

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

API 47 - 095 - 02373 County Tyler District Meade  
Quad Pennsboro 7.5' Pad Name Terry Snider Pad Field/Pool Name -----  
Farm name Terry L. Snider Well Number Dillon 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 4357613m Easting 503107m  
Landing Point of Curve Northing 4357529.54m Easting 503328.75m  
Bottom Hole Northing 4355001m Easting 504333m

Elevation (ft) 1146.5' 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 5/6/2016 Date drilling commenced 8/4/2016 Date drilling ceased 12/5/2016  
Date completion activities began 10/5/2017 Date completion activities ceased 4/20/2018  
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A RECEIVED  
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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug AUG 23 2018

Freshwater depth(s) ft N/A Open mine(s) (Y/N) depths No  
Salt water depth(s) ft N/A 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

Reviewed by:  
JOB  
9/12/2018

API 47-095 - 02373 Farm name Terry L. Snider Well number Dillon 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"	65'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	496'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2488'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16055'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6532'		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	102 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	605 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	907 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	798 sx (Lead) 1333 sx (Tail)	13.5 (Lead), 15.2 (Tail)	1.44 (Lead), 1.87 (Tail)	3774	-500' into Intermediate Casing	8 Hrs.
Tubing							

Drillers TD (ft) 16055' MD, 6459' TVD (BHL), 6462' (Deepest Point Drilled) Loggers TD (ft) 16055' MD

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

Plug back procedure N/A

Kick off depth (ft) 6013'

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 \_\_\_\_\_

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WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

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

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API 47- 095 - 02373 Farm name Terry L. Snider Well number Dillon Unit 1H

PRODUCING FORMATION(S)	DEPTHS	
Marcellus	6408' (TOP) TVD	6679' (TOP) MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2800 psi Bottom Hole --- psi DURATION OF TEST --- hrs

OPEN FLOW Gas 10248 mcfpd Oil 142 bpd NGL --- bpd Water 532 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

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

**\*PLEASE SEE ATTACHED EXHIBIT 3**


Please insert additional pages as applicable.


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

Logging Company Kodiak Services Int'l  
Address 2219 Sawdust Road, Unit 1604-1605 City The Woodlands State TX Zip 77380

Cementing Company BJ Services  
Address 1036 East Main Street City Bridgeport State WV Zip 26330

Stimulating Company Baker Hughes  
Address 837 Philippi Pike City Clarksburg State WV Zip 26301

Please insert additional pages as applicable.

Completed by Megan Griffith Telephone 303-357-7223  
Signature  Title Permitting Agent Date 8/20/2018

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API 47-095-02373 Farm Name Terry L. Snider Well Number Dillon Unit 1H

