428.67	65.516	0.34	-0.34	-0.21	
2982.50	13.160	65.050	2931.11	-15.97	186.65	410.53	1695755.93	14283600.74	39°20'02.356"N	80°48'15.440"W	450.97	65.560	1.04	-0.88	-2.38	
3078.50	12.850	64.760	3024.64	-16.98	195.81	430.09	1695775.49	14283609.89	39°20'02.446"N	80°48'15.191"W	472.57	65.521	0.33	-0.32	-0.30	
3172.50	15.920	75.920	3115.70	-15.62	203.41	452.06	1695797.45	14283617.49	39°20'02.521"N	80°48'14.911"W	495.71	65.774	4.39	3.27	11.87	
3267.50	17.510	76.130	3206.69	-11.61	210.01	478.57	1696823.95	14283624.08	39°20'02.595"N	80°48'14.574"W	522.62	66.307	1.67	1.67	0.22	
3361.50	19.070	73.840	3295.94	-7.83	217.67	507.05	1696852.42	14283631.74	39°20'02.661"N	80°48'14.211"W	551.80	66.767	1.83	1.66	-2.44	
3458.50	21.410	70.500	3385.07	-5.25	227.78	538.31	1696883.67	14283641.85	39°20'02.760"N	80°48'13.813"W	584.52	67.065	2.75	2.46	-3.52	
3551.50	23.570	67.780	3472.84	-4.30	240.75	572.24	1696917.59	14283654.81	39°20'02.887"N	80°48'13.381"W	620.82	67.183	2.52	2.27	-2.86	
3646.50	25.490	65.230	3559.26	-5.08	256.50	608.39	1696953.72	14283670.56	39°20'03.042"N	80°48'12.920"W	660.25	67.139	2.31	2.02	-2.68	
3740.50	27.140	63.700	3643.52	-7.38	274.48	645.98	1696991.29	14283688.53	39°20'03.219"N	80°48'12.441"W	701.87	66.979	1.90	1.76	-1.63	
3835.50	28.450	65.560	3727.56	-9.62	293.44	685.01	1697031.31	14283707.48	39°20'03.406"N	80°48'11.931"W	746.13	66.841	1.65	1.38	1.96	
3929.50	29.740	66.540	3809.70	-10.83	311.99	727.78	1697073.06	14283726.02	39°20'03.598"N	80°48'11.399"W	791.84	66.796	1.46	1.37	1.04	
4023.50	28.910	65.500	3891.65	-12.08	330.69	769.85	1697115.11	14283744.72	39°20'03.772"N	80°48'10.863"W	837.87	66.754	1.04	-0.88	-1.11	
4118.50	28.890	67.410	3974.82	-12.98	349.03	811.93	1697157.18	14283763.05	39°20'03.952"N	80°48'10.327"W	883.77	66.738	0.97	-0.02	2.01	
4213.50	28.260	65.970	4058.25	-13.68	367.00	853.66	1697198.99	14283781.02	39°20'04.129"N	80°48'09.796"W	929.21	66.736	0.98	-0.66	-1.52	
4307.50	28.820	67.480	4140.83	-14.35	384.74	894.92	1697240.13	14283798.75	39°20'04.304"N	80°48'09.270"W	974.12	66.736	0.97	0.60	1.61	
4402.50	29.470	69.160	4223.80	-13.74	401.83	937.91	1697283.11	14283815.83	39°20'04.471"N	80°48'08.723"W	1020.36	66.808	1.10	0.68	1.77	
4496.50	28.760	68.130	4305.92	-12.89	418.48	980.51	1697325.69	14283832.47	39°20'04.635"N	80°48'08.180"W	1066.07	66.887	0.92	-0.76	-1.10	
4591.50	28.810	66.390	4389.19	-13.14	436.16	1022.69	1697367.85	14283850.14	39°20'04.809"N	80°48'07.643"W	1111.81	66.903	0.88	0.05	-1.83	
4686.50	29.140	67.750	4472.30	-13.55	454.09	1065.07	1697410.22	14283868.06	39°20'04.985"N	80°48'07.103"W	1157.83	66.909	0.78	0.35	1.43	
4780.50	28.610	66.820	4554.61	-13.78	471.61	1106.94	1697452.07	14283885.98	39°20'05.157"N	80°48'06.569"W	1203.22	66.924	0.74	-0.56	-0.89	
4874.50	27.490	64.580	4637.57	-15.22	489.78	1147.23	1697492.34	14283903.75	39°20'05.336"N	80°48'06.056"W	1247.41	66.881	1.64	-1.19	-2.38	
4969.50	27.510	66.230	4721.84	-16.88	508.04	1187.11	1697532.21	14283921.99	39°20'05.516"N	80°48'05.548"W	1291.28	66.831	0.80	0.02	1.74	
5063.50	27.150	65.370	4805.34	-18.22	525.73	1226.48	1697571.56	14283939.68	39°20'05.690"N	80°48'05.047"W	1334.40	66.788	0.57	-0.38	-0.91	
5158.50	27.890	66.900	4889.59	-19.32	543.48	1266.62	1697611.89	14283957.42	39°20'05.864"N	80°48'04.535"W	1378.29	66.777	1.08	0.78	1.61	
5252.50	27.710	70.500	4972.75	-18.47	559.40	1307.45	1697652.50	14283973.34	39°20'06.021"N	80°48'04.015"W	1422.09	66.836	1.80	-0.19	3.83	
5346.50	27.300	69.110	5056.13	-16.78	574.38	1346.19	1697693.22	14283988.31	39°20'06.168"N	80°48'03.496"W	1465.44	66.924	0.81	-0.44	-1.48	
5441.50	27.020	66.530	5140.65	-16.59	590.75	1386.34	1697733.35	14284004.67	39°20'06.329"N	80°48'02.985"W	1508.79	66.950	1.27	-0.29	-2.72	
5535.50	26.470	64.490	5224.60	-16.11	608.27	1426.83	1697771.83	14284022.19	39°20'06.501"N	80°48'02.465"W	1551.08	66.911	1.14	-0.59	-2.17	



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Doddridge Co., WV	Well	Warrior Unit 1H
Field	Doddridge	Wellbore	Warrior Unit 1H AWB
Facility	Addle Pad		

