

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

API 47-017-06808 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 2H
Operator (as registered with the OOG) Antero Resources Corporation
Address 1615 Wynkoop Street City Denver State CO Zip 80202

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4353811m Easting 516760m
Landing Point of Curve Northing 4353768m Easting 517658m
Bottom Hole Northing 4350603m Easting 518991m

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 5/11/2017 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 - 06808 Farm name Antero Resources Corporation Well number Warrior Unit 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	105'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	502'	New	54#, J-55	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2662'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	19288'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	7335'		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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	204 sx	15.6	1.18	241	0'	8 Hrs.
Surface	Class A	418sx	15.6	1.19	497	0'	8 Hrs.
Coal							
Intermediate 1	Class A	914 sx	15.6	1.18	1079	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	771sx (Lead) 1865sx (Tail)	13.5(Lead), 15.2 (Tail)	1.45 (Lead), 1.83 (Tail)	4531	~500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 19288' MD, 6587' TVD (BHL), 6605' (Deepest Point Drilled) Loggers TD (ft) 19288' MD

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

Plug back procedure N/A

Kick off depth (ft) 6454'

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 - 06808 Farm name Antero Resources Corporation Well number Warrior Unit 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus</u>	<u>6471' (TOP)</u>	<u>TVD</u>	<u>7405' (TOP) MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

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 17577 mcfpd Oil 137 bpd NGL --- bpd Water 60 bpd GAS MEASURED BY Estimated Orifice Pilot

<u>LITHOLOGY/ FORMATION</u>	<u>TOP</u>		<u>BOTTOM</u>		<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>DEPTH IN FT</u>	<u>DEPTH IN FT</u>	<u>DEPTH IN FT</u>	<u>DEPTH IN FT</u>	
	<u>NAME</u>	<u>TVD</u>	<u>MD</u>	<u>MD</u>	

***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 CO 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

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	2/8/2018	19019	19188	48	Marcellus
2	4/16/2018	18819	18988	48	Marcellus
3	4/17/2018	18619	18788	48	Marcellus
4	4/20/2018	18419	18588	48	Marcellus
5	4/26/2018	18219	18388	48	Marcellus
6	4/26/2018	18020	18188	48	Marcellus
7	4/26/2018	17820	17988	48	Marcellus
8	4/27/2018	17620	17788	48	Marcellus
9	4/27/2018	17420	17588	48	Marcellus
10	4/27/2018	17220	17389	48	Marcellus
11	4/28/2018	17020	17189	48	Marcellus
12	4/28/2018	16820	16989	48	Marcellus
13	4/28/2018	16620	16789	48	Marcellus
14	4/29/2018	16420	16589	48	Marcellus
15	4/29/2018	16221	16389	48	Marcellus
16	4/30/2018	16021	16189	48	Marcellus
17	5/1/2018	15821	15989	48	Marcellus
18	5/1/2018	15621	15789	48	Marcellus
19	5/1/2018	15421	15590	48	Marcellus
20	5/2/2018	15221	15390	48	Marcellus
21	5/2/2018	15021	15190	48	Marcellus
22	5/2/2018	14821	14990	48	Marcellus
23	5/3/2018	14621	14790	48	Marcellus
24	5/3/2018	14422	14590	48	Marcellus
25	5/3/2018	14222	14390	48	Marcellus
26	5/4/2018	14022	14190	48	Marcellus
27	5/4/2018	13822	13990	48	Marcellus
28	5/4/2018	13622	13791	48	Marcellus
29	5/4/2018	13422	13591	48	Marcellus
30	5/4/2018	13222	13391	48	Marcellus
31	5/5/2018	13022	13191	48	Marcellus
32	5/5/2018	12822	12991	48	Marcellus
33	5/5/2018	12623	12791	48	Marcellus
34	5/5/2018	12423	12591	48	Marcellus
35	5/6/2018	12223	12391	48	Marcellus
36	5/6/2018	12023	12191	48	Marcellus
37	5/6/2018	11823	11992	48	Marcellus
38	5/6/2018	11623	11792	48	Marcellus
39	5/7/2018	11423	11592	48	Marcellus
40	5/7/2018	11223	11392	48	Marcellus
41	5/7/2018	11023	11192	48	Marcellus
42	5/7/2018	10824	10992	48	Marcellus
43	5/7/2018	10624	10792	48	Marcellus
44	5/8/2018	10424	10592	48	Marcellus
45	5/8/2018	10224	10392	48	Marcellus
46	5/8/2018	10024	10193	48	Marcellus
47	5/8/2018	9824	9993	48	Marcellus
48	5/8/2018	9624	9793	48	Marcellus
49	5/9/2018	9424	9593	48	Marcellus
50	5/9/2018	9224	9393	48	Marcellus
51	5/9/2018	9025	9193	48	Marcellus
52	5/9/2018	8825	8993	48	Marcellus
53	5/9/2018	8625	8793	48	Marcellus
54	5/10/2018	8425	8593	48	Marcellus
55	5/10/2018	8225	8394	48	Marcellus
56	5/10/2018	8025	8194	48	Marcellus
57	5/10/2018	7825	7994	48	Marcellus
58	5/10/2018	7625	7794	48	Marcellus
59	5/11/2018	7425	7594	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	63.4	7591	4900	3750	404550	8944	N/A
2	4/16/2018	70.2	8355	5290	3801	404750	9192	N/A
3	4/17/2018	68.7	7237	5857	3890	404550	9042	N/A
4	4/20/2018	67.1	8023	5224	3956	404550	8338	N/A
5	4/26/2018	64.6	7588	5723	3813	404000	9276	N/A
6	4/26/2018	69.8	7929	5992	3694	403240	8477	N/A
7	4/26/2018	76.5	7924	6569	3569	405000	8300	N/A
8	4/27/2018	72.7	8082	5967	4048	405330	8381	N/A
9	4/27/2018	75.1	8003	6107	4010	404820	8487	N/A
10	4/27/2018	67.1	7471	5985	4293	407000	8212	N/A
11	4/28/2018	64.5	7930	5880	3990	404760	8356	N/A
12	4/28/2018	73.1	8063	5855	4307	405230	8431	N/A
13	4/28/2018	75.1	8097	5814	5581	405000	9178	N/A
14	4/29/2018	77.7	7878	5574	4046	406000	8160	N/A
15	4/29/2018	68.5	8318	6030	3969	404000	8398	N/A
16	4/30/2018	71.4	8035	6763	3744	404200	8435	N/A
17	5/1/2018	69.1	8305	5590	4049	404590	10645	N/A
18	5/1/2018	71.4	8252	5540	4093	404990	11474	N/A
19	5/1/2018	73.3	8223	5745	5052	404550	8733	N/A
20	5/2/2018	73	7949	5761	4948	409892	8226	N/A
21	5/2/2018	75.9	7902	5791	3651	405350	9407	N/A
22	5/2/2018	67.1	7763	5663	3806	414340	8337	N/A
23	5/3/2018	70.2	7924	5637	3674	405250	8596	N/A
24	5/3/2018	69.2	7761	5467	3736	404760	8543	N/A
25	5/3/2018	60.6	8137	5394	4498	410516	11117	N/A
26	5/4/2018	67.2	7799	5612	3737	412536	9464	N/A
27	5/4/2018	70.4	7458	6416	4037	404800	8653	N/A
28	5/4/2018	73.3	7286	5556	4039	404540	8615	N/A
29	5/4/2018	69.6	7414	6232	4671	404550	8590	N/A
30	5/4/2018	71.8	7428	5640	4382	412778	8046	N/A
31	5/5/2018	73.2	7332	5997	4093	405900	8065	N/A
32	5/5/2018	72.2	7450	6341	3949	405180	9107	N/A
33	5/5/2018	69.8	7417	6554	3895	404920	8497	N/A
34	5/5/2018	75.9	7101	4749	4120	404550	8009	N/A
35	5/6/2018	71	7451	5735	3970	410828	7857	N/A
36	5/6/2018	71.3	7234	5871	3978	406050	9140	N/A
37	5/6/2018	71	7486	6113	4031	404680	9665	N/A
38	5/6/2018	71.9	7437	6172	3970	404032	8879	N/A
39	5/7/2018	73.7	7350	6051	4120	415502	7875	N/A
40	5/7/2018	74.9	7317	5345	4009	405150	7867	N/A
41	5/7/2018	76.4	7278	5923	3834	404920	7967	N/A
42	5/7/2018	76	7251	5818	3855	404700	7907	N/A
43	5/7/2018	75.9	7072	5723	4120	404550	7896	N/A
44	5/8/2018	75	7142	5672	3858	404550	7824	N/A
45	5/8/2018	76.1	6985	5625	3893	405470	7856	N/A
46	5/8/2018	75.8	7235	6463	3960	406550	7887	N/A
47	5/8/2018	75.5	7205	6106	3891	404900	7787	N/A
48	5/8/2018	76.4	7516	5841	3970	408172	7757	N/A
49	5/9/2018	78.3	7253	5376	4007	404550	7816	N/A
50	5/9/2018	78.1	7037	5934	3960	404940	7804	N/A
51	5/9/2018	77.2	7105	5624	3936	404000	7709	N/A
52	5/9/2018	74.6	7041	6427	3883	403000	7802	N/A
53	5/9/2018	79.2	7160	6200	4232	404550	7767	N/A
54	5/10/2018	78.4	7114	5669	4045	407810	7696	N/A
55	5/10/2018	78	6810	5927	3760	403000	7718	N/A
56	5/10/2018	79.8	6811	5817	4810	408000	8711	N/A
57	5/10/2018	79.5	7059	6107	4644	407210	7672	N/A
58	5/10/2018	84	7198	6500	4532	408068	7690	N/A
59	5/11/2018	82.8	6881	6564	4185	406354	8392	N/A
	AVG=	73	7,540	5,861	4,074	23,952,508	500,672	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	1,739	1,677	1,770
Big Lime	1,739	2,305	1,770	2,364
Fifty Foot Sandstone	2,305	2,514	2,364	2,581
Gordon	2,514	2,724	2,581	2,799
Fifth Sandstone	2,724	2,786	2,799	2,863
Bayard	2,786	3,559	2,863	3,746
Speechley	3,559	3,744	3,746	3,971
Balltown	3,744	4,376	3,971	4,730
Bradford	4,376	4,804	4,730	5,237
Benson	4,804	5,097	5,237	5,585
Alexander	5,097	6,066	5,585	6,761
Sycamore	6,066	6,234	6,761	6,983
Middlesex	6,234	6,369	6,983	7,199
Burkett	6,369	6,397	7,199	7,256
Tully	6,397	6,446	7,256	7,380
Marcellus	6,446	NA	7,380	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.