**EXHIBIT 1**

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	1/3/2018	15784	15954	60	Marcellus
2	1/3/2018	15582	15752	60	Marcellus
3	1/4/2018	15380	15550	60	Marcellus
4	1/5/2018	15178	15348	60	Marcellus
5	1/6/2018	14976	15146	60	Marcellus
6	1/8/2018	14774	14945	60	Marcellus
7	1/8/2018	14572	14743	60	Marcellus
8	1/9/2018	14371	14541	60	Marcellus
9	1/12/2018	14169	14339	60	Marcellus
10	1/14/2018	13967	14137	60	Marcellus
11	1/15/2018	13765	13935	60	Marcellus
12	1/16/2018	13563	13733	60	Marcellus
13	1/16/2018	13361	13531	60	Marcellus
14	1/16/2018	13159	13329	60	Marcellus
15	1/17/2018	12957	13128	60	Marcellus
16	1/19/2018	12755	12926	60	Marcellus
17	1/20/2018	12554	12724	60	Marcellus
18	1/20/2018	12352	12522	60	Marcellus
19	1/21/2018	12150	12320	60	Marcellus
20	1/21/2018	11948	12118	60	Marcellus
21	1/22/2018	11746	11916	60	Marcellus
22	1/22/2018	11544	11714	60	Marcellus
23	1/22/2018	11342	11512	60	Marcellus
24	1/23/2018	11140	11311	60	Marcellus
25	1/23/2018	10938	11109	60	Marcellus
26	1/23/2018	10737	10907	60	Marcellus
27	1/24/2018	10535	10705	60	Marcellus
28	1/24/2018	10333	10503	60	Marcellus
29	1/25/2018	10131	10301	60	Marcellus
30	1/25/2018	9929	10099	60	Marcellus
31	1/25/2018	9727	9897	60	Marcellus
32	1/26/2018	9525	9695	60	Marcellus
33	1/26/2018	9323	9494	60	Marcellus
34	1/27/2018	9121	9292	60	Marcellus
35	1/27/2018	8920	9090	60	Marcellus
36	1/27/2018	8718	8888	60	Marcellus
37	1/28/2018	8516	8686	60	Marcellus
38	1/28/2018	8314	8484	60	Marcellus
39	1/28/2018	8112	8282	60	Marcellus
40	1/29/2018	7910	8080	60	Marcellus
41	1/29/2018	7708	7878	60	Marcellus
42	1/30/2018	7506	7677	60	Marcellus
43	1/30/2018	7304	7475	60	Marcellus
44	1/30/2018	7103	7273	60	Marcellus
45	1/31/2018	6901	7071	60	Marcellus
46	1/31/2018	6699	6869	60	Marcellus

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API 47-095-02373 Farm Name Terry L. Snider Well Number Dillon Unit 1H

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	1/3/2018	71.7	7928		4009	11937	11059	N/A
2	1/3/2018	78	7730	5313	3630	16673	9037	N/A
3	1/4/2018	79.6	7714	5454	3320	16488	9295	N/A
4	1/5/2018	71.1	7930	5730	4110	17770	11691	N/A
5	1/6/2018	78.9	7840	5270	4199	17309	9430	N/A
6	1/8/2018	73	7264	5247	4055	16566	9202	N/A
7	1/8/2018	78	7627	5285	4114	17026	8906	N/A
8	1/9/2018	75.5	7696	5383	3867	16946	8776	N/A
9	1/12/2018	67.8	7881	5044	4309	17234	16536	N/A
10	1/14/2018	75.9	7677	5101	4213	16991	11117	N/A
11	1/15/2018	72.8	7455	5000	5782	18237	8612	N/A
12	1/16/2018	75	7289	5145	5021	17455	9633	N/A
13	1/16/2018	75.2	6848	5209	4265	16322	8606	N/A
14	1/16/2018	75.7	7307	5309	4969	17585	8759	N/A
15	1/17/2018	76	7217	5525	4965	17707	9221	N/A
16	1/19/2018	76.5	7182	5553	3489	16224	8810	N/A
17	1/20/2018	71.4	7155	5521	4775	17451	9408	N/A
18	1/20/2018	76.6	7173	5252	5065	17490	9057	N/A
19	1/21/2018	73.4	7112	5706	4024	16842	9414	N/A
20	1/21/2018	75.9	7168	5088	4429	16685	9130	N/A
21	1/22/2018	73.4	7052	5269	4479	16800	8732	N/A
22	1/22/2018	76.6	7207	5524	4794	17525	9522	N/A
23	1/22/2018	72.9	6904	5269	5014	17187	8970	N/A
24	1/23/2018	75.9	6790	5131	4260	16181	9757	N/A
25	1/23/2018	76	7197	5360	4844	17401	9987	N/A
26	1/23/2018	73.4	6782	5296	4627	16705	8792	N/A
27	1/24/2018	78.3	6936	5025	4009	15970	9495	N/A
28	1/24/2018	75.2	6902	5190	4435	16527	8878	N/A
29	1/25/2018	79.3	7182	5092	4504	16778	9489	N/A
30	1/25/2018	74	7164	5171	4094	16429	10350	N/A
31	1/25/2018	78.2	6999	5175	4369	16543	9151	N/A
32	1/26/2018	78.7	7153	5221	4224	16598	9164	N/A
33	1/26/2018	77.7	6974	5077	3629	15680	9713	N/A
34	1/27/2018	78.3	6966	5362	3633	15961	8829	N/A
35	1/27/2018	79.6	6946	5160	4489	16595	8592	N/A
36	1/27/2018	78.7	6845	5237	4578	16660	8714	N/A
37	1/28/2018	75	7141	5285	3638	16064	12041	N/A
38	1/28/2018	78.3	6691	5353	3951	15995	8635	N/A
39	1/28/2018	79.2	6891	5485	4075	16451	9276	N/A
40	1/29/2018	79.4	6877	5471	4509	16857	10531	N/A
41	1/29/2018	79.3	6666	5505	3951	16122	9280	N/A
42	1/30/2018	78.6	6551	5808	4435	16794	9277	N/A
43	1/30/2018	80	6666	5437	4181	16284	8894	N/A
44	1/30/2018	76.9	6478	5282	4422	16182	8951	N/A
45	1/31/2018	73.8	6428	4950	3730	15108	8922	N/A
46	1/31/2018	74.4	6256	5404	3884	15544	8710	N/A
	AVG=	76.1	7,127	5,304	4,291	763,879	438,351	TOTAL 23