## WELLPATH DATA (226 stations) † = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
5630.50	25.800	65.540	5309.89	-19.99	625.95	1464.76	1896809.74	14284039.86	39°20'06.675"N	80°48'02.01"W	1592.90	66.861	0.86	-0.71	1.11	
5724.50	26.110	67.590	5394.41	-20.71	642.31	1502.50	1896847.47	14284056.21	39°20'06.836"N	80°48'01.53"W	1634.03	66.854	1.01	0.33	2.18	
5819.50	25.640	64.690	5479.89	-21.75	659.07	1540.41	1896885.36	14284072.96	39°20'07.001"N	80°48'01.048"W	1675.48	66.836	1.43	-0.49	-3.06	
5914.50	26.020	64.730	5565.40	-23.63	676.75	1577.83	1896922.77	14284089.64	39°20'07.175"N	80°48'00.571"W	1716.84	66.785	0.40	0.40	0.05	
6008.50	26.020	68.030	5649.87	-25.41	693.93	1615.32	1896960.24	14284107.81	39°20'07.344"N	80°48'00.093"W	1758.06	66.752	0.61	0.00	1.38	
6103.50	26.030	69.270	5735.24	-25.36	709.78	1653.65	1896998.77	14284123.65	39°20'07.499"N	80°47'59.602"W	1799.73	66.773	1.50	0.01	3.41	
6198.50	26.900	77.150	5820.31	-21.17	721.94	1694.32	1897039.21	14284138.22	39°20'07.619"N	80°47'59.087"W	1841.71	66.921	3.81	0.92	8.29	
6229.50	26.690	82.990	5847.99	-18.15	724.35	1708.07	1897052.96	14284138.16	39°20'07.651"N	80°47'58.912"W	1855.31	67.019	8.52	-0.68	18.84	
6261.50	26.300	89.430	5876.63	-13.60	725.29	1722.29	1897067.17	14284138.62	39°20'07.627"N	80°47'58.731"W	1868.78	67.163	9.06	-1.22	20.13	
6293.50	26.240	94.960	5905.33	-7.71	724.75	1736.43	1897081.31	14284138.62	39°20'07.646"N	80°47'58.551"W	1881.61	67.345	7.65	-0.19	17.28	
6324.50	26.120	100.370	5933.15	-0.86	722.93	1749.97	1897094.84	14284138.80	39°20'07.629"N	80°47'58.379"W	1893.42	67.554	7.71	-0.39	17.45	
6356.50	26.230	105.880	5961.88	7.34	719.73	1763.70	1897108.57	14284133.60	39°20'07.595"N	80°47'58.204"W	1904.90	67.801	7.60	0.34	17.22	
6387.50	26.040	110.840	5989.71	16.25	715.43	1776.65	1897121.52	14284110.18	39°20'07.553"N	80°47'58.039"W	1915.29	68.066	7.07	-0.61	16.00	
6419.50	26.400	114.790	6018.42	26.28	709.95	1789.68	1897134.53	14284123.83	39°20'07.499"N	80°47'57.874"W	1925.35	68.362	5.57	1.12	12.34	
6450.50	27.430	118.290	6046.06	36.87	703.68	1802.22	1897147.08	14284117.56	39°20'07.436"N	80°47'57.714"W	1934.73	68.672	6.09	3.32	11.29	
6482.50	29.610	119.430	6074.18	48.79	696.30	1815.80	1897160.45	14284110.18	39°20'07.363"N	80°47'57.544"W	1944.54	69.018	7.02	6.81	3.56	
6513.50	32.040	120.200	6100.80	61.35	688.40	1828.38	1897174.22	14284102.28	39°20'07.284"N	80°47'57.369"W	1954.62	69.379	7.94	7.84	2.48	
6545.50	34.500	123.630	6127.55	75.61	678.11	1844.26	1897189.10	14284092.99	39°20'07.192"N	80°47'57.180"W	1965.32	69.785	9.68	7.69	10.72	
6576.50	36.240	127.480	6152.83	90.83	668.67	1858.85	1897203.68	14284082.56	39°20'07.089"N	80°47'56.995"W	1975.48	70.215	9.12	5.61	12.42	
6608.50	37.590	131.120	6178.42	107.75	656.49	1873.71	1897218.53	14284070.39	39°20'06.968"N	80°47'56.808"W	1985.39	70.691	8.03	4.22	11.38	
6639.50	38.800	134.100	6202.79	125.13	643.51	1887.81	1897232.63	14284057.41	39°20'06.839"N	80°47'56.627"W	1994.48	71.177	7.11	3.90	9.61	
6671.50	40.250	136.750	6227.47	143.99	629.00	1902.09	1897246.91	14284042.91	39°20'06.696"N	80°47'56.445"W	2003.40	71.701	6.95	4.53	8.28	
6703.50	42.390	138.820	6251.50	163.87	613.35	1916.28	1897261.09	14284027.27	39°20'06.541"N	80°47'56.265"W	2012.05	72.251	7.93	6.69	6.47	
6734.50	44.420	140.840	6274.01	184.17	597.06	1930.03	1897274.83	14284010.98	39°20'06.379"N	80°47'56.091"W	2020.27	72.810	8.20	6.87	6.51	
6766.50	47.130	141.970	6296.30	206.21	578.12	1944.34	1897289.14	14283993.05	39°20'06.202"N	80°47'55.909"W	2028.75	73.414	8.54	8.16	3.53	
6797.50	49.890	143.740	6316.84	228.67	560.61	1958.35	1897303.14	14283974.54	39°20'06.018"N	80°47'55.731"W	2037.01	74.025	9.88	8.90	5.71	
6845.00	53.830	146.690	6346.17	265.15	528.92	1979.64	1897324.42	14283943.87	39°20'05.715"N	80°47'55.461"W	2049.34	75.014	9.62	8.29	6.19	SHI AT Curve -8-12"= (6797.5)-(6845-19069)
6821.00†	59.900	148.920	6367.70	327.84	476.08	2013.50	1897358.26	14283890.05	39°20'05.182"N	80°47'55.032"W	2069.01	76.697	8.36	7.99	2.95	Surkett: 692' MD
6925.00	60.220	149.030	6369.70	331.27	473.11	2015.28	1897360.05	14283887.08	39°20'05.152"N	80°47'55.009"W	2070.07	76.788	8.38	8.01	2.75	



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Doddridge Co., WV	Well	Warrior Unit 1H
Field	Doddridge	Wellbore	Warrior Unit 1H AWB
Facility	Addle Pad		