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	4/16/2018
Job End Date	5/11/2018
State	West Virginia
County	Doddridge
API Number	47-017-06808-00-00
Operator Name	Antero Resources Corporation
Well Name and Number	Warrior 2H
Latitude	39.33347800
Longitude	-80.80570800
Datum	NAD83
Federal Well	NO
Indian Well	NO
True Vertical Depth	6,605
Total Base Water Volume (gal)	21,874,230
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	Ascent	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.16931	None
Sand (Proppant)	Keane	Proppant	Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	11.56936	None
KFR-16FW	Keane	Friction Reducer	Water	7732-18-5	60.00000	0.04658	None
			Distillates (petroleum), hydrotreated light	64742-47-8	20.00000	0.01553	None
			oleic acid diethanolamide	93-83-4	1.50000	0.00116	None
			ammonium chloride	12125-02-9	1.50000	0.00116	None
			alcohols, C12-16, ethoxylated	38551-12-2	1.00000	0.00078	None
Hydrochloric Acid (15%)	Keane	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.02281	None
WBC-516W	Keane	Biocide	Water	7732-18-5	56.70000	0.00504	None
			Glutaral	111-30-8	26.70000	0.00237	None
			didecyldimethylammonium chloride	7173-51-5	8.00000	0.00071	None

				quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides ethonal	88424-85-1	5.30000	0.00047	None
KWG-111LS	Keane	Gel			64-17-5	2.80000	0.00025	None
				Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00424	None
KSI-19	Keane	Scale Inhibitor		Guar gum	9000-30-0	55.00000	0.00424	None
				Methanol	67-56-1	30.00000	0.00406	None
KAI-12	Keane	Acid Inhibitor		Ethylene glycol	107-21-1	40.00000	0.00013	None
				dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00007	None
				Cinnamaldehyde	104-55-2	10.00000	0.00003	None
				Ethoxylated alcohol	68131-39-5	10.00000	0.00003	None
				formic acid	64-18-6	10.00000	0.00003	None
				Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00003	None
				isopropyl alcohol	67-63-0	5.00000	0.00002	None
KFEAC-30	Keane	Iron Control						
				Citric acid	77-92-9	30.00000	0.00028	None
				Acetic acid	64-19-7	5.00000	0.00005	None
KWBO-2	Keane	Breaker						
				Sodium persulfate	7775-27-1	99.00000	0.00020	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	0.01553	
				Distillates (petroleum), hydrotreated light	64742-47-8	55.00000	0.00424	
				Glutaral	111-30-8	26.70000	0.00237	
				ammonium chloride	12125-02-9	1.50000	0.00116	
				bleic acid diethanolamide	93-83-4	1.50000	0.00116	
				alcohols, C12-16, ethoxylated	68551-12-2	1.00000	0.00078	
				didecyldimethylammonium chloride	7173-51-5	8.00000	0.00071	
				quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	5.30000	0.00047	
				Citric acid	77-92-9	30.00000	0.00028	
				ethonal	64-17-5	2.80000	0.00025	
				dipropylene glycol, monomethyl ether	34590-94-8	20.00000	0.00007	
				Cinnamaldehyde	104-55-2	10.00000	0.00003	
				Ethoxylated alcohol	68131-39-5	10.00000	0.00003	
				formic acid	64-18-6	10.00000	0.00003	
				Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00000	0.00003	

		isopropyl alcohol	67-63-0	5.00000	0.00002
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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)

ANTERO RESOURCES CORPORATION

Location: Dordridge Co., WV
 Field: Dordridge
 Facility: Addie Pad

Slot: Slot #05
 Well: Warrior Unit 2H
 Wellbore: Warrior Unit 2H PWB



API 47-017-06808-0000
 BHI Job #: 8850551
 Rig: Frontier 22
 Duration: 11/06/2017-11/09/2017



BAKER HUGHES
 a GE company

Plot reference wellpath is Warrior Unit 2H PWB Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 22 (RKB)	Scale: True distance
Frontier 22 (RKB) to Mean Sea Level: 914.5 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot #05): -890 feet	Created by: dataset on 2018-01-11
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Dein

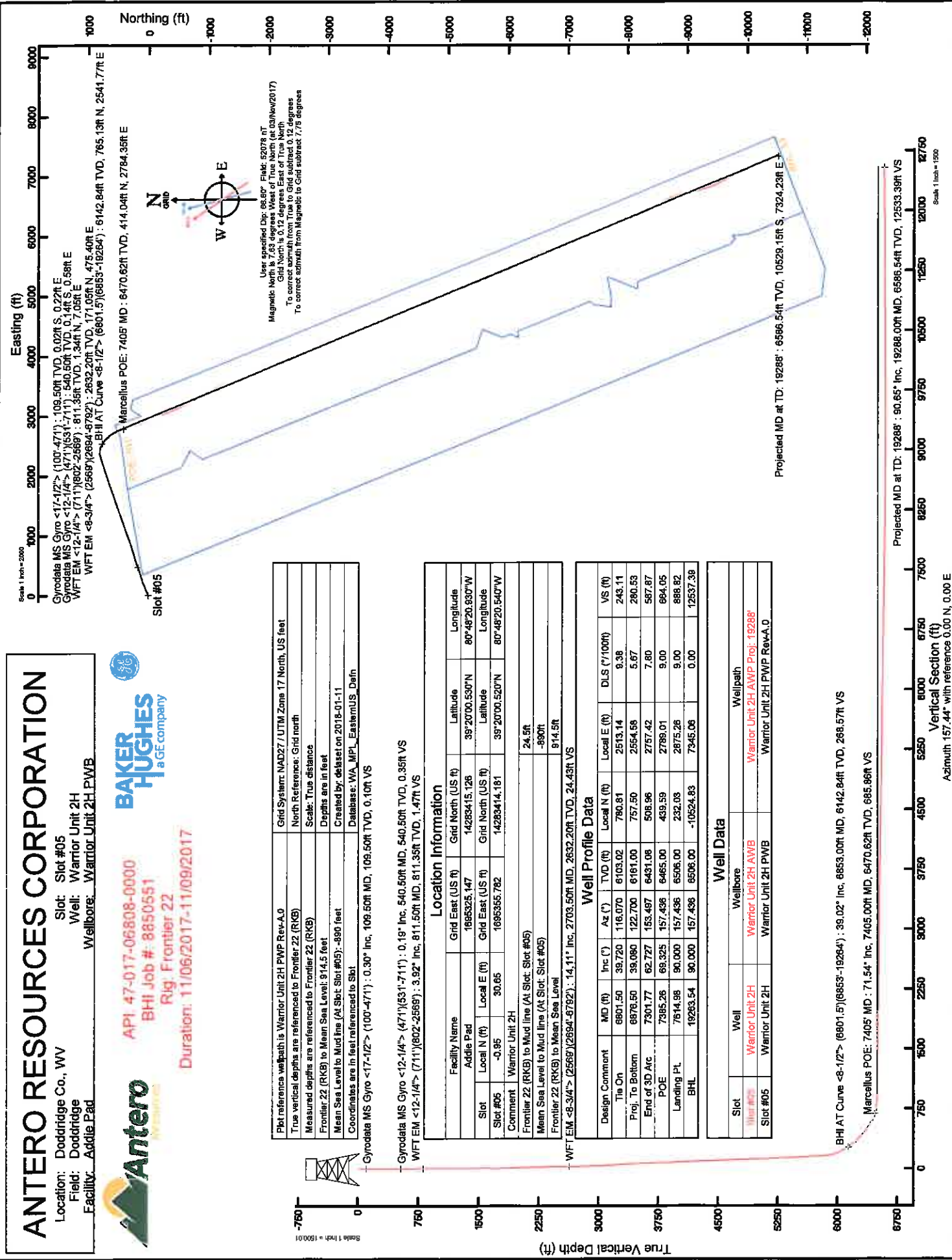
Gyrodatta MS Gyro <17-1/2"> (100-471') : 0.30° Inc, 109.50ft MD, 109.50ft TVD, 0.10ft VS
 Gyrodatta MS Gyro <12-1/4"> (471')(531'-711') : 0.19° Inc, 540.50ft MD, 540.50ft TVD, 0.35ft VS
 WFT EM <12-1/4"> (711')(802'-2568') : 3.92° Inc, 811.35ft MD, 811.35ft TVD, 1.47ft VS

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Addie Pad	1685325.147	14283415.126	39°20'00.530"W
Slot #05	30.65	1685355.762	39°20'00.520"W
Comment: Warrior Unit 2H			80°48'20.540"W
Frontier 22 (RKB) to Mud line (At Slot: Slot #05)			24.5ft
Mean Sea Level to Mud line (At Slot: Slot #05)			-890ft
Frontier 22 (RKB) to Mean Sea Level			914.5ft

Well Profile Data					
Design Comment	MD (ft)	Inc (°)	TVD (ft)	Local N (ft)	Local E (ft)
Tie On	6801.50	39.720	118.070	6103.02	2513.14
Proj. To Bottom	6976.50	39.090	122.700	6161.00	2554.58
End of 3D Arc	7301.77	62.727	153.497	6481.08	2757.42
POE	7385.26	69.325	157.436	6465.06	2789.01
Landing Pl.	7614.98	90.000	157.436	6506.00	2875.26
BHL	19263.54	90.000	157.436	-10524.83	7345.06
					0.00
					12537.39

Well Data		
Slot	Well	Wellbore
Slot #05	Warrior Unit 2H	Warrior Unit 2H PWB
Slot #05	Warrior Unit 2H	Warrior Unit 2H PWB Rev-A.0

BHI AT Curve <8-1/2"> (6801.5')(8853'-19284') : 39.02° Inc, 6853.00ft MD, 6142.84ft TVD, 288.57ft VS
 Marcellus POE: 7405' MD : 71.54° Inc, 7405.00ft MD, 6470.62ft TVD, 685.86ft VS



Projected MD at TD: 19288' : 90.65° Inc, 19288.00ft MD, 6586.54ft TVD, 12533.39ft VS
 Azimuth 157.44° with reference 0.00 N, 0.00 E

User specified Dip: 88.80° Flank: 52078.0T
 Magnetic North is 7.63 degrees West of True North (at 03/Nov/2017)
 Grid North is 0.12 degrees East of True North
 To correct azimuth from True to Grid subtract 0.12 degrees
 To correct azimuth from Magnetic to Grid subtract 7.75 degrees

Marcellus POE: 7405' MD : 6470.62ft TVD, 414.04ft N, 2784.35ft E
 BHI AT Curve <8-3/4"> (2669)(2694'-8792') : 2632.20ft TVD, 177.05ft N, 475.40ft E
 WFT EM <12-1/4"> (711')(802'-2568') : 811.35ft TVD, 1.34ft N, 7.08ft E
 Gyrodatta MS Gyro <17-1/2"> (100-471') : 109.50ft TVD, 0.02ft S, 0.22ft E
 Gyrodatta MS Gyro <12-1/4"> (471')(531'-711') : 540.50ft TVD, 0.35ft E
 WFT EM <12-1/4"> (711')(802'-2568') : 811.35ft TVD, 1.34ft N, 7.08ft E