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## EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
Sandstone	0	N/A	0	N/A
Silty Sandstone	260	N/A	260	N/A
Shale w/trace Coal	560	N/A	560	N/A
Silty Sandstone	740	N/A	740	N/A
Limey Shale	880	N/A	880	N/A
Silty Shale w/trace Coal	1,080	N/A	1,080	N/A
Silty Sandstone	1,240	N/A	1,240	N/A
Silty Shale w/trace Coal	1,380	N/A	1,380	N/A
Silty Sandstone	1,520	N/A	1,520	N/A
Sandstone w/trace Coal	1,600	N/A	1,600	N/A
Silty Sandstone	1,680	N/A	1,680	N/A
Shale w/trace Coal	1,740	N/A	1,740	N/A
Silty Sandstone	1,840	N/A	1,840	N/A
Big Lime	2,047	N/A	2,049	N/A
Big Injun	2,156	N/A	2,158	N/A
Gantz Sand	2,568	N/A	2,569	N/A
Fifty Foot Sandstone	2,858	N/A	2,860	N/A
Gordon	2,933	N/A	2,935	N/A
Fifht Sandstone	3,205	N/A	3,210	N/A
Bayard	3,290	N/A	3,295	N/A
Warren	3,670	N/A	3,680	N/A
Speechley	4,024	N/A	4,041	N/A
Balltown	4,305	N/A	4,327	N/A
Bradford	4,687	N/A	4,717	N/A
Benson	5,080	N/A	5,117	N/A
Alexander	5,304	N/A	5,344	N/A
Rhinestreet	5,857	N/A	5,907	N/A
Sycamore	6,189	N/A	6,270	N/A
Middlesex	6,284	N/A	6,407	N/A
Burkett	6,375	N/A	6,589	N/A
Tully	6,398	N/A	6,651	N/A
Marcellus	6,408	N/A	6,679	N/A

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

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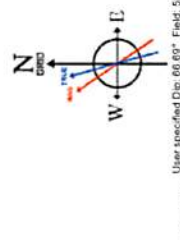


# ANTERO RESOURCES CORPORATION



Location: Tyler County, WV  
 Slot: Slot #10  
 Field: Tyler  
 Well: Dillon Unit 1H  
 Facility: Terry Snider Pad  
 Wellbore: Dillon\_Unit\_1H\_PWB

API: 47-095-02373-0000  
 BHI Job #: 8278291  
 Rig: Patterson 342  
 Duration: 1/26/2016-1/29/2016