WELLPATH DATA (226 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
ft	°	°	ft	ft	ft	ft	ft	ft	°	°	ft	°	ft/100ft	ft/100ft	°/100ft	
6972.00	64.150	151.010	6411.63	372.47	437.10	2036.04	1697380.80	14283851.09	39°20'04.796"N	80°47'54.746"W	2082.43	77.883	9.15	8.36	4.21	
6985.00†	64.990	151.342	6417.21	384.13	426.82	2041.70	1697386.46	14283840.81	39°20'04.894"N	80°47'54.874"W	2085.83	78.192	6.86	6.46	2.55	Fully: 6985' MD
7019.00	67.190	152.190	6430.99	415.05	389.44	2056.40	1697401.15	14283813.43	39°20'04.423"N	80°47'54.488"W	2094.83	79.008	6.86	6.47	2.49	
7066.00	68.810	155.240	6448.60	458.52	360.37	2075.69	1697420.43	14283774.38	39°20'04.037"N	80°47'54.244"W	2106.74	80.151	6.93	3.45	6.49	
7083.00†	69.250	155.995	6454.68	474.39	345.91	2082.24	1697426.98	14283759.93	39°20'03.894"N	80°47'54.161"W	2110.78	80.588	4.89	2.59	4.44	Hamilton: 7083' MD
7101.00†	69.719	156.789	6460.98	491.24	330.46	2088.98	1697433.73	14283744.49	39°20'03.741"N	80°47'54.075"W	2114.97	81.011	4.89	2.61	4.41	Marcellus POE: 7101' MD
7114.00	70.060	157.360	6465.46	503.45	319.22	2093.75	1697438.48	14283733.25	39°20'03.630"N	80°47'54.015"W	2117.94	81.331	4.89	2.62	4.39	
7161.00	73.790	158.660	6480.04	548.12	277.80	2110.47	1697455.20	14283691.84	39°20'03.220"N	80°47'53.803"W	2128.67	82.501	8.36	7.94	2.77	
7210.00	78.160	158.960	6491.91	595.64	233.48	2127.65	1697472.37	14283647.55	39°20'02.762"N	80°47'53.586"W	2140.42	83.738	8.94	8.92	0.61	
7257.00	83.270	158.790	6499.49	641.99	190.23	2144.36	1697489.08	14283604.31	39°20'02.354"N	80°47'53.375"W	2152.78	84.931	10.88	10.87	-0.36	
7305.00	89.200	160.130	6502.64	689.84	145.40	2161.15	1697505.86	14283559.50	39°20'01.910"N	80°47'53.162"W	2166.04	86.151	12.66	12.35	2.79	
7400.00	90.060	161.160	6503.26	784.70	55.77	2192.64	1697537.34	14283469.91	39°20'01.024"N	80°47'52.764"W	2193.35	88.543	1.41	0.91	1.08	
7495.00	89.750	159.920	6503.41	879.57	-33.80	2224.29	1697568.97	14283380.37	39°20'00.198"N	80°47'52.364"W	2224.54	90.871	1.35	-0.33	-1.31	
7590.00	89.780	158.550	6503.80	974.53	-122.63	2257.97	1697602.64	14283291.58	39°19'59.259"N	80°47'51.938"W	2261.29	93.109	1.44	0.03	-1.44	
7685.00	89.880	155.120	6504.09	1089.51	-209.95	2295.33	1697639.99	14283204.29	39°19'58.395"N	80°47'51.465"W	2304.91	95.226	3.61	0.11	-3.61	
7780.00	89.780	154.920	6504.37	1194.41	-296.07	2335.45	1697680.09	14283118.21	39°19'57.543"N	80°47'50.957"W	2354.14	97.225	0.24	-0.11	-0.21	
7875.00	89.880	157.960	6504.65	1299.38	-383.14	2373.42	1697718.04	14283031.17	39°19'56.682"N	80°47'50.476"W	2404.14	99.170	3.20	0.11	3.20	
7970.00	89.780	160.360	6504.93	1354.34	-471.92	2407.21	1697751.82	14282942.43	39°19'55.804"N	80°47'50.048"W	2453.03	101.092	2.53	-0.11	2.53	
8065.00	89.880	164.430	6505.21	1448.98	-562.45	2435.94	1697780.54	14282851.94	39°19'54.908"N	80°47'49.685"W	2500.03	103.001	4.29	0.11	4.28	
8160.00	90.490	164.580	6504.91	1543.29	-653.99	2461.32	1697805.91	14282780.43	39°19'54.003"N	80°47'49.365"W	2546.72	104.880	0.66	0.64	0.16	
8255.00	89.600	153.620	6504.83	1638.11	-742.61	2495.16	1697839.73	14282671.85	39°19'53.126"N	80°47'48.937"W	2603.32	106.574	11.57	-0.94	-11.54	
8349.00	89.690	141.860	6505.42	1730.56	-821.95	2545.24	1697889.80	14282592.53	39°19'52.341"N	80°47'48.302"W	2674.67	107.897	12.51	0.10	-12.51	
8445.00	89.570	144.840	6506.04	1823.62	-899.01	2602.47	1697947.00	14282515.50	39°19'51.578"N	80°47'47.576"W	2753.38	109.057	3.21	-0.13	3.21	
8540.00	89.820	145.460	6506.54	1916.41	-977.02	2666.69	1698001.20	14282437.53	39°19'50.806"N	80°47'46.888"W	2830.65	110.191	0.61	0.26	0.55	
8635.00	89.750	152.220	6506.90	2010.26	-1058.27	2705.82	1698050.31	14282356.31	39°19'50.002"N	80°47'46.265"W	2806.40	111.361	7.12	-0.07	7.12	
8729.00	89.720	154.260	6507.33	2103.98	-1142.20	2748.14	1698092.61	14282272.42	39°19'49.171"N	80°47'45.729"W	2976.05	112.569	2.17	-0.03	2.17	
8824.00	89.320	158.080	6508.13	2198.89	-1228.41	2789.03	1698132.49	14282186.24	39°19'48.318"N	80°47'45.224"W	3046.65	113.778	1.96	-0.42	1.92	
8918.00	89.260	159.530	6509.30	2292.87	-1315.42	2823.53	1698167.97	14282099.26	39°19'47.457"N	80°47'44.774"W	3114.91	114.980	3.67	-0.06	3.67	
9012.00	89.450	160.350	6510.35	2386.78	-1403.71	2865.77	1698200.20	14282011.01	39°19'46.584"N	80°47'44.367"W	3182.11	116.176	0.90	0.20	0.87	
9107.00	89.540	163.180	6511.19	2481.51	-1493.93	2895.49	1698229.91	14281920.83	39°19'45.692"N	80°47'43.991"W	3249.29	117.372	2.98	0.09	2.98	



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Doddridge Co., WV	Well	Warrior Unit 1H
Field	Doddridge	Wellbore	Warrior Unit 1H AWB
Facility	Addie Pad		