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addle Pad
Slot	Slot #05
Well	Warrior Unit 2H
Wellbore	Warrior Unit 2H 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	11/Jan/2018 at 09:34
Database/Source file	WA_MPL_EasternUS_DefnWarrior_Unit_2H_AWP_Proj_19288_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North [ft]	East [ft]	Northing [US ft]	Easting [US ft]	Latitude	Longitude
Slot Location	-0.95	30.65	142834.14.18	1695355.78	39°20'00.520"N	80°48'20.540"W
Facility Reference Pt			142834.15.13	1695325.15	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
	Frontier 22 (RKB) to Mean Sea Level
	Frontier 22 (RKB) to Mud Line at Slot (Slot #05)
	Section Origin
	Section Azimuth
	24.50ft
	914.50ft
	24.50ft
	N 0.00, E 0.00 ft
	157.44°



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Doddridge Co., WV	Well	Warrior Unit 2H
Field	Doddridge	Wellbore	Warrior Unit 2H AWB
Facility	Addie Pad		

WELLPATH DATA (228 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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00	0.000	94.410	0.00	0.00	0.00	0.00	1695355.78	14283414.18	39°20'00.520"N	80°48'20.540"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	94.410	24.50	0.00	0.00	0.00	1695355.78	14283414.18	39°20'00.520"N	80°48'20.540"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.300	94.410	109.50	0.10	-0.02	0.22	1695356.00	14283414.18	39°20'00.520"N	80°48'20.537"W	0.22	94.410	0.35	0.35	111.07	Gyrodatta MS Gyro <17-172> (100'-471')
209.50	0.190	115.370	209.50	0.34	-0.11	0.63	1695356.41	14283414.07	39°20'00.519"N	80°48'20.532"W	0.64	99.712	0.14	-0.11	20.96	
309.50	0.050	247.310	309.50	0.47	-0.20	0.74	1695356.52	14283413.98	39°20'00.518"N	80°48'20.531"W	0.77	104.803	0.23	-0.14	131.94	
409.50	0.050	319.750	409.50	0.42	-0.18	0.67	1695356.46	14283414.00	39°20'00.518"N	80°48'20.531"W	0.70	104.931	0.08	0.00	72.44	
480.50	0.020	88.350	480.50	0.40	-0.16	0.67	1695356.45	14283414.03	39°20'00.518"N	80°48'20.532"W	0.68	103.154	0.09	-0.04	181.13	
540.50	0.190	276.850	540.50	0.35	-0.14	0.58	1695356.36	14283414.04	39°20'00.519"N	80°48'20.533"W	0.60	103.947	0.35	0.28	-285.83	Gyrodatta MS Gyro <12-14> (471')(531'-711')
630.50	0.290	70.180	630.50	0.29	-0.05	0.64	1695356.43	14283414.13	39°20'00.520"N	80°48'20.532"W	0.65	94.306	0.52	0.11	170.37	
720.50	2.040	80.000	720.48	0.65	0.31	2.44	1695358.22	14283414.49	39°20'00.523"N	80°48'20.509"W	2.46	82.819	1.95	1.94	10.91	
811.50	3.920	76.000	811.35	1.47	1.34	7.05	1695362.83	14283415.52	39°20'00.533"N	80°48'20.450"W	7.18	79.231	2.08	2.07	-4.40	WFT EM <12-14> (711')(802'-2569')
906.50	6.170	71.530	905.98	2.31	3.74	15.04	1695370.82	14283417.92	39°20'00.557"N	80°48'20.197"W	28.03	73.759	3.00	3.00	-1.01	
1001.50	9.020	70.570	1000.13	3.08	7.84	26.91	1695382.68	14283422.02	39°20'00.592"N	80°48'20.001"W	44.40	72.359	2.19	2.18	-1.17	
1095.50	11.070	69.470	1092.89	3.81	13.46	42.31	1695398.08	14283427.63	39°20'00.652"N	80°48'20.001"W	69.83	70.180	2.83	2.64	-4.70	
1212.50	14.160	63.970	1206.85	3.34	23.68	65.70	1695421.45	14283437.85	39°20'00.753"N	80°48'19.703"W	94.32	68.983	1.90	1.73	3.05	
1307.50	15.800	66.870	1298.62	2.51	33.86	88.03	1695443.78	14283448.03	39°20'00.853"N	80°48'19.419"W	121.43	68.787	1.81	1.85	2.63	
1402.50	17.370	69.370	1389.67	2.86	43.94	113.20	1695468.94	14283458.10	39°20'00.952"N	80°48'19.098"W	150.04	68.713	0.98	0.76	-2.03	
1496.50	18.080	67.460	1479.21	3.33	54.47	139.81	1695495.53	14283468.63	39°20'01.055"N	80°48'18.759"W	179.63	68.240	1.23	0.62	-3.38	
1590.50	18.660	64.280	1568.42	2.51	66.59	166.83	1695522.64	14283480.74	39°20'01.175"N	80°48'18.415"W	209.67	67.950	0.39	-0.38	-0.33	
1685.50	18.300	63.970	1658.82	0.77	79.73	193.92	1695549.62	14283495.88	39°20'01.304"N	80°48'18.070"W	238.15	67.636	2.73	1.34	7.85	
1779.50	17.040	71.350	1748.09	0.81	90.61	220.24	1695575.93	14283504.76	39°20'01.411"N	80°48'17.735"W	266.09	68.269	1.40	0.34	4.59	
1874.50	17.360	75.710	1838.85	3.80	98.56	247.16	1695602.84	14283512.70	39°20'01.489"N	80°48'17.392"W	284.72	69.039	1.19	1.14	1.11	
1968.50	18.430	76.750	1928.30	8.22	105.43	275.21	1695630.89	14283519.57	39°20'01.556"N	80°48'17.035"W	323.79	69.624	1.33	-1.05	-2.64	
2063.50	17.430	74.240	2018.69	12.34	112.74	303.52	1695659.19	14283526.87	39°20'01.628"N	80°48'16.874"W	352.16	69.869	0.84	-0.04	-2.80	
2158.50	17.390	71.580	2109.34	15.05	121.09	330.69	1695686.34	14283535.22	39°20'01.710"N	80°48'16.328"W	381.30	69.998	1.02	1.01	-0.54	
2253.50	18.350	71.070	2199.75	17.02	130.42	358.30	1695713.94	14283544.55	39°20'01.801"N	80°48'15.977"W	410.25	70.101	0.90	-0.86	0.84	
2347.50	17.540	71.860	2289.18	19.05	139.63	385.76	1695741.39	14283553.76	39°20'01.892"N	80°48'15.627"W	437.72	70.261	1.58	-1.51	1.72	
2442.50	16.110	73.490	2380.11	21.54	147.94	412.00	1695767.62	14283561.96	39°20'01.972"N	80°48'15.293"W	463.07	70.369	1.22	-0.97	-2.73	
2536.50	15.200	70.920	2470.62	23.66	155.87	436.15	1695791.76	14283569.69	39°20'02.048"N	80°48'14.985"W	473.97	70.369	0.99	-0.71	-2.67	
2578.50	14.900	69.800	2511.18	24.22	159.24	446.42	1695802.03	14283573.35	39°20'02.084"N	80°48'14.854"W						



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		
Area	Doddridge Co., WY		
Field	Doddridge		
Facility	Addie Pad		
		Slot	Slot #05
		Well	Warrior Unit 2H
		Wellbore	Warrior Unit 2H AWP