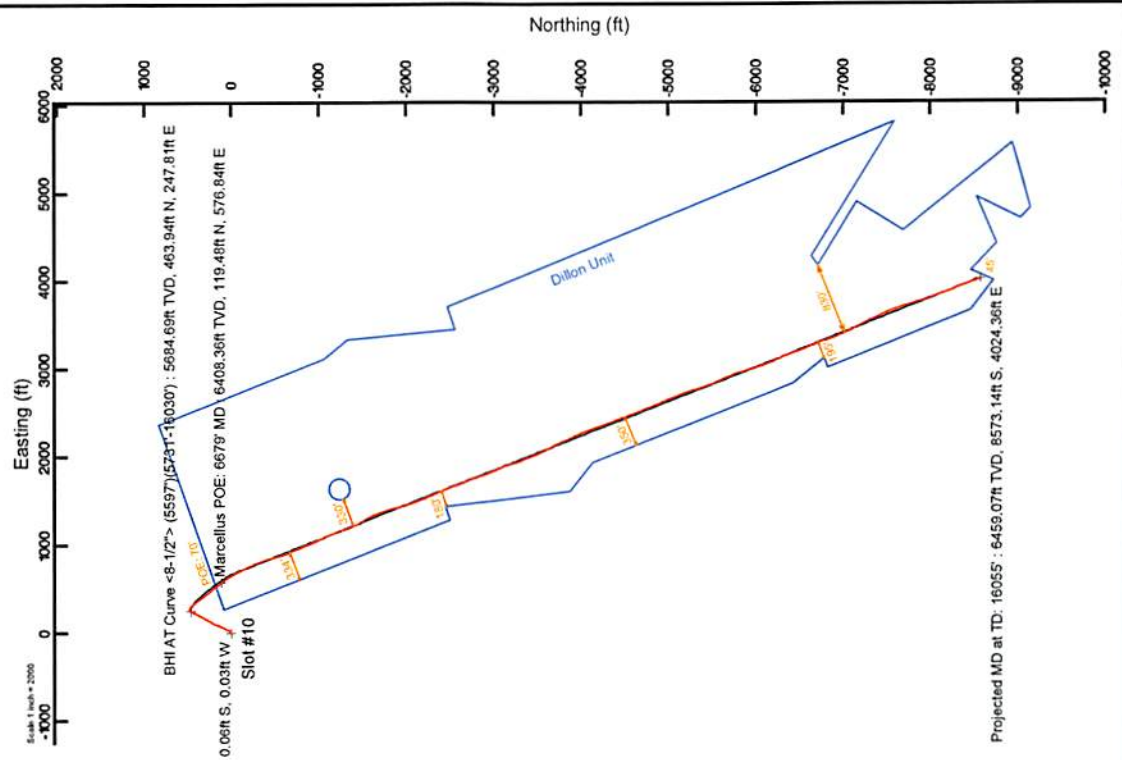
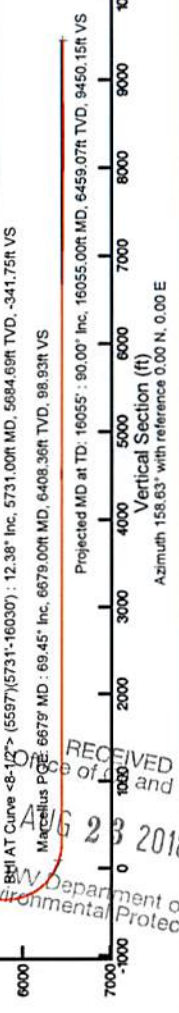


Property	Value
Grid System	NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to	Patterson 342 (RKB)
* s Wellpath was transformed from a different geoidetic datum	
North Reference	Grid North
Scale	True distance
Depths are in feet	
Database	WA, MP, EasternUS, Defn

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Terry Snider Pad	1650540.845	14295934.525	80°57'51.040"W
Slot	Local N (ft)	Grid East (US ft)	Longitude
Slot #10	-45.22	1650561.903	80°57'50.772"W
Comment	Dillon Unit 1H		
Patterson 342 (RKB) to Mud line (At Slot: Slot #10)			25R
Mean Sea Level to Mud line (At Slot: Slot #10)			-1147R
Patterson 342 (RKB) to Mean Sea Level			1172R