## WELLPATH DATA (226 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US RL]	Grid North [US RL]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
9202.00	89.600	166.460	6511.90	2575.74	-1585.60	2910.36	1698254.77	14281829.19	39°19'44.785"N	80°47'43.677"W	3314.26	118.582	3.45	0.06	3.45	
9297.00	89.570	163.250	6512.64	2669.96	-1677.29	2935.18	1698279.58	14281737.54	39°19'43.878"N	80°47'43.364"W	3380.61	119.745	3.38	-0.09	-3.38	
9391.00	89.600	166.540	6513.37	2763.18	-1768.02	2959.67	1698304.06	14281646.84	39°19'42.981"N	80°47'43.055"W	3447.54	120.853	3.50	0.10	3.50	
9486.00	89.390	161.300	6514.22	2857.56	-1859.27	2985.97	1698330.35	14281555.63	39°19'42.079"N	80°47'42.723"W	3517.52	121.908	5.52	-0.23	-5.52	
9581.00	89.290	158.510	6515.32	2952.47	-1948.47	3018.81	1698352.97	14281466.46	39°19'41.196"N	80°47'42.310"W	3582.84	122.842	2.94	-0.09	-2.94	
9675.00	89.290	156.850	6516.49	3046.46	-2035.42	3054.30	1698398.66	14281379.55	39°19'40.336"N	80°47'41.858"W	3670.38	123.680	1.77	0.00	-1.77	
9770.00	89.450	155.960	6517.53	3141.43	-2122.47	3092.32	1698436.66	14281292.53	39°19'39.475"N	80°47'41.377"W	3750.65	124.464	0.95	0.17	-0.94	
9866.00	89.450	155.820	6518.45	3237.38	-2210.09	3131.54	1698475.86	14281204.95	39°19'38.608"N	80°47'40.881"W	3832.89	125.213	0.15	0.00	-0.15	
9960.00	89.420	155.630	6519.38	3331.33	-2295.78	3170.18	1698514.49	14281119.30	39°19'37.760"N	80°47'40.391"W	3914.16	125.911	0.20	-0.03	-0.20	
10055.00	89.380	155.880	6520.37	3426.28	-2382.39	3209.19	1698553.48	14281032.72	39°19'36.903"N	80°47'39.898"W	3996.84	126.589	0.27	-0.04	0.28	
10150.00	89.480	157.340	6521.32	3521.26	-2469.58	3246.90	1698591.18	14280945.58	39°19'36.041"N	80°47'39.420"W	4078.36	127.256	1.54	0.11	1.54	
10246.00	89.290	157.750	6522.35	3617.25	-2558.30	3283.57	1698627.83	14280856.88	39°19'35.163"N	80°47'38.956"W	4162.53	127.923	0.47	-0.20	0.43	
10340.00	89.260	156.080	6523.54	3711.23	-2644.75	3320.43	1698664.68	14280770.46	39°19'34.308"N	80°47'38.490"W	4245.00	128.538	1.80	-0.03	-1.80	
10434.00	89.450	154.260	6524.60	3805.14	-2730.05	3359.92	1698704.15	14280685.20	39°19'33.464"N	80°47'37.990"W	4329.23	129.095	1.93	0.20	-1.91	
10529.00	89.230	152.940	6525.89	3899.88	-2814.98	3402.45	1698746.87	14280600.30	39°19'32.623"N	80°47'37.451"W	4415.97	129.602	1.83	-0.23	-1.81	
10624.00	89.110	153.840	6527.07	3994.59	-2899.76	3445.29	1698789.49	14280515.56	39°19'31.784"N	80°47'36.908"W	4503.18	130.086	1.37	-0.13	1.37	
10720.00	89.350	155.990	6528.36	4090.47	-2986.69	3485.99	1698830.17	14280428.68	39°19'30.924"N	80°47'36.393"W	4590.47	130.589	2.25	0.25	2.24	
10815.00	89.170	155.500	6529.59	4185.41	-3073.30	3525.01	1698869.18	14280342.09	39°19'30.067"N	80°47'35.899"W	4676.63	131.084	0.55	-0.19	-0.52	
10910.00	89.170	156.560	6530.96	4280.36	-3160.09	3563.60	1698907.75	14280255.32	39°19'29.209"N	80°47'35.410"W	4762.92	131.566	1.12	0.00	1.12	
11005.00	89.110	156.540	6532.39	4376.35	-3247.88	3599.87	1698944.01	14280167.57	39°19'28.340"N	80°47'34.951"W	4848.49	132.057	2.08	-0.06	2.08	
11099.00	89.290	156.800	6533.70	4469.32	-3335.43	3634.08	1698978.18	14280080.05	39°19'27.474"N	80°47'34.519"W	4932.70	132.547	0.34	0.19	0.28	
11194.00	89.290	156.530	6535.88	4564.30	-3423.92	3668.62	1699012.73	14279991.61	39°19'26.599"N	80°47'34.082"W	5018.16	133.024	0.28	0.00	-0.28	
11289.00	88.740	155.210	6536.51	4659.26	-3511.25	3705.93	1699050.02	14279904.30	39°19'25.735"N	80°47'33.609"W	5105.17	133.455	3.54	-0.58	-3.48	
11384.00	88.830	156.360	6538.53	4754.19	-3597.87	3744.88	1699086.96	14279817.72	39°19'24.878"N	80°47'33.116"W	5193.15	133.853	1.21	0.09	1.21	
11478.00	88.800	159.330	6540.47	4848.16	-3684.91	3780.32	1699124.38	14279730.72	39°19'24.017"N	80°47'32.668"W	5279.14	134.268	3.16	-0.03	3.16	
11574.00	88.710	159.970	6542.56	4944.08	-3774.89	3813.70	1699157.75	14279640.77	39°19'23.127"N	80°47'32.246"W	5366.01	134.707	0.67	-0.09	0.67	
11668.00	88.050	164.240	6544.39	5037.74	-3864.31	3842.57	1699186.61	14279551.39	39°19'22.242"N	80°47'31.881"W	5449.61	135.162	4.56	0.36	4.54	
11763.00	89.230	164.230	6545.82	5132.09	-3955.72	3866.38	1699212.40	14279460.01	39°19'21.338"N	80°47'31.555"W	5532.82	135.640	0.19	0.19	-0.01	
11858.00	89.510	161.450	6546.86	5226.68	-4046.48	3896.40	1699240.42	14279369.29	39°19'20.440"N	80°47'31.201"W	5617.47	136.082	2.94	0.29	-2.93	
11953.00	88.890	159.670	6548.19	5321.54	-4136.05	3928.01	1699272.02	14279279.76	39°19'19.554"N	80°47'30.802"W	5704.05	136.478	1.98	-0.65	-1.87	



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'

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**BAKER HUGHES**  
a GE company

## REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot #04	Well	Wellbore
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Addle Pad	Warrior Unit 1H	Warrior Unit 1H AWB	

## WELLPATH DATA (226 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
12048.00	88.860	162.320	6550.06	5416.34	-4225.85	3958.94	1899302.93	14279190.00	39°19'18.666"N	80°47'30.411"W	5790.60	136.868	2.79	-0.03	-2.79	
12143.00	88.800	162.120	6552.00	5511.01	-4316.29	3987.95	1899331.93	14279099.59	39°19'17.772"N	80°47'30.044"W	5876.57	137.264	0.22	-0.06	-0.21	
12237.00	88.860	153.760	6553.92	5604.90	-4403.31	4023.22	1899367.19	14279012.60	39°19'16.911"N	80°47'29.598"W	5964.51	137.583	8.90	0.06	-8.90	
12332.00	88.860	154.600	6555.81	5699.72	-4488.80	4064.59	1899408.54	14278927.14	39°19'16.065"N	80°47'29.074"W	6055.60	137.839	0.89	0.00	0.89	
12427.00	89.170	158.190	6557.44	5794.67	-4575.83	4102.82	1899446.56	14278840.15	39°19'15.204"N	80°47'28.593"W	6145.71	138.121	3.78	0.33	3.78	
12522.00	88.560	156.240	6559.31	5889.64	-4663.39	4139.40	1899483.33	14278752.62	39°19'14.338"N	80°47'28.127"W	6235.54	138.407	2.14	-0.62	-2.05	
12617.00	88.770	154.730	6561.51	5984.55	-4749.80	4178.81	1899522.72	14278666.25	39°19'13.483"N	80°47'27.629"W	6326.38	138.669	1.60	0.20	-1.59	
12712.00	89.050	158.590	6563.31	6079.50	-4837.00	4216.44	1899560.33	14278579.08	39°19'12.620"N	80°47'27.132"W	6416.77	138.921	4.07	0.29	4.06	
12807.00	88.860	155.890	6565.05	6174.48	-4924.58	4253.16	1899597.05	14278491.54	39°19'11.753"N	80°47'26.687"W	6507.00	139.184	2.85	-0.20	-2.84	
12902.00	88.770	154.080	6567.01	6269.35	-5010.64	4293.34	1899637.20	14278405.51	39°19'10.902"N	80°47'26.179"W	6598.43	139.408	1.91	-0.09	-1.91	
12998.00	89.110	154.370	6568.79	6365.17	-5097.08	4335.08	1899678.92	14278319.11	39°19'10.047"N	80°47'25.650"W	6691.27	139.619	0.47	0.35	0.30	
13093.00	88.950	152.050	6570.40	6459.88	-5181.86	4377.89	1899721.71	14278234.36	39°19'09.208"N	80°47'25.108"W	6783.63	139.807	2.45	-0.17	-2.44	
13187.00	89.290	156.920	6571.84	6553.75	-5267.33	4416.86	1899760.67	14278148.93	39°19'08.362"N	80°47'24.615"W	6874.11	140.019	7.32	0.36	7.31	
13282.00	89.840	162.860	6572.48	6648.57	-5357.08	4447.94	1899791.74	14278069.22	39°19'07.474"N	80°47'24.222"W	6962.93	140.297	4.22	0.68	4.17	
13377.00	89.260	157.490	6573.14	6743.43	-5446.42	4480.13	1899823.92	14277989.91	39°19'06.591"N	80°47'23.815"W	7052.31	140.560	5.72	-0.72	-5.67	
13472.00	89.230	154.120	6574.40	6838.36	-5533.05	4519.06	1899862.83	14277903.31	39°19'05.733"N	80°47'23.322"W	7143.99	140.760	3.55	-0.03	-3.55	
13565.00	89.320	152.660	6575.57	6931.10	-5616.19	4560.71	1899904.46	14277800.20	39°19'04.911"N	80°47'22.795"W	7234.76	140.921	1.57	0.10	-1.57	
13660.00	89.170	152.320	6576.82	7025.72	-5700.44	4604.59	1899946.32	14277715.99	39°19'04.077"N	80°47'22.239"W	7327.84	141.070	0.99	-0.16	-0.96	
13755.00	89.260	153.360	6578.13	7120.39	-5784.97	4647.93	1899991.65	14277631.50	39°19'03.241"N	80°47'21.690"W	7420.86	141.220	1.12	0.09	1.12	
13849.00	89.260	157.130	6579.34	7214.29	-5870.31	4687.27	1700030.97	14277546.18	39°19'02.396"N	80°47'21.192"W	7512.08	141.394	3.89	0.00	3.89	
13944.00	89.200	160.580	6580.62	7309.24	-5956.90	4721.53	1700065.22	14277467.64	39°19'01.520"N	80°47'20.759"W	7602.71	141.608	3.63	-0.06	3.63	
14038.00	89.290	161.060	6581.86	7403.08	-6047.67	4752.41	1700096.08	14277388.90	39°19'00.842"N	80°47'20.369"W	7691.53	141.839	0.52	0.10	0.51	
14133.00	89.200	161.690	6583.11	7497.86	-6137.69	4782.75	1700126.41	14277309.26	39°18'59.751"N	80°47'19.985"W	7781.12	142.073	0.67	-0.09	0.66	
14228.00	89.140	166.470	6584.48	7592.79	-6226.38	4816.65	1700160.30	14277228.92	39°18'58.874"N	80°47'19.557"W	7871.97	142.275	5.49	-0.06	-5.49	
14323.00	89.140	165.200	6585.91	7687.73	-6313.05	4855.54	1700199.17	14277143.63	39°18'58.016"N	80°47'19.084"W	7964.35	142.435	1.34	0.00	-1.34	
14419.00	89.170	154.180	6587.33	7783.60	-6398.82	4896.57	1700240.19	14277061.89	39°18'57.158"N	80°47'18.545"W	8058.17	142.580	1.06	0.03	-1.06	
14514.00	89.170	157.390	6588.70	7878.53	-6486.44	4935.53	1700278.13	14276980.30	39°18'56.301"N	80°47'18.062"W	8150.67	142.733	3.38	0.00	3.38	
14608.00	89.110	155.300	6590.11	7972.52	-6573.49	4970.97	1700314.56	14276893.29	39°18'55.440"N	80°47'17.603"W	8241.44	142.903	0.97	-0.06	0.97	
14704.00	89.200	159.710	6591.53	8068.47	-6663.11	5005.36	1700346.94	14276803.71	39°18'54.553"N	80°47'17.168"W	8333.71	143.086	1.47	0.09	1.47	
14798.00	89.060	160.560	6592.94	8162.37	-6751.50	5037.30	1700380.86	14276716.65	39°18'53.679"N	80°47'16.765"W	8423.61	143.273	0.91	-0.13	0.90	