WELLPATH DATA (228 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
2703.50	14.110	65.740	2632.20	24.43	171.05	475.40	1695630.99	14283585.16	39°20'02.200"N	80°48'14.485"W	505.23	70.211	1.03	-0.53	-3.25	MFT EM <8-3/4' > (2569')(2694'-6792')
2798.50	15.480	69.900	2724.05	24.61	180.18	497.86	1695653.44	14283594.29	39°20'02.280"N	80°48'14.199"W	528.46	70.104	1.81	1.44	4.27	
2892.50	17.290	75.750	2814.24	27.14	187.95	523.17	1695678.74	14283602.06	39°20'02.367"N	80°48'13.877"W	555.91	70.239	2.62	1.93	6.33	
2989.50	19.490	73.200	2906.28	30.85	196.18	552.64	1695908.20	14283610.28	39°20'02.447"N	80°48'13.501"W	588.43	70.456	2.41	2.27	-2.63	
3083.50	21.680	70.350	2994.27	33.31	206.55	584.01	1695939.55	14283620.65	39°20'02.549"N	80°48'13.102"W	618.46	70.522	2.56	2.33	-3.03	
3178.50	24.380	72.070	3081.69	35.78	218.49	619.18	1695974.73	14283632.59	39°20'02.666"N	80°48'12.654"W	656.61	70.564	2.93	2.84	1.81	
3273.50	28.460	73.990	3166.76	38.95	230.78	659.62	1696015.14	14283644.97	39°20'02.797"N	80°48'12.139"W	698.83	70.717	4.39	4.29	2.02	
3367.50	31.790	73.920	3248.05	45.17	243.94	704.92	1696060.42	14283658.02	39°20'02.916"N	80°48'11.562"W	745.94	70.912	3.55	3.54	-0.39	
3462.50	34.400	72.400	3327.63	50.18	259.11	754.52	1696110.00	14283673.19	39°20'03.065"N	80°48'10.931"W	797.77	71.047	2.84	2.75	-1.28	
3556.50	35.590	72.330	3404.63	54.81	275.45	805.89	1696161.35	14283689.52	39°20'03.225"N	80°48'10.276"W	851.67	71.130	1.27	1.27	-0.07	
3650.50	35.370	71.710	3481.18	59.17	292.29	857.79	1696213.23	14283706.35	39°20'03.390"N	80°48'09.615"W	906.22	71.184	0.45	-0.23	-0.66	
3745.50	35.340	70.570	3558.66	62.72	310.06	909.80	1696265.22	14283724.11	39°20'03.565"N	80°48'08.963"W	961.19	71.181	0.70	-0.03	-1.20	
3839.50	35.250	68.930	3635.38	64.81	328.85	960.76	1696318.15	14283742.90	39°20'03.750"N	80°48'08.304"W	1015.48	71.105	1.01	-0.10	-1.74	
3934.50	34.370	69.020	3713.38	66.36	348.31	1011.38	1696366.75	14283762.35	39°20'03.941"N	80°48'07.659"W	1068.67	70.997	0.93	-0.93	0.09	
4028.50	34.720	71.060	3790.81	68.78	366.50	1061.47	1696416.83	14283780.53	39°20'04.120"N	80°48'07.021"W	1122.96	70.852	1.29	0.37	2.17	
4122.50	34.530	70.540	3868.16	71.91	384.06	1111.91	1696467.25	14283798.09	39°20'04.292"N	80°48'06.379"W	1176.37	70.945	0.37	-0.20	-0.55	
4217.50	34.180	71.960	3946.59	75.47	401.30	1162.67	1696517.99	14283815.32	39°20'04.461"N	80°48'05.732"W	1229.98	70.958	0.92	-0.37	1.49	
4311.50	33.710	71.570	4024.57	79.43	417.72	1212.53	1696567.82	14283831.74	39°20'04.623"N	80°48'05.097"W	1282.46	70.991	0.55	-0.50	-0.41	
4406.50	33.120	69.760	4103.87	82.38	435.03	1261.89	1696617.17	14283848.04	39°20'04.793"N	80°48'04.469"W	1334.77	70.978	1.22	-0.62	-1.91	
4501.50	32.830	71.410	4183.42	85.23	452.30	1310.87	1696666.13	14283866.30	39°20'04.962"N	80°48'03.845"W	1386.71	70.964	0.95	0.05	1.74	
4595.50	32.890	69.800	4262.25	88.70	468.69	1359.37	1696714.61	14283882.69	39°20'05.123"N	80°48'03.227"W	1437.91	70.977	0.37	-0.36	-0.18	
4689.50	32.290	69.560	4341.48	91.33	485.64	1407.04	1696762.26	14283899.63	39°20'05.290"N	80°48'02.620"W	1488.49	70.958	1.10	-0.57	-1.74	
4784.50	32.560	72.300	4421.06	93.27	503.74	1455.65	1696810.85	14283917.72	39°20'05.467"N	80°48'02.001"W	1540.34	70.911	1.69	1.69	-0.04	
4879.50	32.560	70.000	4500.53	96.42	520.76	1504.83	1696860.01	14283934.74	39°20'05.635"N	80°48'01.374"W	1592.39	70.911	2.12	-1.41	2.88	
4973.50	31.280	71.810	4579.93	103.49	536.26	1552.72	1696907.86	14283950.23	39°20'05.787"N	80°48'00.765"W	1642.69	70.946	0.51	-0.43	-0.52	
5068.50	31.280	70.000	4660.74	103.49	552.59	1598.89	1696955.04	14283966.55	39°20'05.947"N	80°48'00.164"W	1692.64	70.945	1.36	-0.93	-1.91	
5162.50	32.270	70.050	4740.65	105.73	569.50	1646.41	1697001.54	14283983.45	39°20'06.113"N	80°47'59.571"W	1742.13	70.919	1.05	1.05	0.05	
5257.50	32.960	71.370	4820.67	108.65	586.41	1694.74	1697049.55	14284000.36	39°20'06.279"N	80°47'58.955"W	1793.33	70.914	1.04	0.73	1.39	
5351.50	32.870	70.780	4899.58	111.88	602.98	1743.06	1697098.15	14284016.92	39°20'06.442"N	80°47'58.340"W	1844.41	70.918	0.35	-0.10	-0.63	
5446.50	31.870	68.920	4978.82	114.04	620.48	1790.81	1697145.87	14284034.42	39°20'06.614"N	80°47'57.732"W	1895.25	70.890	1.49	-1.05	-1.96	



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'

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**BAKER
HUGHES**
a GE company

REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #05
Operator	ANTERO RESOURCES CORPORATION	Well	Warrior Unit 2H
Area	Doddridge Co., WV	Wellbore	Warrior Unit 2H AWB
Field	Doddridge		
Facility	Addie Pad		

WELLPATH DATA (228 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)	Buidl Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
5541.50	32.570	69.180	5060.22	115.46	638.58	1838.07	1697193.12	14284052.50	39°20'06.792"N	80°47'57.130"W	1945.84	70.842	0.69	0.67	0.27	
5635.50	32.690	72.540	5139.42	118.49	655.17	1865.90	1697240.93	14284069.09	39°20'06.955"N	80°47'56.521"W	1996.46	70.842	1.94	0.19	3.57	
5730.50	33.580	73.390	5218.97	123.49	670.38	1935.55	1697290.56	14284084.29	39°20'07.104"N	80°47'55.888"W	2048.36	70.896	1.06	0.94	0.89	
5824.50	33.240	72.080	5297.44	128.27	685.74	1984.97	1697399.96	14284099.65	39°20'07.255"N	80°47'55.259"W	2100.09	70.942	0.85	-0.36	-1.38	
5919.50	32.150	70.430	5377.38	131.70	702.22	2033.57	1697388.54	14284116.12	39°20'07.416"N	80°47'54.640"W	2151.40	70.950	1.48	-1.15	-1.74	
6013.50	32.060	70.440	5457.01	134.31	718.95	2080.64	1697435.59	14284132.84	39°20'07.581"N	80°47'54.041"W	2201.35	70.938	0.10	-0.10	0.01	
6107.50	32.140	72.490	5536.64	137.81	734.82	2128.00	1697482.93	14284148.71	39°20'07.737"N	80°47'53.437"W	2251.30	70.950	1.16	0.09	2.18	
6202.50	32.570	74.220	5616.88	143.06	749.38	2176.70	1697531.62	14284163.26	39°20'07.879"N	80°47'52.817"W	2302.09	71.003	1.07	0.45	1.82	
6296.50	33.890	72.780	5695.61	148.47	763.98	2225.96	1697580.85	14284177.85	39°20'08.023"N	80°47'52.190"W	2353.41	71.057	1.45	1.19	-1.52	
6391.50	32.710	71.080	5775.11	152.56	780.10	2275.41	1697630.28	14284193.87	39°20'08.181"N	80°47'51.560"W	2405.42	71.076	1.43	-1.03	-1.80	
6484.50	32.510	71.540	5828.17	154.85	790.98	2307.57	1697682.43	14284204.84	39°20'08.288"N	80°47'51.150"W	2439.37	71.080	0.51	-0.32	0.73	
6486.50	33.450	73.860	5855.02	158.45	796.15	2324.20	1697678.05	14284210.01	39°20'08.338"N	80°47'50.939"W	2456.78	71.091	4.92	2.94	7.25	
6517.50	34.480	77.420	5880.73	158.93	800.44	2340.97	1697695.82	14284214.30	39°20'08.380"N	80°47'50.725"W	2474.04	71.123	7.22	3.32	11.48	
6549.50	36.010	81.340	5906.87	162.76	803.83	2359.12	1697713.96	14284217.69	39°20'08.414"N	80°47'50.494"W	2492.30	71.184	6.53	4.78	12.25	
6580.50	36.550	83.860	5931.86	167.87	805.87	2377.33	1697732.17	14284219.73	39°20'08.433"N	80°47'50.262"W	2510.21	71.274	8.80	1.74	14.58	
6612.50	37.650	89.480	5957.39	174.55	806.64	2396.61	1697751.44	14284220.50	39°20'08.441"N	80°47'50.017"W	2528.72	71.398	7.64	3.44	11.31	
6643.50	38.700	93.760	5981.76	182.40	806.09	2415.76	1697770.58	14284219.95	39°20'08.435"N	80°47'49.773"W	2546.70	71.547	9.18	3.39	13.81	
6675.50	39.480	97.490	6006.60	191.93	804.11	2435.83	1697790.64	14284217.97	39°20'08.415"N	80°47'49.518"W	2565.12	71.731	7.74	2.44	11.66	
6708.50	39.920	101.800	6030.46	202.48	800.79	2455.34	1697810.14	14284214.65	39°20'08.381"N	80°47'49.269"W	2582.63	71.937	8.99	1.42	13.90	
6738.50	40.380	106.720	6054.92	214.84	795.71	2475.32	1697830.12	14284209.57	39°20'08.331"N	80°47'49.015"W	2600.07	72.180	10.02	1.44	15.37	
6769.50	40.480	111.550	6078.53	225.20	789.12	2494.30	1697849.09	14284202.99	39°20'08.265"N	80°47'48.774"W	2616.15	72.444	10.10	0.26	15.58	
6801.50	39.720	116.070	6103.02	243.11	780.81	2513.14	1697867.92	14284194.68	39°20'08.183"N	80°47'48.534"W	2631.65	72.740	9.38	-2.31	14.12	
6853.00	39.020	121.410	6142.84	268.57	765.13	2541.77	1697896.54	14284179.00	39°20'08.027"N	80°47'48.171"W	2654.43	73.247	6.71	-1.36	10.37	BH/AT Curve <-8-1/2"> (6801.5)-(6853-19264)
6892.00	41.170	128.710	6201.01	309.88	737.00	2581.74	1697936.49	14284150.88	39°20'07.748"N	80°47'47.663"W	2684.87	74.068	6.80	2.83	9.61	
6976.00	43.220	133.530	6235.84	338.17	716.23	2605.48	1697960.23	14284130.13	39°20'07.542"N	80°47'47.361"W	2702.14	74.828	8.15	4.36	10.26	
7008.00†	44.797	136.830	6258.86	358.74	700.46	2621.14	1697975.88	14284114.36	39°20'07.386"N	80°47'47.162"W	2713.12	75.038	8.69	4.93	10.31	Middlesex: 7008' MD
7024.00	45.620	138.410	6270.13	369.43	692.07	2628.80	1697993.53	14284106.98	39°20'07.303"N	80°47'47.065"W	2719.37	75.251	8.69	5.14	9.88	
7071.00	48.380	142.690	6302.19	402.31	665.53	2650.60	1698005.33	14284079.44	39°20'07.040"N	80°47'46.788"W	2732.88	75.905	8.88	5.87	9.11	
7119.00	51.310	146.120	6333.14	438.04	635.59	2671.93	1698026.55	14284049.62	39°20'06.745"N	80°47'46.518"W	2746.51	76.617	8.19	6.10	7.15	
7166.00	54.150	148.420	6361.60	474.85	604.23	2692.14	1698046.84	14284018.17	39°20'06.433"N	80°47'46.261"W	2759.11	77.350	7.19	6.04	4.89	



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Addle Pad
Slot	Slot #05
Well	Warrior Unit 2H
Wellbore	Warrior Unit 2H AWB