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (7100ft)	VS (ft)
Top On	5597.00	10.620	26.940	5553.38	440.14	235.69	0.00	-323.99
Proj. to Bottom	5750.00	10.490	26.020	5703.79	465.22	248.19	0.14	-342.80
Curve KOP	5761.64	10.490	26.020	5715.24	467.13	249.12	0.00	-344.23
POE	6665.10	71.622	144.295	6409.00	142.83	587.68	8.50	81.13
Landing Pt.	6896.63	90.000	158.627	6446.00	-56.90	695.45	10.00	306.40
BHL	16026.63	90.000	158.627	6446.00	-8559.00	4022.79	0.00	9436.40

Well Data		
Slot	Well	Wellbore
Slot #10	Dillon Unit 1H	Dillon Unit 1H AWP
Slot #10	Dillon Unit 1H	Dillon Unit 1H PWB
Slot #10	Dillon Unit 1H	Dillon Unit 1H PWB Rev-A-0



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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Dillon Unit 1H
Field	Tyler	Wellbore	Dillon Unit 1H AWB
Facility	Terry Snider Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Delaset
Scale	0.999600	Report Generated	13/Dec/2016 at 10:05
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EasternUS_Defn/Dillon_Unit_1H_AWP_Proj_16055_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-45.22	21.07	1650561.90	14295889.33	39°22'04.433"N	80°57'50.772"W
Facility Reference Pt			1650540.85	14295934.53	39°22'04.880"N	80°57'51.040"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	1172.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Mud Line at Slot (Slot #10)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	158.63°