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Doddridge Co., WV	Well	Warrior Unit 1H
Field	Doddridge	Wellbore	Warrior Unit 1H AWB
Facility	Addie Pad		

## WELLPATH DATA (226 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US M)	Grid North (US M)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
14894.00	89.280	151.890	8594.33	8258.16	-6842.38	5068.20	1700411.75	14276574.50	39°18'52.780"N	80°47'16.374"W	8514.98	143.472	1.40	0.19	1.39	
14988.00	89.290	156.670	6595.52	8352.08	-6930.27	5101.44	1700444.98	14276486.66	39°18'51.910"N	80°47'15.954"W	8605.42	143.643	5.55	0.03	-5.55	
15082.00	89.380	160.070	6596.61	8448.05	-7017.63	5136.08	1700479.60	14276398.33	39°18'51.046"N	80°47'15.518"W	8696.35	143.800	3.62	0.10	3.62	
15177.00	89.200	160.970	6597.79	8540.32	-7107.18	5167.78	1700511.27	14276309.81	39°18'50.160"N	80°47'15.116"W	8787.38	143.978	0.97	-0.19	0.95	
15273.00	89.350	165.310	6598.00	8636.44	-7199.03	5195.59	1700539.09	14276218.00	39°18'48.252"N	80°47'14.784"W	8878.07	144.182	4.52	0.16	4.52	
15368.00	89.510	165.390	6599.95	8730.56	-7290.93	5219.62	1700563.11	14276126.13	39°18'48.343"N	80°47'14.461"W	8968.72	144.401	0.19	0.17	0.08	
15464.00	89.390	156.510	6600.88	8826.29	-7381.58	5250.92	1700594.40	14276035.52	39°18'47.446"N	80°47'14.066"W	9058.69	144.574	9.25	-0.14	-9.25	
15559.00	89.320	154.020	6601.95	8920.20	-7468.94	5290.24	1700633.71	14275950.19	39°18'46.502"N	80°47'13.568"W	9151.08	144.683	2.65	-0.06	-2.65	
15653.00	89.480	155.770	6602.94	9015.09	-7552.96	5330.55	1700673.99	14275864.21	39°18'45.751"N	80°47'13.058"W	9244.56	144.787	1.85	0.17	1.84	
15748.00	89.860	154.880	6603.50	9110.01	-7639.28	5370.21	1700713.64	14275777.82	39°18'44.898"N	80°47'12.556"W	9337.87	144.884	1.01	0.39	-0.94	
15843.00	89.780	155.330	6604.27	9204.92	-7725.46	5410.20	1700753.61	14275691.78	39°18'44.044"N	80°47'12.050"W	9431.48	144.986	0.48	-0.07	0.47	
15938.00	89.660	153.990	6604.81	9299.80	-7811.31	5450.85	1700794.25	14275605.96	39°18'43.194"N	80°47'11.535"W	9525.15	145.092	1.42	-0.13	-1.41	
16033.00	89.750	154.180	6604.76	9394.62	-7896.76	5492.37	1700835.75	14275520.55	39°18'42.349"N	80°47'11.008"W	9618.99	145.181	0.22	0.09	0.20	
16128.00	89.600	151.230	6605.30	9489.26	-7981.17	5535.93	1700879.30	14275436.17	39°18'41.514"N	80°47'10.458"W	9713.17	145.254	3.11	-0.16	-3.11	
16223.00	89.780	156.540	6605.81	9584.03	-8066.44	5577.73	1700921.08	14275350.93	39°18'40.670"N	80°47'09.928"W	9807.07	145.337	5.59	0.19	5.59	
16318.00	90.060	164.280	6605.95	9678.84	-8155.87	5609.66	1700962.89	14275261.54	39°18'39.785"N	80°47'09.526"W	9898.76	145.480	8.15	0.29	8.15	
16414.00	90.650	165.200	6605.35	9774.09	-8248.48	5634.93	1700978.15	14275168.96	39°18'38.869"N	80°47'09.208"W	9989.43	145.662	1.14	0.61	0.96	
16507.00	90.430	160.820	6604.47	9866.65	-8337.40	5661.99	1701005.31	14275080.08	39°18'37.990"N	80°47'08.985"W	10078.21	145.819	4.72	-0.24	-4.71	
16602.00	90.120	157.570	6604.02	9961.59	-8426.19	5695.73	1701039.03	14274991.32	39°18'37.111"N	80°47'08.438"W	10170.65	145.943	3.44	-0.33	-3.42	
16698.00	90.310	154.580	6603.66	10057.65	-8513.93	5734.66	1701077.84	14274903.62	39°18'36.243"N	80°47'07.945"W	10265.15	146.037	3.12	0.20	-3.11	
16793.00	90.280	157.050	6603.17	10152.50	-8600.59	5773.58	1701116.84	14274817.00	39°18'35.386"N	80°47'07.453"W	10358.78	146.127	2.60	-0.03	2.60	
16888.00	90.340	156.250	6602.65	10247.48	-8687.80	5811.23	1701154.48	14274729.82	39°18'34.523"N	80°47'06.977"W	10452.19	146.222	0.84	0.06	-0.84	
16984.00	90.580	159.280	6601.88	10343.47	-8776.65	5847.55	1701190.79	14274641.00	39°18'33.644"N	80°47'06.517"W	10546.25	146.326	3.17	0.25	3.16	
17078.00	90.520	160.910	6600.98	10437.37	-8865.03	5879.55	1701222.78	14274552.66	39°18'32.770"N	80°47'06.113"W	10637.57	146.448	1.74	-0.06	1.73	
17172.00	90.370	158.080	6600.25	10531.30	-8953.06	5912.47	1701255.69	14274464.86	39°18'31.899"N	80°47'05.697"W	10728.15	146.560	3.01	-0.16	-3.01	
17268.00	90.400	166.580	6599.61	10627.30	-9041.84	5949.47	1701292.67	14274376.12	39°18'31.023"N	80°47'05.229"W	10823.47	146.655	1.56	0.03	-1.56	
17363.00	90.090	155.770	6599.20	10722.27	-9128.54	5987.85	1701331.03	14274289.25	39°18'30.163"N	80°47'04.743"W	10917.17	146.737	0.91	-0.33	-0.85	
17457.00	90.310	155.700	6598.87	10816.22	-9214.24	6026.48	1701369.64	14274203.59	39°18'29.315"N	80°47'04.254"W	11010.02	146.814	0.25	0.23	-0.07	
17552.00	90.340	155.580	6598.33	10911.16	-9300.78	6065.66	1701408.81	14274117.09	39°18'28.459"N	80°47'03.758"W	11103.91	146.889	0.13	0.09	-0.13	
17648.00	90.180	155.590	6597.91	11005.10	-9386.37	6104.51	1701447.65	14274031.53	39°18'27.612"N	80°47'03.267"W	11196.83	146.962	0.17	-0.17	0.01	





# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addie Pad
Slot	Slot #04
Well	Warrior Unit 1H
Wellbore	Warrior Unit 1H AWB

WELLPATH DATA (226 stations)																
MD (ft)	Inclination °	Azimuth °	TVD ft	Vert Sect ft	North ft	East ft	Grid East ft	Grid North ft	Latitude	Longitude	Closure Dist ft	Closure Dir °	DLS ft/100ft	Build Rate ft/100ft	Turn Rate ft/100ft	Comments
17741.00	90.340	155.080	6597.47	11100.03	-9472.70	6144.16	1701487.28	14273945.23	39°18'26.75"N	80°47'02.765"W	11290.83	147.032	0.56	0.17	-0.54	
17838.00	90.280	155.350	6596.96	11194.95	-9568.95	6183.98	1701527.09	14273859.02	39°18'25.904"N	80°47'02.261"W	11384.87	147.100	0.29	-0.06	0.28	
17931.00	90.310	156.290	6596.47	11289.93	-9846.27	6221.37	1701584.46	14273771.73	39°18'25.040"N	80°47'01.788"W	11478.50	147.180	3.09	0.03	3.09	
18026.00	90.280	157.650	6595.98	11384.92	-9734.33	6257.00	1701600.08	14273683.70	39°18'24.169"N	80°47'01.337"W	11571.84	147.268	0.67	-0.03	-0.67	
18120.00	90.340	157.850	6595.47	11478.92	-9821.33	6292.60	1701635.86	14273596.74	39°18'23.308"N	80°47'00.887"W	11664.28	147.352	0.22	0.06	0.21	
18216.00	90.180	160.750	6595.04	11574.87	-9911.13	6326.53	1701669.58	14273506.98	39°18'22.420"N	80°47'00.458"W	11758.20	147.449	3.03	-0.17	3.02	
18310.00	90.460	164.430	6594.51	11668.49	-10000.80	6354.65	1701697.88	14273417.34	39°18'21.533"N	80°47'00.103"W	11848.95	147.568	3.93	0.30	3.91	
18405.00	90.340	165.410	6593.85	11762.71	-10092.53	6379.36	1701722.39	14273325.65	39°18'20.626"N	80°46'59.782"W	11939.66	147.704	1.04	-0.19	1.03	
18500.00	90.430	159.020	6592.65	11857.08	-10183.87	6405.41	1701748.42	14273234.35	39°18'19.722"N	80°46'59.463"W	12030.81	147.831	2.90	0.81	-2.79	
18595.00	90.430	159.020	6591.37	11951.90	-10273.61	6436.50	1701779.51	14273144.64	39°18'18.835"N	80°46'59.070"W	12123.35	147.933	4.00	-0.72	-3.94	
18689.00	90.650	154.070	6590.48	12045.85	-10359.81	6473.90	1701816.89	14273058.47	39°18'17.982"N	80°46'58.597"W	12216.26	147.999	5.27	0.23	-5.27	
18784.00	90.740	152.690	6589.33	12140.58	-10444.73	6516.46	1701859.44	14272973.59	39°18'17.141"N	80°46'58.058"W	12310.84	148.040	1.46	0.09	-1.45	
18879.00	90.280	157.420	6588.49	12235.14	-10528.65	6560.98	1701903.94	14272889.70	39°18'16.311"N	80°46'57.494"W	12405.60	148.071	1.42	-0.48	-1.34	
18974.00	90.150	152.500	6588.13	12329.68	-10612.50	6605.64	1701948.58	14272805.89	39°18'15.481"N	80°46'56.929"W	12500.38	148.100	1.15	-0.14	1.14	
19069.00	90.340	154.550	6587.72	12424.43	-10697.99	6647.99	1701990.91	14272720.89	39°18'14.640"N	80°46'56.393"W	12594.96	148.141	2.17	0.20	2.16	
19135.00	90.340	154.550	6587.33	12490.34	-10787.13	6676.35	1702019.26	14272661.32	39°18'14.050"N	80°46'56.034"W	12690.54	148.174	0.00	0.00	0.00	Projected MD at TD: 19135'



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Doddridge Co., WV	Well	Warrior Unit 1H
Field	Doddridge	Wellbore	Warrior Unit 1H AWB
Facility	Addle Pad		

## HOLE & CASING SECTIONS - Ref Wellbore: Warrior Unit 1H AWB Ref Wellpath: Warrior Unit 1H AWP Proj: 19135'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.00	0.00	0.00
17.5in Open Hole	104.50	498.50	394.00	104.50	498.50	0.08	0.04	0.88	0.50
13.375in Casing Surface	24.50	498.50	474.00	24.50	498.50	0.00	0.00	0.88	0.50
12.25in Open Hole	498.50	2616.50	2118.00	498.50	2575.49	0.88	0.50	150.33	332.04
9.825in Casing Intermediate	24.50	2816.50	2592.00	24.50	2575.49	0.00	0.00	150.33	332.04
8.75in Open Hole	2816.50	6871.50	4255.00	2575.49	6361.42	150.33	332.04	511.73	1991.41
8.5in Open Hole	6871.50	19135.00	12263.50	6361.42	6587.33	511.73	1991.41	-10757.13	6676.35
5.5in Casing Production	24.50	19135.00	19110.50	24.50	6587.33	0.00	0.00	-10757.13	6676.35

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Warrior Unit 1H POE - Rev-1	6463.00	342.26	2086.60	1697431.34	14283756.28	39°20'03.868"N	80°47'54.105"W	point
Warrior Unit 1H BHL - Rev-1	6504.00	-10787.48	6678.30	1702021.21	14272630.98	38°18'13.750"N	80°46'56.010"W	point
Warrior Unit 1H LP Rev-1	6504.00	145.50	2167.77	1697512.48	14283559.80	39°20'01.911"N	80°47'53.078"W	point