WELLPATH DATA (228 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	US ft	US ft	°	°	ft	°	ft/100ft	ft/100ft	°/100ft	
7214.00	57.160	150.540	6388.68	514.09	570.09	2712.25	1698066.95	14283984.04	39°20'06.095"N	80°47'46.008"W	2771.51	78.130	7.25	6.27	4.42	
7224.00†	57.952	151.346	6394.05	522.48	562.71	2716.35	1698071.04	14283976.87	39°20'06.022"N	80°47'45.955"W	2774.02	78.296	10.51	8.02	8.06	Burkett: 7224' MD
7261.00	60.970	154.210	6412.85	554.23	534.37	2730.91	1698085.60	14283948.34	39°20'05.742"N	80°47'45.770"W	2782.70	78.929	10.51	8.13	7.74	
7281.00†	62.433	155.093	6422.33	571.82	518.46	2738.45	1698093.14	14283932.43	39°20'05.585"N	80°47'45.675"W	2787.09	79.279	8.28	7.31	4.41	Jully: 7281' MD
7309.00	64.490	156.290	6434.84	596.86	495.63	2748.76	1698103.44	14283909.61	39°20'05.359"N	80°47'45.544"W	2793.08	79.779	8.28	7.35	4.28	
7358.00	68.120	156.360	6453.72	639.88	456.22	2766.03	1698120.71	14283870.22	39°20'04.969"N	80°47'45.325"W	2803.40	80.634	7.73	7.72	0.19	
7378.00†	69.720	156.506	6461.99	661.34	436.56	2774.80	1698129.28	14283850.55	39°20'04.774"N	80°47'45.217"W	2808.74	81.059	6.98	6.96	0.56	Hamilton: 7378' MD
7404.00	71.460	156.640	6470.30	684.81	414.91	2783.98	1698138.65	14283828.33	39°20'04.560"N	80°47'45.098"W	2814.73	81.523	6.98	6.96	0.54	
7405.00†	71.557	156.668	6470.62	685.86	414.04	2784.35	1698139.03	14283828.06	39°20'04.552"N	80°47'45.093"W	2814.97	81.542	8.16	7.71	2.62	Marcellus POE: 7405' MD
7451.00	75.090	157.940	6483.82	729.92	373.40	2801.35	1698156.01	14283787.43	39°20'04.149"N	80°47'44.878"W	2826.12	82.408	8.16	7.72	2.76	
7499.00	79.510	159.100	6494.38	776.72	329.83	2818.49	1698173.14	14283743.88	39°20'03.719"N	80°47'44.661"W	2837.72	83.325	9.51	9.21	2.42	
7546.00	83.590	160.480	6501.28	823.16	286.21	2834.54	1698189.19	14283700.28	39°20'03.287"N	80°47'44.458"W	2848.95	84.234	9.15	8.68	2.94	
7593.00	85.200	160.890	6505.87	869.96	242.10	2850.09	1698204.73	14283656.18	39°20'02.851"N	80°47'44.262"W	2860.35	85.145	3.45	3.43	0.45	
7640.00	89.450	159.970	6508.06	916.74	197.90	2865.89	1698220.53	14283612.00	39°20'02.414"N	80°47'44.062"W	2872.71	86.060	9.17	9.04	-1.53	
7688.00	89.390	158.830	6508.55	964.71	152.97	2882.77	1698237.41	14283567.09	39°20'01.969"N	80°47'43.848"W	2886.83	86.962	2.98	-0.15	-2.37	
7782.00	89.570	155.150	6509.42	1058.69	66.47	2919.51	1698274.13	14283480.63	39°20'01.113"N	80°47'43.383"W	2920.27	88.696	3.92	0.20	-3.91	
7877.00	89.140	155.130	6510.49	1153.60	-19.72	2959.45	1698314.05	14283394.47	39°20'00.261"N	80°47'42.877"W	2959.51	90.382	0.45	-0.45	-0.02	
7972.00	89.850	159.270	6511.32	1248.58	-107.27	2996.25	1698350.84	14283306.99	39°19'59.394"N	80°47'42.412"W	2998.17	92.050	4.42	0.75	4.36	
8067.00	89.350	166.360	6511.96	1343.10	-197.97	3024.30	1698376.88	14283216.29	39°19'58.497"N	80°47'42.057"W	3030.77	93.745	7.48	-0.49	7.46	
8161.00	89.450	160.210	6512.92	1436.56	-287.95	3051.32	1698405.89	14283126.34	39°19'57.607"N	80°47'41.716"W	3084.88	95.391	6.54	0.07	-6.54	
8256.00	89.780	155.430	6513.56	1531.53	-375.22	3086.41	1698440.96	14283036.12	39°19'56.734"N	80°47'41.272"W	3109.25	96.950	3.99	0.35	-3.98	
8446.00	89.320	154.110	6515.88	1721.34	-548.47	3166.53	1698521.05	14282865.93	39°19'55.030"N	80°47'40.257"W	3160.22	98.437	1.83	-0.76	-1.67	
8552.00	89.050	154.830	6514.54	1627.47	-463.65	3126.02	1698480.55	14282950.71	39°19'55.869"N	80°47'40.770"W	3213.67	98.827	0.82	0.29	-0.77	
8541.00	89.850	152.560	6516.57	1618.09	-633.36	3209.16	1698563.66	14282781.08	39°19'54.190"N	80°47'39.717"W	3271.06	101.164	1.72	0.56	-1.63	
8636.00	89.460	148.730	6517.15	1910.40	-716.14	3255.72	1698610.20	14282698.32	39°19'53.371"N	80°47'39.127"W	3333.55	102.405	4.05	-0.42	-4.03	
8731.00	88.950	149.810	6518.47	2004.43	-797.79	3304.26	1698658.72	14282616.71	39°19'52.563"N	80°47'38.512"W	3399.20	103.574	1.25	-0.59	1.14	
8826.00	89.540	153.790	6519.73	2098.94	-881.49	3349.14	1698703.58	14282533.04	39°19'51.734"N	80°47'37.943"W	3463.20	104.746	4.23	0.62	4.19	
8921.00	89.940	153.100	6520.16	2193.71	-866.47	3391.60	1698746.03	14282448.09	39°19'50.893"N	80°47'37.405"W	3526.61	105.905	0.83	0.42	-0.72	
9016.00	89.480	153.080	6520.64	2286.43	-1051.19	3434.59	1698789.00	14282363.41	39°19'50.055"N	80°47'36.861"W	3591.85	107.017	0.49	-0.48	-0.03	
9111.00	88.520	157.300	6522.30	2383.32	-1137.39	3474.43	1698828.63	14282277.25	39°19'49.202"N	80°47'36.356"W	3658.86	108.126	4.55	-1.01	4.44	



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288

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REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #05
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Addle Pad	Well	Warrior Unit 2H
				Wellbore	Warrior Unit 2H AWB

WELLPATH DATA (228 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
9206.00	89.600	160.820	6523.86	2478.25	-1228.09	3508.38	1698862.76	14282183.58	39°19'48.325"N	80°47'35.927"W	3776.45	109.263	3.88	1.14	3.71	
9300.00	90.000	161.410	6524.18	2572.08	-1315.02	3538.80	1698893.17	14282099.68	39°19'47.445"N	80°47'35.542"W	3775.23	110.385	0.76	0.43	0.63	
9395.00	89.480	157.480	6524.61	2666.98	-1403.96	3572.15	1698926.51	14282010.78	39°19'46.565"N	80°47'35.120"W	3838.14	111.456	4.17	-0.55	-4.14	
9490.00	89.050	155.950	6525.83	2761.96	-1491.21	3608.70	1698964.04	14281923.57	39°19'45.702"N	80°47'34.645"W	3903.59	112.446	1.67	-0.45	-1.61	
9585.00	89.260	159.960	6527.24	2856.93	-1579.24	3645.34	1698999.67	14281835.57	39°19'44.831"N	80°47'34.184"W	3972.72	113.423	4.23	0.22	4.22	
9680.00	89.680	160.200	6528.11	2951.82	-1668.55	3677.71	1699032.02	14281748.30	39°19'43.948"N	80°47'33.785"W	4038.51	114.403	0.52	0.45	0.25	
9776.00	89.910	156.900	6528.44	3047.79	-1757.89	3712.81	1699067.11	14281666.99	39°19'43.064"N	80°47'33.341"W	4107.93	115.336	3.45	0.23	-3.44	
9871.00	89.660	151.170	6528.80	3142.58	-1843.26	3754.39	1699108.67	14281571.65	39°19'42.219"N	80°47'32.814"W	4182.47	116.149	6.04	-0.28	-6.03	
9965.00	89.290	154.480	6529.66	3238.28	-1928.87	3797.31	1699151.58	14281488.08	39°19'41.392"N	80°47'32.270"W	4258.21	116.905	3.54	-0.39	3.52	
10060.00	89.290	160.860	6530.84	3331.20	-2014.70	3833.37	1699187.82	14281400.28	39°19'40.523"N	80°47'31.814"W	4330.56	117.725	6.74	0.00	6.74	
10155.00	89.260	164.470	6532.04	3425.79	-2105.37	3861.65	1699215.89	14281309.65	39°19'39.626"N	80°47'31.457"W	4398.28	118.598	3.78	-0.03	3.78	
10250.00	89.750	160.480	6532.86	3520.40	-2195.94	3890.25	1699244.48	14281219.12	39°19'38.731"N	80°47'31.095"W	4467.23	119.444	4.23	0.52	-4.20	
10345.00	89.020	156.150	6533.88	3615.36	-2284.19	3923.84	1699279.56	14281130.90	39°19'37.868"N	80°47'30.651"W	4541.56	120.195	4.62	-0.77	-4.58	
10440.00	88.770	153.970	6535.71	3710.25	-2370.31	3965.39	1699319.59	14281044.82	39°19'37.006"N	80°47'30.144"W	4619.81	120.869	2.31	-0.26	-2.29	
10535.00	88.920	159.010	6537.63	3805.19	-2457.37	4003.27	1699357.45	14280957.79	39°19'36.144"N	80°47'29.665"W	4697.32	121.543	5.31	0.16	5.31	
10629.00	89.570	160.850	6538.87	3899.09	-2545.65	4035.52	1699398.69	14280869.54	39°19'35.271"N	80°47'29.257"W	4771.35	122.244	2.08	0.69	1.96	
10725.00	89.080	154.920	6540.00	3995.03	-2634.55	4071.64	1699425.80	14280780.69	39°19'34.391"N	80°47'28.800"W	4849.65	122.905	6.20	-0.51	-6.18	
10820.00	89.080	152.160	6541.53	4089.79	-2719.57	4113.98	1699468.10	14280695.69	39°19'33.560"N	80°47'28.264"W	4931.61	123.467	2.90	0.00	-2.91	
10914.00	88.310	153.800	6543.24	4183.49	-2803.30	4156.66	1699510.78	14280612.00	39°19'32.722"N	80°47'27.723"W	5013.61	123.986	1.76	-0.27	1.74	
11009.00	88.310	154.500	6545.61	4278.30	-2888.76	4198.06	1699552.17	14280526.57	39°19'31.876"N	80°47'27.199"W	5095.95	124.533	0.92	-0.55	0.74	
11103.00	89.570	160.850	6547.35	4372.23	-2975.67	4233.72	1699587.82	14280439.70	39°19'31.016"N	80°47'26.748"W	5174.84	125.101	6.92	1.34	6.79	
11198.00	90.120	160.510	6547.61	4467.08	-3065.32	4265.13	1699619.21	14280350.08	39°19'30.129"N	80°47'26.351"W	5252.38	125.705	0.70	0.58	-0.39	
11293.00	88.800	155.180	6548.50	4562.04	-3153.27	4300.94	1699655.01	14280262.16	39°19'29.259"N	80°47'25.898"W	5333.03	126.247	5.78	-1.39	-5.61	
11388.00	88.580	157.750	6550.68	4656.99	-3240.34	4338.88	1699692.91	14280175.13	39°19'28.389"N	80°47'25.418"W	5415.30	126.753	2.71	-0.23	2.71	
11483.00	89.690	160.180	6552.11	4751.94	-3328.99	4372.96	1699726.99	14280086.52	39°19'27.521"N	80°47'24.966"W	5495.80	127.281	2.81	1.17	2.56	
11578.00	89.350	155.270	6552.81	4846.90	-3416.87	4408.95	1699762.97	14279998.67	39°19'26.652"N	80°47'24.531"W	5577.98	127.775	5.18	-0.36	-5.17	
11673.00	88.860	156.510	6554.39	4941.86	-3503.57	4447.75	1699800.76	14279912.01	39°19'25.794"N	80°47'24.040"W	5661.93	128.228	1.40	-0.52	1.31	
11768.00	88.980	159.630	6556.18	5036.82	-3591.62	4483.22	1699837.21	14279823.94	39°19'24.922"N	80°47'23.581"W	5744.51	128.699	3.29	0.13	3.28	
11863.00	89.170	162.610	6557.72	5131.60	-3681.54	4513.95	1699867.94	14279734.11	39°19'24.033"N	80°47'23.203"W	5824.90	129.200	3.14	0.20	3.14	
11958.00	89.970	164.300	6558.44	5227.07	-3773.56	4541.29	1699895.26	14279642.13	39°19'23.123"N	80°47'22.857"W	5904.49	129.725	1.95	0.83	1.76	