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #10
Area	Tyler County, WV		Well	Dillon Unit 1H
Field	Tyler		Wellbore	Dillon Unit 1H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (353 stations) † = interpolated/extrapolated station																
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
0.00	0.000	209.310	0.00	0.00	0.00	0.00	1650561.90	14295889.32	39°22'04.433"N	80°57'50.772"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	209.310	25.00	0.00	0.00	0.00	1650561.90	14295889.32	39°22'04.433"N	80°57'50.772"W	0.00	0.000	0.00	0.00	0.00	
50.00	0.310	209.310	50.00	0.04	-0.06	-0.03	1650561.87	14295889.27	39°22'04.432"N	80°57'50.772"W	0.07	209.310	1.24	1.24	-602.76	Gyrodata Cont. Gyro <8-3/4"> (50'-5597')
75.00	0.550	183.790	75.00	0.19	-0.24	-0.07	1650561.83	14295889.09	39°22'04.431"N	80°57'50.773"W	0.25	197.326	1.21	0.96	-102.08	
100.00	0.580	184.160	100.00	0.42	-0.48	-0.09	1650561.81	14295888.84	39°22'04.428"N	80°57'50.773"W	0.49	190.686	0.12	0.12	1.48	
125.00	0.600	181.680	125.00	0.65	-0.74	-0.10	1650561.80	14295888.58	39°22'04.426"N	80°57'50.773"W	0.75	188.014	0.13	0.08	-9.92	
150.00	0.540	181.750	150.00	0.88	-0.99	-0.11	1650561.79	14295888.34	39°22'04.423"N	80°57'50.773"W	1.00	186.443	0.24	-0.24	0.28	
175.00	0.480	189.960	174.99	1.08	-1.21	-0.13	1650561.77	14295888.12	39°22'04.421"N	80°57'50.774"W	1.22	186.292	0.38	-0.24	32.84	
200.00	0.420	194.780	199.99	1.24	-1.40	-0.17	1650561.73	14295887.92	39°22'04.419"N	80°57'50.774"W	1.41	187.112	0.28	-0.24	19.28	
225.00	0.390	193.670	224.99	1.39	-1.57	-0.22	1650561.68	14295887.75	39°22'04.417"N	80°57'50.775"W	1.59	187.904	0.12	-0.12	-4.44	
250.00	0.330	197.110	249.99	1.51	-1.72	-0.26	1650561.64	14295887.60	39°22'04.416"N	80°57'50.775"W	1.74	188.563	0.25	-0.24	13.76	
275.00	0.320	200.560	274.99	1.62	-1.86	-0.31	1650561.60	14295887.47	39°22'04.415"N	80°57'50.776"W	1.88	189.330	0.09	-0.04	13.80	
300.00	0.290	198.870	299.99	1.72	-1.98	-0.35	1650561.55	14295887.34	39°22'04.413"N	80°57'50.776"W	2.01	190.015	0.13	-0.12	-6.76	
325.00	0.170	203.790	324.99	1.79	-2.08	-0.39	1650561.52	14295887.25	39°22'04.412"N	80°57'50.777"W	2.11	190.518	0.49	-0.48	19.68	
350.00	0.170	212.080	349.99	1.84	-2.14	-0.42	1650561.48	14295887.18	39°22'04.412"N	80°57'50.777"W	2.18	191.099	0.10	0.00	33.16	
375.00	0.170	201.110	374.99	1.89	-2.21	-0.45	1650561.45	14295887.12	39°22'04.411"N	80°57'50.778"W	2.26	191.600	0.13	0.00	-43.88	
400.00	0.140	203.330	399.99	1.94	-2.27	-0.48	1650561.42	14295887.05	39°22'04.411"N	80°57'50.778"W	2.32	191.905	0.12	-0.12	8.88	
425.00	0.150	186.260	424.99	1.99	-2.33	-0.49	1650561.41	14295886.99	39°22'04.410"N	80°57'50.778"W	2.38	191.973	0.18	0.04	-68.28	
450.00	0.110	173.640	449.99	2.04	-2.39	-0.50	1650561.41	14295886.94	39°22'04.409"N	80°57'50.778"W	2.44	191.719	0.20	-0.16	-50.48	
475.00	0.140	169.510	474.99	2.10	-2.44	-0.49	1650561.42	14295886.88	39°22'04.409"N	80°57'50.778"W	2.49	191.282	0.13	0.12	-16.52	
500.00	0.150	174.500	499.99	2.16	-2.51	-0.48	1650561.42	14295886.82	39°22'04.408"N	80°57'50.778"W	2.55	190.815	0.06	0.04	19.96	
525.00	0.120	154.240	524.99	2.22	-2.56	-0.46	1650561.44	14295886.76	39°22'04.408"N	80°57'50.778"W	2.60	190.270	0.22	-0.12	-81.04	
550.00	0.210	92.720	549.99	2.26	-2.59	-0.41	1650561.50	14295886.74	39°22'04.407"N	80°57'50.777"W	2.62	188.939	0.74	0.36	-246.08	
575.00	0.860	56.920	574.99	2.24	-2.49	-0.20	1650561.70	14295886.84	39°22'04.408"N	80°57'50.775"W	2.50	184.689	2.80	2.60	-143.20	
600.00	1.780	56.140	599.98	2.12	-2.17	0.28	1650562.18	14295887.16	39°22'04.412"N	80°57'50.769"W	2.19	172.755	3.68	3.68	-3.12	
625.00	2.520	55.800	624.96	1.91	-1.64	1.05	1650562.96	14295887.68	39°22'04.417"N	80°57'50.759"W	1.95	147.352	2.96	2.96	-1.36	
650.00	3.170	55.990	649.93	1.64	-0.95	2.08	1650563.98	14295888.38	39°22'04.424"N	80°57'50.746"W	2.29	114.487	2.60	2.60	0.76	
675.00	3.760	56.850	674.89	1.32	-0.11	3.34	1650565.24	14295889.21	39°22'04.432"N	80°57'50.729"W	3.34	91.930	2.37	2.36	3.44	
700.00	4.090	57.110	699.83	0.98	0.82	4.77	1650566.68	14295890.14	39°22'04.441"N	80°57'50.711"W	4.84	80.256	1.32	1.32	1.04	
725.00	4.470	57.330	724.76	0.61	1.83	6.34	1650568.24	14295891.15	39°22'04.451"N	80°57'50.691"W	6.60	73.908	1.52	1.52	0.88	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #10
Area	Tyler County, WV		Well	Dillon Unit 1H
Field	Tyler		Wellbore	Dillon Unit 1H AWP
Facility	Terry Snider Pad			