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Doddridge Co., WV	Well	Warrior Unit 1H
Field	Doddridge	Wellbore	Warrior Unit 1H AWB
Facility	Addie Pad		

## WELLPATH COMPOSITION - Ref Wellbore: Warrior Unit 1H AWB

Positional Uncertainty Model

Start MD	End MD	Log Name/Comment	Wellbore
24.50	480.50	01 Gyrodatta MS Gyro <17-1/2">(100-471)	Warrior Unit 1H AWB
480.50	741.50	02 Gyrodatta MS Gyro <12-1/4">(471)(528-732)	Warrior Unit 1H AWB
741.50	2533.50	03 WFT EM <12-1/4">(732)(822-2524)	Warrior Unit 1H AWB
2533.50	6797.50	04 WFT EM <8-3/4">(2524)(2689-6788)	Warrior Unit 1H AWB
6797.50	19069.00	05 BH AT Curve <8-1/2">(6788)(6845-19068)	Warrior Unit 1H AWB
19069.00	19135.00	Blind Drilling (std)	Warrior Unit 1H AWB



# Actual Wellpath Report

Warrior Unit 1H AWP Proj: 19135'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	I-Facility	Slot	Well	Wellbore	Slot #04
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Addie Pad	Well	Wellbore		Warrior Unit 1H
							Warrior Unit 1H AWB

## COMMENTS

Wellpath general comments  
 API: 47-017-06828-0000  
 BHI Job #: 8837613  
 Rig: Frontier 22  
 Duration: 10/30/2017-11/02/2017  
 Gyrodatta MS Gyro <17-1/2"> (100'-471')  
 Gyrodatta MS Gyro <12-1/4"> (471')(528'-732')  
 WFT EM <12-1/4"> (732')(822'-2524')  
 WFT EM <8-3/4"> (2524')(2689'-6788')  
 BHI AT Curve <8-1/2"> (6797.5')(6845'-19069')  
 Middlesex: 6704' MD  
 Burkett: 6921' MD  
 Tully: 6985' MD  
 Hamilton: 7083' MD  
 Marcellus POE: 7101' MD  
 Projected MD at TD: 19135'

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/20/2018
Job End Date:	4/15/2018
State:	West Virginia
County:	Doddridge
API Number:	47-017-06828-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Warrior 1H
Latitude:	39.33347778
Longitude:	-80.80555556
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,606
Total Base Water Volume (gal):	21,891,282
Total Base Non Water Volume:	0



## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Abstract Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Ascent	Carrier/Base Fluid	Water	7732-18-5	100.00000	87.96593	None
Sand (Proppant)	Keane	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	11.65997	None
KFR-16FW	Keane	Friction Reducer	Water	7732-18-5	60.00000	0.04308	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01436	None
			oleic acid diethanolamide	93-83-4	1.50000	0.00108	None
			ammonium chloride	12125-02-9	1.50000	0.00108	None
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00072	None
Hydrochloric Acid (15%)	Keane	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.03967	None
KWG-111LS	Keane	Gel	Guar gum	9000-30-0	55.00000	0.0073	None
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.0073	None
MBC-516W	Keane	Biocide					

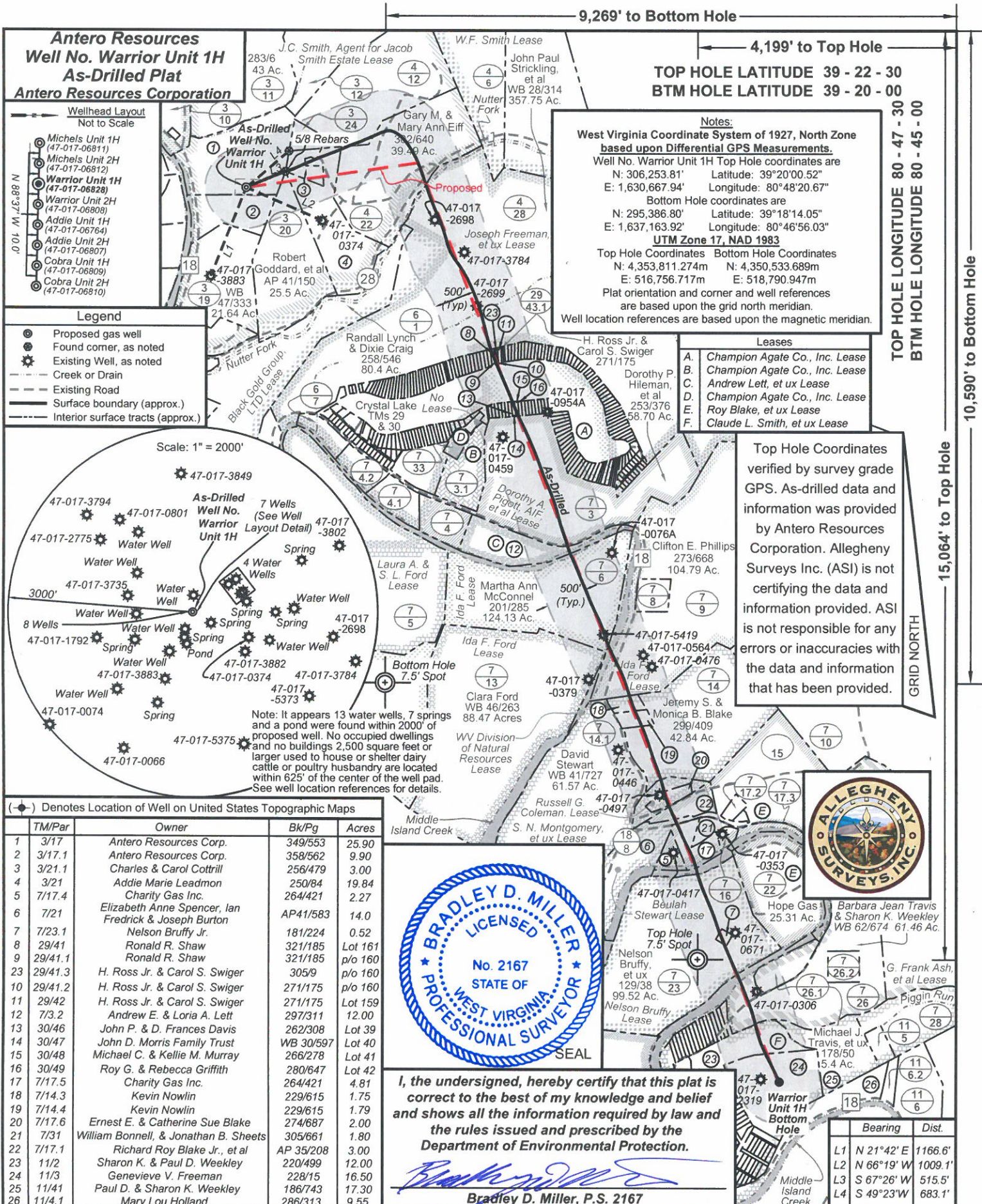
			Water	7732-18-5	56.70000	0.00497	None
			Glutaral	111-30-8	26.70000	0.00234	None
			didecyltrimethylammonium chloride	7173-51-5	8.00000	0.00070	None
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	38424-85-1	5.30000	0.00047	None
			ethonal	34-17-5	2.80000	0.00025	None
KSI-19		Keane	Scale Inhibitor	37-56-1	30.00000	0.00398	None
KAI-12		Keane	Acid Inhibitor	107-21-1	40.00000	0.00023	None
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00012	None
			Ethoxylated alcohol	68131-39-5	10.00000	0.00006	None
			formic acid	64-18-6	10.00000	0.00006	None
			Cinnamaldehyde	104-55-2	10.00000	0.00006	None
			Tar bases, quinoline derivs., benzyl chloride-quaternized isoproyl alcohol	72480-70-7	10.00000	0.00006	None
				67-63-0	5.00000	0.00003	None
KFEAC-30		Keane	Iron Control	77-92-9	30.00000	0.00049	None
			Citric acid	77-92-9	30.00000	0.00049	None
			Acetic acid	64-19-7	5.00000	0.00008	None
KWBO-2		Keane	Breaker	7775-27-1	99.00000	0.00030	None