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Doddridge Co., WV	Well	Warrior Unit 2H
Field	Doddridge	Wellbore	Warrior Unit 2H AWB
Facility	Addie Pad		

WELLPATH DATA (228 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
12054.00	89.480	162.120	6558.83	5321.58	-3864.50	4568.73	1698922.88	14279551.22	39°19'22.224"N	80°47'22.511"W	5983.95	130.227	2.35	-0.52	-2.29	
12148.00	89.860	161.730	6559.60	5415.29	-3953.86	4597.89	1698951.84	14279461.90	39°19'21.340"N	80°47'22.143"W	6064.13	130.893	0.46	0.19	-0.41	
12243.00	89.720	160.400	6560.11	5510.09	-4043.71	4628.72	1698982.86	14279372.08	39°19'20.451"N	80°47'21.753"W	6148.27	131.141	1.40	0.06	-1.40	
12338.00	90.180	154.770	6560.20	5605.05	-4131.50	4664.93	1700018.85	14279284.33	39°19'19.582"N	80°47'21.295"W	6231.44	131.530	5.95	0.48	-5.93	
12432.00	89.200	149.670	6560.70	5698.63	-4214.64	4708.72	1700062.83	14279201.22	39°19'18.760"N	80°47'20.740"W	6319.43	131.831	5.52	-1.04	-5.43	
12527.00	88.740	149.450	6562.41	5792.72	-4296.53	4758.85	1700110.73	14279119.36	39°19'17.949"N	80°47'20.130"W	6409.97	132.089	0.54	-0.48	-0.23	
12622.00	88.980	154.780	6564.30	5887.26	-4380.45	4801.25	1700155.12	14279035.47	39°19'17.119"N	80°47'19.568"W	6499.28	132.376	5.62	0.25	5.61	
12718.00	88.890	155.040	6566.09	5983.15	-4467.38	4841.95	1700195.81	14278948.58	39°19'16.259"N	80°47'18.952"W	6588.02	132.666	0.29	-0.09	0.27	
12813.00	89.080	153.390	6567.77	6077.98	-4552.90	4883.27	1700237.11	14278863.09	39°19'15.412"N	80°47'18.529"W	6676.47	132.995	1.75	0.20	-1.74	
12908.00	89.050	158.400	6569.32	6172.80	-4639.58	4922.05	1700275.87	14278776.45	39°19'14.555"N	80°47'18.038"W	6764.04	133.308	5.27	-0.03	5.27	
13003.00	89.080	160.620	6570.87	6267.82	-4728.55	4965.30	1700309.11	14278687.51	39°19'13.675"N	80°47'17.618"W	6849.39	133.659	2.34	0.03	2.34	
13098.00	89.020	161.820	6572.41	6360.80	-4816.59	4985.23	1700339.03	14278599.51	39°19'12.804"N	80°47'17.240"W	6931.96	134.014	1.29	-0.06	1.29	
13193.00	88.980	158.480	6574.07	6455.47	-4905.92	5017.48	1700371.27	14278510.22	39°19'11.920"N	80°47'16.832"W	7017.35	134.366	3.52	-0.04	-3.52	
13288.00	89.020	157.880	6575.73	6550.45	-4994.10	5052.79	1700406.56	14278424.11	39°19'11.048"N	80°47'16.385"W	7104.34	134.665	0.63	0.04	-0.63	
13382.00	89.080	159.830	6577.32	6646.40	-5083.65	5087.33	1700441.09	14278332.56	39°19'10.162"N	80°47'15.948"W	7191.97	134.979	2.14	0.06	2.14	
13477.00	88.980	157.450	6578.93	6741.35	-5172.13	5121.85	1700475.59	14278244.11	39°19'09.287"N	80°47'15.512"W	7279.03	135.280	2.61	-0.11	-2.61	
13572.00	88.770	156.450	6580.80	6836.33	-5259.53	5159.04	1700512.76	14278156.75	39°19'08.422"N	80°47'15.041"W	7367.38	135.583	1.08	-0.22	-1.05	
13666.00	89.260	158.230	6582.41	6930.31	-5346.26	5195.25	1700548.96	14278070.06	39°19'07.564"N	80°47'14.583"W	7454.73	135.821	1.96	0.52	1.89	
13761.00	88.460	160.530	6584.30	7025.23	-5435.15	5228.89	1700582.38	14277981.20	39°19'06.685"N	80°47'14.160"W	7541.89	136.109	2.56	-0.84	2.42	
13856.00	89.820	160.010	6585.73	7120.10	-5524.58	5260.78	1700614.44	14277891.83	39°19'05.800"N	80°47'13.755"W	7628.65	136.401	1.53	1.43	-0.55	
13951.00	89.320	156.200	6586.44	7215.07	-5612.88	5296.18	1700649.85	14277803.73	39°19'04.928"N	80°47'13.307"W	7716.88	136.682	4.04	-0.53	-4.01	
14046.00	88.800	154.120	6588.00	7309.98	-5698.88	5336.08	1700689.73	14277717.57	39°19'04.076"N	80°47'12.802"W	7807.11	136.883	2.26	-0.56	-2.19	
14141.00	88.860	158.910	6589.94	7404.92	-5785.97	5373.92	1700727.56	14277630.52	39°19'03.214"N	80°47'12.323"W	7896.61	137.115	5.04	0.06	5.04	
14237.00	89.420	160.950	6591.38	7500.81	-5876.12	5406.86	1700760.48	14277540.40	39°19'02.322"N	80°47'11.907"W	7985.17	137.382	2.20	0.58	2.12	
14331.00	89.600	154.840	6592.19	7594.78	-5963.10	5442.86	1700795.97	14277453.45	39°19'01.462"N	80°47'11.458"W	8073.28	137.614	6.72	0.19	-6.71	
14426.00	89.170	153.820	6593.21	7689.61	-6048.65	5483.66	1700837.26	14277367.84	39°19'00.615"N	80°47'10.935"W	8164.35	137.805	0.97	-0.45	-0.86	
14521.00	89.280	155.580	6594.51	7784.48	-6134.52	5524.25	1700877.83	14277282.10	39°18'59.765"N	80°47'10.421"W	8255.28	137.996	1.85	0.09	1.85	
14616.00	89.170	151.990	6595.81	7879.27	-6219.73	5566.21	1700919.77	14277196.93	39°18'58.922"N	80°47'09.890"W	8346.72	138.174	3.78	-0.09	-3.78	
14710.00	88.740	152.890	6597.53	7972.89	-6303.05	5609.69	1700963.24	14277113.64	39°18'58.098"N	80°47'09.339"W	8437.84	138.331	1.06	-0.46	0.96	
14806.00	89.200	156.690	6599.25	8068.78	-6389.88	5650.57	1701004.10	14277026.85	39°18'57.239"N	80°47'08.821"W	8529.91	138.514	3.99	0.48	3.96	



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Doddridge Co., WV	Well	Warrior Unit 2H
Field	Doddridge	Wellbore	Warrior Unit 2H AWB
Facility	Addie Pad		