WELLPATH DATA (353 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
750.00	4.900	57.760	749.68	0.22	2.93	8.07	1650569.97	14295892.25	39°22'04.462"N	80°57'50.669"W	8.58	70.066	1.73	1.72	1.72	
775.00	5.470	58.490	774.57	-0.20	4.12	9.99	1650571.88	14295893.44	39°22'04.474"N	80°57'50.645"W	10.80	67.590	2.30	2.28	2.92	
800.00	5.540	58.880	799.46	-0.61	5.36	12.03	1650573.93	14295894.69	39°22'04.486"N	80°57'50.619"W	13.18	65.976	0.32	0.28	1.56	
825.00	5.570	59.260	824.34	-1.01	6.61	14.11	1650576.01	14295895.93	39°22'04.498"N	80°57'50.592"W	15.58	64.906	0.19	0.12	1.52	
850.00	5.330	64.590	849.23	-1.29	7.73	16.20	1650578.10	14295897.05	39°22'04.509"N	80°57'50.566"W	17.95	64.504	2.24	-0.96	21.32	
875.00	5.090	70.480	874.13	-1.34	8.60	18.30	1650580.19	14295897.92	39°22'04.518"N	80°57'50.539"W	20.21	64.836	2.34	-0.96	23.56	
900.00	4.860	74.900	899.03	-1.19	9.24	20.36	1650582.26	14295898.56	39°22'04.524"N	80°57'50.513"W	22.36	65.590	1.79	-0.92	17.68	
925.00	4.570	76.950	923.95	-0.93	9.74	22.36	1650584.25	14295899.06	39°22'04.529"N	80°57'50.487"W	24.39	66.453	1.34	-1.16	8.20	
950.00	4.150	79.070	948.87	-0.62	10.14	24.21	1650586.11	14295899.46	39°22'04.533"N	80°57'50.464"W	26.25	67.281	1.80	-1.68	8.48	
975.00	3.780	80.170	973.81	-0.29	10.45	25.91	1650587.81	14295899.77	39°22'04.536"N	80°57'50.442"W	27.94	68.037	1.51	-1.48	4.40	
1000.00	3.500	80.720	998.76	0.04	10.71	27.48	1650589.37	14295900.04	39°22'04.539"N	80°57'50.422"W	29.50	68.699	1.13	-1.12	2.20	
1025.00	3.310	79.780	1023.72	0.33	10.97	28.94	1650590.83	14295900.29	39°22'04.541"N	80°57'50.403"W	30.95	69.250	0.79	-0.76	-3.76	
1050.00	3.110	77.940	1048.68	0.58	11.24	30.32	1650592.21	14295900.56	39°22'04.544"N	80°57'50.386"W	32.33	69.665	0.90	-0.80	-7.36	
1075.00	3.040	76.890	1073.64	0.79	11.53	31.63	1650593.52	14295900.85	39°22'04.547"N	80°57'50.369"W	33.66	69.973	0.36	-0.28	-4.20	
1100.00	2.660	70.240	1098.61	0.90	11.87	32.82	1650594.71	14295901.19	39°22'04.550"N	80°57'50.354"W	34.90	70.109	2.01	-1.52	-26.60	
1125.00	2.160	58.880	1123.59	0.84	12.31	33.77	1650595.66	14295901.63	39°22'04.555"N	80°57'50.342"W	35.94	69.964	2.76	-2.00	-45.44	
1150.00	1.880	39.230	1148.58	0.56	12.87	34.43	1650596.32	14295902.19	39°22'04.560"N	80°57'50.334"W	36.76	69.497	2.97	-1.12	-78.60	
1175.00	1.700	33.370	1173.56	0.14	13.50	34.89	1650596.78	14295902.82	39°22'04.566"N	80°57'50.328"W	37.41	68.845	1.03	-0.72	-23.44	
1200.00	1.260	19.580	1198.56	-0.28	14.07	35.19	1650597.08	14295903.39	39°22'04.572"N	80°57'50.324"W	37.90	68.205	2.25	-1.76	-55.16	