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01436	
			Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00731	
			Glutaral	111-30-8	28.70000	0.00234	
			ammonium chloride	12125-02-9	1.50000	0.00108	
			oleic acid diethanolamide	93-83-4	1.50000	0.00108	
			alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00072	
			didecyltrimethylammonium chloride	7173-51-5	8.00000	0.00070	
			Citric acid	77-92-9	30.00000	0.00049	
			quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	38424-85-1	5.30000	0.00047	
			ethonal	34-17-5	2.80000	0.00025	
			dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00012	
			Cinnamaldehyde	104-55-2	10.00000	0.00006	
			Ethoxylated alcohol	68131-39-5	10.00000	0.00006	
			formic acid	64-18-6	10.00000	0.00006	
			Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00006	

		isopropyl alcohol	67-63-0	5.00000	0.00003
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\* 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)



9,269' to Bottom Hole  
4,199' to Top Hole  
TOP HOLE LATITUDE 39 - 22 - 30  
BTM HOLE LATITUDE 39 - 20 - 00  
TOP HOLE LONGITUDE 80 - 47 - 30  
BTM HOLE LONGITUDE 80 - 45 - 00

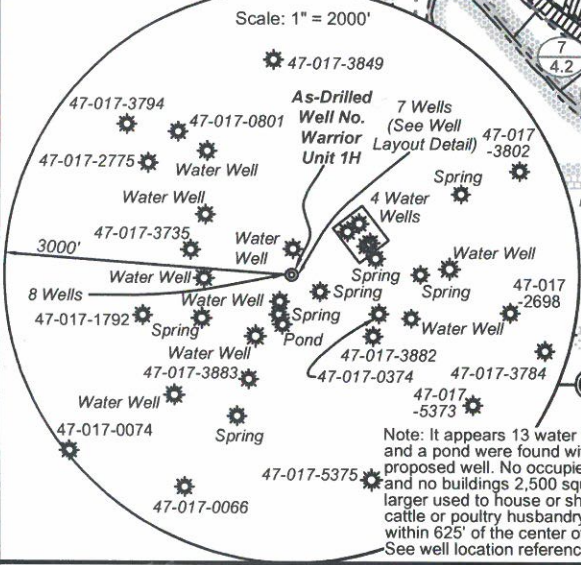
**Notes:**  
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.  
Well No. Warrior Unit 1H Top Hole coordinates are  
N: 306,253.81' Latitude: 39°20'00.52"  
E: 1,630,667.94' Longitude: 80°48'20.67"  
Bottom Hole coordinates are  
N: 295,386.80' Latitude: 39°18'14.05"  
E: 1,637,163.92' Longitude: 80°46'56.03"  
**UTM Zone 17, NAD 1983**  
Top Hole Coordinates Bottom Hole Coordinates  
N: 4,353,811.274m N: 4,350,533.689m  
E: 516,756.717m E: 518,790.947m  
Plat orientation and corner and well references are based upon the grid north meridian.  
Well location references are based upon the magnetic meridian.

- Leases**
- A. Champion Agate Co., Inc. Lease
  - B. Champion Agate Co., Inc. Lease
  - C. Andrew Lett, et ux Lease
  - D. Champion Agate Co., Inc. Lease
  - E. Roy Blake, et ux Lease
  - F. Claude L. Smith, et ux Lease

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.

- Antero Resources Well No. Warrior Unit 1H As-Drilled Plat**  
Antero Resources Corporation
- Wellhead Layout Not to Scale
- Michels Unit 1H (47-017-06811)
  - Michels Unit 2H (47-017-06812)
  - Warrior Unit 1H (47-017-06828)
  - Warrior Unit 2H (47-017-06809)
  - Addie Unit 1H (47-017-06764)
  - Addie Unit 2H (47-017-06807)
  - Cobra Unit 1H (47-017-06809)
  - Cobra Unit 2H (47-017-06810)

- Legend**
- Proposed gas well
  - Found corner, as noted
  - Existing Well, as noted
  - Creek or Drain
  - Existing Road
  - Surface boundary (approx.)
  - Interior surface tracts (approx.)



(\*) Denotes Location of Well on United States Topographic Maps

TM/Par	Owner	Bk/Pg	Acres
1	Antero Resources Corp.	349/553	25.90
2	Antero Resources Corp.	358/562	9.90
3	Charles & Carol Cottrill	256/479	3.00
4	Addie Marie Leadmon	250/84	19.84
5	Charity Gas Inc.	264/421	2.27
6	Elizabeth Anne Spencer, Ian Fredrick & Joseph Burton	AP41/583	14.0
7	Nelson Bruffy Jr.	181/224	0.52
8	Ronald R. Shaw	321/185	Lot 161
9	Ronald R. Shaw	321/185	p/o 160
23	H. Ross Jr. & Carol S. Swiger	305/9	p/o 160
10	H. Ross Jr. & Carol S. Swiger	271/175	p/o 160
11	H. Ross Jr. & Carol S. Swiger	271/175	Lot 159
12	Andrew E. & Loria A. Lett	297/311	12.00
13	John P. & D. Frances Davis	262/308	Lot 39
14	John D. Morris Family Trust	WB 30/597	Lot 40
15	Michael C. & Kellie M. Murray	266/278	Lot 41
16	Roy G. & Rebecca Griffith	280/647	Lot 42
17	Charity Gas Inc.	264/421	4.81
18	Kevin Nowlin	229/615	1.75
19	Kevin Nowlin	229/615	1.79
20	Ernest E. & Catherine Sue Blake	274/687	2.00
21	William Bonnell, & Jonathan B. Sheets	305/661	1.80
22	Richard Roy Blake Jr., et al	AP 35/208	3.00
23	Sharon K. & Paul D. Weekley	220/499	12.00
24	Genevieve V. Freeman	228/15	16.50
25	Paul D. & Sharon K. Weekley	186/743	17.30
26	Mary Lou Holland	286/313	9.55



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



	Bearing	Dist.
L1	N 21°42' E	1166.6'
L2	N 66°19' W	1009.1'
L3	S 67°26' W	515.5'
L4	S 49°23' W	683.1'

FILE NO: 52-30-WU-14  
DRAWING NO: Warrior 1H As-Drilled Well Plat  
SCALE: 1" = 1500'  
MINIMUM DEGREE OF ACCURACY: Submeter  
PROVEN SOURCE OF ELEVATION: WVDOT, Harrisville, WV

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

DATE: October 5 20 18  
OPERATOR'S WELL NO. Warrior Unit 1H  
API WELL NO  
47 - 017 - 06828  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: 891' As-Drilled WATERSHED: Headwaters Middle Island Creek QUADRANGLE: West Union  
DISTRICT: West Union COUNTY: Doddridge

SURFACE OWNER: Antero Resources Corp. ACREAGE: 25.9 56.07; 11.90; 58.70  
ROYALTY OWNER: J.C. Smith, Agent for Jacob Smith Estate; Dorothy G. Frank Ash, et al; Russell G. Coleman ACREAGE: 114; 32.07; 290; 124

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled ESTIMATED DEPTH: 6,587' TVD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,135' 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