WELLPATH DATA (228 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
14901.00	89.600	157.640	6600.25	8163.75	-6477.42	5687.43	1701040.95	14276939.34	39°18'56.372"N	80°47'08.355"W	8619.97	138.716	1.08	0.42	1.00	
14997.00	89.780	157.900	6600.77	8259.75	-6566.26	5723.83	1701077.33	14276950.54	39°18'55.494"N	80°47'07.895"W	8710.80	138.921	0.25	0.19	0.17	
15092.00	89.660	160.440	6601.23	8354.70	-6655.01	5757.69	1701111.17	14276761.82	39°18'54.616"N	80°47'07.466"W	8800.00	139.135	2.78	-0.13	2.78	
15187.00	89.780	159.700	6601.69	8449.59	-6744.32	5790.07	1701143.54	14276672.55	39°18'53.732"N	80°47'07.067"W	8888.80	139.354	0.79	0.13	-0.78	
15282.00	89.780	159.080	6602.06	8544.54	-6833.24	5823.51	1701176.97	14276583.67	39°18'52.853"N	80°47'06.634"W	8978.10	139.561	0.65	0.00	-0.65	
15377.00	89.940	159.010	6602.29	8639.50	-6921.95	5857.48	1701210.93	14276494.99	39°18'51.975"N	80°47'06.205"W	9067.72	139.761	0.18	0.17	-0.07	
15472.00	89.680	158.000	6602.60	8734.49	-7009.71	5893.83	1701247.26	14276407.26	39°18'51.107"N	80°47'05.745"W	9158.24	139.943	3.18	-0.26	-3.17	
15567.00	89.660	158.740	6603.14	8829.48	-7097.39	5930.38	1701283.78	14276319.62	39°18'50.236"N	80°47'05.283"W	9248.91	140.119	2.88	-0.03	2.88	
15661.00	89.880	161.730	6603.51	8923.35	-7185.84	5962.16	1701315.58	14276231.20	39°18'49.389"N	80°47'04.811"W	9337.22	140.317	3.19	0.23	3.18	
15756.00	89.720	162.020	6603.85	9018.07	-7276.13	5991.71	1701345.11	14276140.95	39°18'48.474"N	80°47'04.348"W	9425.84	140.529	0.35	-0.17	0.31	
15851.00	89.940	162.960	6604.13	9112.70	-7366.72	6020.30	1701373.68	14276050.39	39°18'47.575"N	80°47'03.881"W	9513.81	140.743	1.02	0.23	0.99	
15946.00	89.750	161.280	6604.39	9207.38	-7457.13	6048.46	1701402.83	14275960.02	39°18'46.681"N	80°47'03.414"W	9602.33	140.950	1.78	-0.20	-1.77	
16040.00	89.690	157.590	6604.84	9301.30	-7545.12	6082.47	1701435.83	14275872.06	39°18'45.810"N	80°47'02.947"W	9691.51	141.126	3.93	-0.06	-3.93	
16135.00	89.820	149.460	6605.25	9396.00	-7630.09	6124.79	1701478.13	14275787.13	39°18'44.970"N	80°47'02.480"W	9784.24	141.245	8.56	0.14	-8.56	
16230.00	89.970	146.340	6605.43	9489.68	-7710.56	6175.27	1701528.59	14275706.70	39°18'44.173"N	80°47'02.013"W	9878.59	141.309	3.29	0.16	-3.28	
16325.00	90.090	152.470	6605.38	9583.70	-7792.29	6223.60	1701576.90	14275624.99	39°18'43.364"N	80°47'01.546"W	9972.81	141.386	6.45	0.13	6.45	
16420.00	90.030	163.000	6605.28	9678.56	-7880.09	6259.54	1701621.83	14275537.24	39°18'42.496"N	80°47'01.079"W	10063.66	141.538	11.08	-0.06	11.08	
16515.00	90.120	162.310	6605.15	9773.17	-7970.76	6287.86	1701671.14	14275446.59	39°18'41.599"N	80°47'00.612"W	10152.35	141.731	0.73	0.09	-0.73	
16610.00	90.650	160.540	6604.51	9867.93	-8060.81	6318.12	1701717.38	14275356.58	39°18'40.709"N	80°47'00.145"W	10241.84	141.910	1.94	0.58	-1.86	
16704.00	90.580	158.490	6603.50	9961.88	-8148.88	6361.01	1701764.26	14275268.57	39°18'39.837"N	80°46'59.683"W	10331.47	142.068	2.18	-0.07	-2.18	
16799.00	90.580	156.640	6602.54	10056.85	-8236.66	6387.27	1701810.50	14275180.81	39°18'38.968"N	80°46'59.216"W	10423.04	142.208	1.95	0.00	-1.95	
16894.00	90.520	154.900	6601.63	10151.80	-8323.28	6428.25	1701857.47	14275094.22	39°18'38.111"N	80°46'58.750"W	10515.40	142.329	1.83	-0.06	-1.83	
16989.00	90.460	154.310	6600.92	10246.68	-8409.10	6466.98	1701904.19	14275008.43	39°18'37.262"N	80°46'58.284"W	10608.25	142.438	0.62	-0.06	-0.62	
17084.00	90.580	149.990	6599.96	10341.25	-8493.03	6511.43	1701951.61	14274924.53	39°18'36.431"N	80°46'57.818"W	10701.88	142.523	4.65	0.13	-4.65	
17179.00	90.000	150.790	6599.47	10436.51	-8575.58	6558.44	1701998.14	14274842.02	39°18'35.614"N	80°46'57.352"W	10796.01	142.592	1.13	-0.61	0.95	
17274.00	90.340	151.910	6599.19	10529.98	-8658.95	6603.99	1701957.14	14274758.68	39°18'34.789"N	80°46'56.886"W	10889.91	142.668	1.23	0.36	1.18	
17369.00	90.000	157.870	6598.91	10624.83	-8744.86	6644.43	1701987.57	14274672.80	39°18'33.939"N	80°46'56.420"W	10982.77	142.772	6.07	-0.36	6.06	
17464.00	90.340	163.580	6598.63	10719.64	-8834.44	6675.94	1702028.06	14274583.26	39°18'33.053"N	80°46'55.954"W	11073.19	142.923	6.23	0.36	6.22	
17558.00	90.150	169.270	6598.23	10812.45	-8925.78	6697.99	1702051.10	14274491.96	39°18'32.150"N	80°46'55.488"W	11159.42	143.115	6.06	-0.20	6.05	
17653.00	90.460	171.200	6597.72	10905.09	-9019.40	6714.10	1702067.21	14274398.36	39°18'31.224"N	80°46'55.022"W	11244.05	143.336	2.06	0.33	2.03	



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WY
Field	Doddridge
Facility	Addie Pad
Slot	Slot #05
Well	Warrior Unit 2H
Wellbore	Warrior Unit 2H AWB

WELLPATH DATA (228 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
17748.00	90.220	163.520	6597.16	10998.60	-9112.02	6734.87	1702087.97	14274305.79	39°18'30.308"N	80°46'55.109"W	11330.82	143.531	8.09	-0.25	-8.08	
17843.00	90.220	163.590	6596.79	11093.05	-9203.14	6761.77	1702114.86	14274214.71	39°18'29.407"N	80°46'54.770"W	11420.12	143.694	0.07	0.00	0.07	
17938.00	90.220	164.520	6596.43	11187.42	-9294.48	6787.87	1702140.94	14274123.41	39°18'28.504"N	80°46'54.440"W	11509.23	143.859	0.98	0.00	0.98	
18032.00	90.340	160.170	6595.87	11281.05	-9384.03	6816.37	1702169.43	14274033.89	39°18'27.618"N	80°46'54.081"W	11598.40	144.006	4.63	0.13	-4.63	
18127.00	90.060	151.230	6595.83	11375.91	-9470.52	6865.42	1702208.47	14273947.43	39°18'26.782"N	80°46'53.586"W	11691.35	144.100	9.42	-0.29	-9.41	
18223.00	90.180	152.730	6595.43	11471.47	-9555.27	6900.52	1702253.55	14273862.72	39°18'25.923"N	80°46'53.015"W	11766.45	144.164	1.57	0.12	1.56	
18317.00	90.250	153.610	6595.08	11565.21	-9639.15	6942.94	1702295.96	14273778.67	39°18'25.093"N	80°46'52.478"W	11879.30	144.235	0.94	0.07	0.94	
18412.00	90.150	151.410	6594.75	11659.85	-9723.42	6986.79	1702339.79	14273694.64	39°18'24.259"N	80°46'51.923"W	11979.31	144.301	2.32	-0.11	-2.32	
18507.00	90.280	154.030	6594.39	11754.52	-9807.84	7030.33	1702383.31	14273610.25	39°18'23.424"N	80°46'51.372"W	12087.28	144.367	2.76	0.14	2.76	
18602.00	90.340	152.340	6593.88	11849.25	-9892.62	7073.18	1702426.15	14273525.50	39°18'22.585"N	80°46'50.829"W	12161.16	144.435	1.78	0.06	-1.78	
18697.00	90.250	153.680	6593.39	11943.97	-9977.27	7116.30	1702469.24	14273440.88	39°18'21.747"N	80°46'50.283"W	12256.11	144.502	1.41	-0.09	1.41	
18792.00	90.520	155.860	6592.75	12038.86	-10063.20	7156.79	1702509.72	14273354.99	39°18'20.897"N	80°46'49.771"W	12348.59	144.580	2.31	0.28	2.29	
18887.00	90.430	158.600	6591.98	12133.84	-10150.79	7193.55	1702546.47	14273267.44	39°18'20.031"N	80°46'49.306"W	12441.29	144.676	2.89	-0.09	2.88	
18982.00	90.370	160.840	6591.30	12228.76	-10239.89	7226.48	1702579.38	14273178.37	39°18'19.149"N	80°46'48.890"W	12533.05	144.789	2.36	-0.06	2.36	
19077.00	91.200	165.970	6590.00	12323.20	-10330.89	7253.60	1702606.49	14273087.40	39°18'18.249"N	80°46'48.548"W	12623.08	144.926	5.47	0.87	5.40	
19172.00	91.020	162.280	6588.16	12417.52	-10422.24	7279.57	1702632.45	14272996.10	39°18'17.346"N	80°46'48.220"W	12712.80	145.067	3.89	-0.19	-3.88	
19264.00	90.650	154.080	6586.81	12509.43	-10507.56	7313.74	1702666.60	14272910.80	39°18'16.501"N	80°46'47.788"W	12802.33	145.160	8.92	-0.40	-8.91	
19288.00	90.650	154.080	6586.54	12533.39	-10529.15	7324.23	1702677.08	14272889.23	39°18'16.288"N	80°46'47.655"W	12826.04	145.177	0.00	0.00	0.00	Projected MD at TD: 19288'



Actual Wellpath Report

Warrior Unit 2H AWP Proj: 19288'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #05
Area	Doddridge Co., WV	Well	Warrior Unit 2H
Field	Doddridge	Wellbore	Warrior Unit 2H AWB
Facility	Addie Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Warrior Unit 2H AWB Ref Wellpath: Warrior Unit 2H AWP Proj: 19288'

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	-0.02	0.20
17.5in Open Hole	104.50	501.90	397.40	104.50	501.90	-0.02	0.20	-0.15	0.66
13.375in Casing Surface	24.50	501.90	477.40	24.50	501.90	0.00	0.00	-0.15	0.66
12.25in Open Hole	501.90	2661.50	2159.60	501.90	2591.49	-0.15	0.66	166.92	465.93
9.625in Casing Intermediate	24.50	2661.50	2637.00	24.50	2591.49	0.00	0.00	166.92	465.93
8.75in Open Hole	2661.50	6876.50	4215.00	2591.49	6161.02	166.92	465.93	757.11	2554.32
8.5in Open Hole	6876.50	19288.00	12411.50	6161.02	6586.54	757.11	2554.32	-10529.15	7324.23
5.5in Casing Production	24.50	19288.00	19263.50	24.50	6586.54	0.00	0.00	-10529.15	7324.23

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Warrior Unit 2H POE - Rev-1	6465.00	439.59	2789.01	1698143.68	14283853.60	39°20'04.804"N	80°47'45.033"W	point
Warrior Unit 2H BHL - Rev-1	6508.00	-10524.83	7345.07	1702697.92	14272893.55	39°18'16.330"N	80°46'47.390"W	point
Warrior Unit 2H L.P. - Rev-1	6506.00	232.03	2875.26	1698229.89	14283546.12	39°20'02.751"N	80°47'43.942"W	point



Actual Wellpath Report

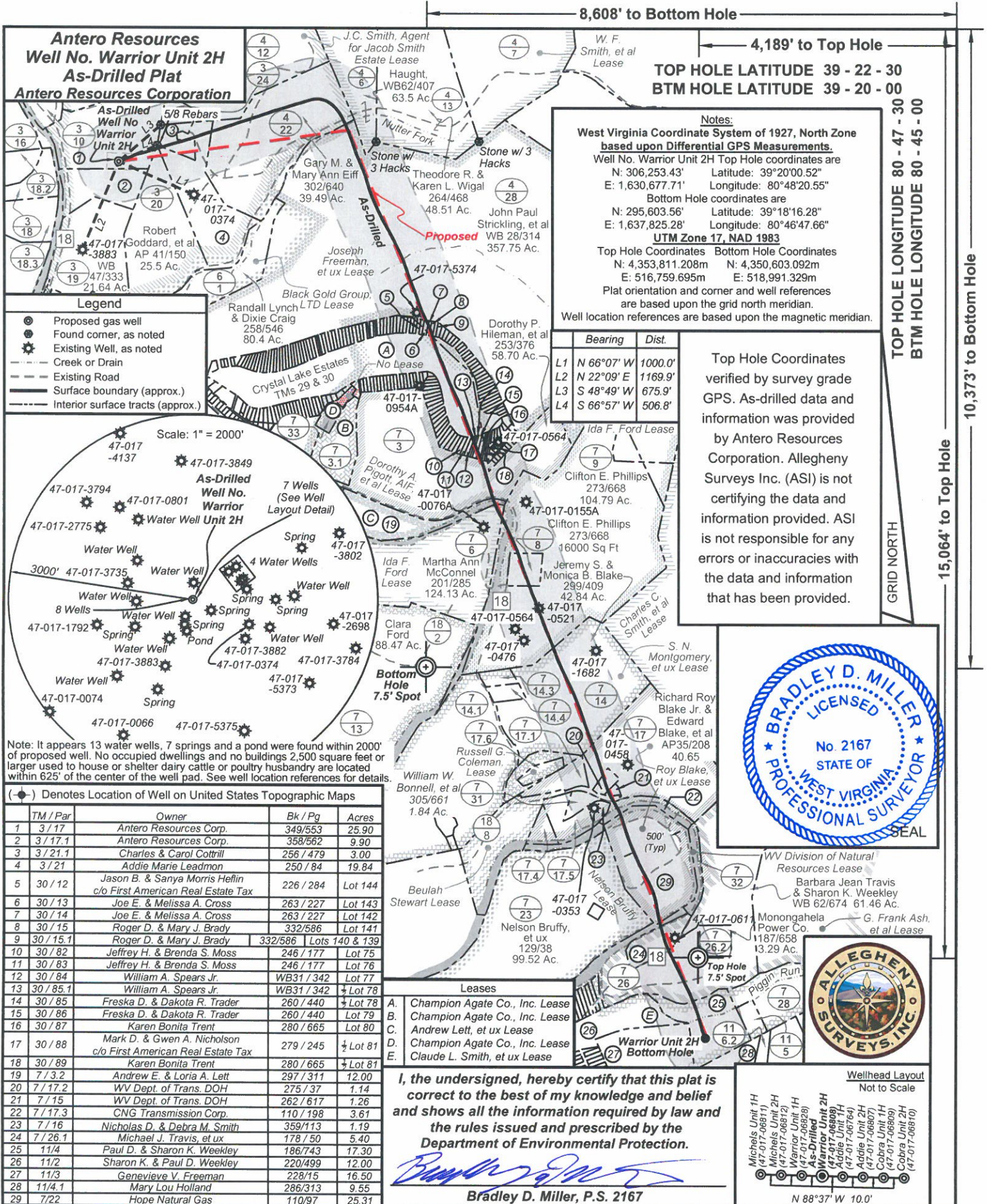
Warrior Unit 2H AWP Proj: 19288'
Page 12 of 12



REFERENCE WELLPATH IDENTIFICATION			
Operator	Area	Slot	Slot #05
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Well	Warrior Unit 2H
	Doddridge	Wellbore	Warrior Unit 2H AWB
Facility	Addle Pad		

COMMENTS

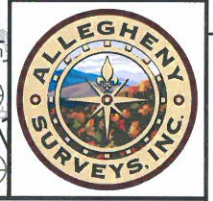
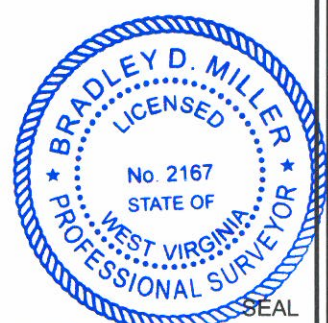
Wellpath general comments
 API: 47-017-06808-0000
 BHI Job #: 8850551
 Rig: Frontier 22
 Duration: 11/06/2017-11/09/2017
 Gyrodatta MS Gyro <17-1/2"> (100'-471')
 Gyrodatta MS Gyro <12-1/4"> (471')(531'-711')
 WFT EM <12-1/4"> (711')(802'-2569')
 WFT EM <8-3/4"> (2569')(2694'-6792')
 BHI AT Curve <8-1/2"> (6801.5')(6853'-19264')
 Middlesex: 7008' MD
 Burkett: 7224' MD
 Tully: 7281' MD
 Hamilton: 7379' MD
 Marcellus POE: 7405' MD
 Projected MD at TD: 19288'



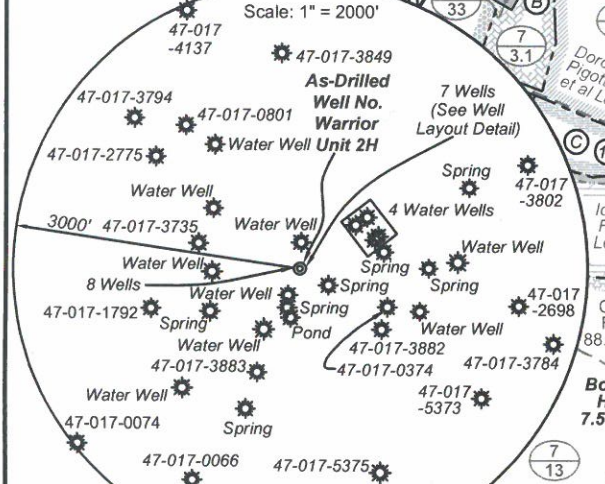
Notes:
 West Virginia Coordinate System of 1927, North Zone
based upon Differential GPS Measurements.
 Well No. Warrior Unit 2H Top Hole coordinates are
 N: 306,253.43' Latitude: 39°20'00.52"
 E: 1,630,677.71' Longitude: 80°48'20.55"
 Bottom Hole coordinates are
 N: 295,603.56' Latitude: 39°18'16.28"
 E: 1,637,825.28' Longitude: 80°46'47.66"
UTM Zone 17, NAD 1983
 Top Hole Coordinates Bottom Hole Coordinates
 N: 4,353,811.208m N: 4,350,603.092m
 E: 516,759.695m E: 518,991.329m
 Plat orientation and corner and well references are based upon the grid north meridian.
 Well location references are based upon the magnetic meridian.

Bearing	Dist.
L1 N 66°07' W	1000.0'
L2 N 22°09' E	1169.9'
L3 S 48°49' W	675.9'
L4 S 66°57' W	506.8'

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



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



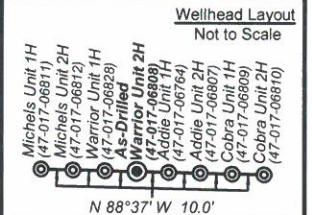
(-●-) Denotes Location of Well on United States Topographic Maps

TM / Par	Owner	Bk / Pg	Acres
1 3 / 17	Antero Resources Corp.	349/553	25.90
2 3 / 17.1	Antero Resources Corp.	358/562	9.90
3 3 / 21.1	Charles & Carol Cottrill	256 / 479	3.00
4 3 / 21	Addie Marie Leadmon	250 / 84	19.84
5 30 / 12	Jason B. & Sanya Morris Hefflin c/o First American Real Estate Tax	226 / 284	Lot 144
6 30 / 13	Joe E. & Melissa A. Cross	263 / 227	Lot 143
7 30 / 14	Joe E. & Melissa A. Cross	263 / 227	Lot 142
8 30 / 15	Roger D. & Mary J. Brady	332/586	Lot 141
9 30 / 15.1	Roger D. & Mary J. Brady	332/586	Lots 140 & 139
10 30 / 82	Jeffrey H. & Brenda S. Moss	246 / 177	Lot 75
11 30 / 83	Jeffrey H. & Brenda S. Moss	246 / 177	Lot 76
12 30 / 84	William A. Spears Jr.	WB31 / 342	Lot 77
13 30 / 85.1	William A. Spears Jr.	WB31 / 342	Lot 78
14 30 / 85	Freska D. & Dakota R. Trader	260 / 440	Lot 78
15 30 / 86	Freska D. & Dakota R. Trader	260 / 440	Lot 79
16 30 / 87	Karen Bonita Trent	280 / 665	Lot 80
17 30 / 88	Mark D. & Gwen A. Nicholson c/o First American Real Estate Tax	279 / 245	Lot 81
18 30 / 89	Karen Bonita Trent	280 / 665	Lot 81
19 7 / 3.2	Andrew E. & Loria A. Lett	297 / 311	12.00
20 7 / 17.2	WV Dept. of Trans. DOH	275 / 37	1.14
21 7 / 15	WV Dept. of Trans. DOH	262 / 617	1.26
22 7 / 17.3	CNG Transmission Corp.	110 / 198	3.61
23 7 / 16	Nicholas D. & Debra M. Smith	359/113	1.19
24 7 / 26.1	Michael J. Travis, et ux	178 / 50	5.40
25 11/4	Paul D. & Sharon K. Weekley	186/743	17.30
26 11/2	Sharon K. & Paul D. Weekley	220/499	12.00
27 11/3	Genevieve V. Freeman	228/15	16.50
28 11/4.1	Mary Lou Holland	286/313	9.55
29 7/22	Hope Natural Gas	110/97	25.31

- 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. Claude L. Smith, et ux Lease

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



FILE NO: 52-30-WU-14
 DRAWING NO: Warrior 2H 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 2H
 API WELL NO
 47 - 017 - 06808
 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
 ROYALTY OWNER: J.C. Smith, Agent for Jacob Smith Estate; Dorothy A. Pigott, AIF, et al LEASE NO: _____ ACREAGE: 124; 112; 51; 140

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) As-Drilled
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 6,587' TVD
19,288' 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