1225.00	0.910	357.100	1223.55	-0.68	14.53	35.27	1650597.16	14295903.85	39°22'04.576"N	80°57'50.323"W	38.15	67.613	2.18	-1.40	-89.92	
1250.00	0.740	329.740	1248.55	-1.02	14.87	35.18	1650597.07	14295904.18	39°22'04.580"N	80°57'50.324"W	38.19	67.092	1.69	-0.68	-109.44	
1275.00	0.670	312.480	1273.55	-1.32	15.10	34.99	1650596.88	14295904.42	39°22'04.582"N	80°57'50.326"W	38.11	66.652	0.89	-0.28	-69.04	
1300.00	0.700	266.890	1298.55	-1.49	15.19	34.73	1650596.62	14295904.51	39°22'04.583"N	80°57'50.330"W	37.91	66.370	2.13	0.12	-182.36	
1325.00	0.890	250.500	1323.54	-1.55	15.12	34.39	1650596.28	14295904.44	39°22'04.582"N	80°57'50.334"W	37.57	66.267	1.18	0.76	-65.56	
1350.00	1.010	242.220	1348.54	-1.53	14.95	34.02	1650595.91	14295904.27	39°22'04.581"N	80°57'50.339"W	37.16	66.269	0.73	0.48	-33.12	
1375.00	1.060	239.510	1373.54	-1.47	14.73	33.62	1650595.51	14295904.05	39°22'04.578"N	80°57'50.344"W	36.71	66.336	0.28	0.20	-10.84	
1400.00	1.110	229.820	1398.53	-1.35	14.46	33.24	1650595.13	14295903.78	39°22'04.576"N	80°57'50.349"W	36.25	66.488	0.76	0.20	-38.76	
1425.00	1.160	222.650	1423.53	-1.17	14.12	32.88	1650594.77	14295903.44	39°22'04.572"N	80°57'50.353"W	35.78	66.763	0.60	0.20	-28.68	
1450.00	1.200	217.600	1448.52	-0.92	13.72	32.55	1650594.44	14295903.04	39°22'04.569"N	80°57'50.357"W	35.33	67.138	0.45	0.16	-20.20	
1475.00	1.220	215.650	1473.52	-0.64	13.30	32.24	1650594.13	14295902.62	39°22'04.564"N	80°57'50.361"W	34.87	67.578	0.18	0.08	-7.80	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Terry Snider Pad
Slot	Slot #10
Dillon Unit 1H	Well
Dillon Unit 1H AWB	Wellbore

## WELLPATH DATA (353 stations)

MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(US m)	(US m)	(m)	(m)	(m)	(°)	(°/100ft)	(°/100ft)	(°/100ft)	
1500.00	1.150	214.710	1498.51	-0.36	12.88	31.94	1650593.83	14295902.20	39°22'04.560"N	80°57'50.365"W	34.44	68.039	0.29	-0.28	-3.76	
1525.00	0.770	212.330	1523.51	-0.12	12.53	31.70	1650593.60	14295901.85	39°22'04.557"N	80°57'50.368"W	34.09	68.436	1.53	-1.52	-9.52	
1550.00	0.560	206.650	1548.50	0.07	12.28	31.56	1650593.45	14295901.60	39°22'04.554"N	80°57'50.370"W	33.86	68.741	0.88	-0.84	-22.72	
1575.00	0.490	204.460	1573.50	0.22	12.07	31.46	1650593.35	14295901.39	39°22'04.552"N	80°57'50.371"W	33.70	69.007	0.29	-0.28	-8.76	
1600.00	0.460	210.790	1598.50	0.36	11.89	31.37	1650593.26	14295901.21	39°22'04.550"N	80°57'50.373"W	33.54	69.241	0.24	-0.12	25.32	
1625.00	0.440	206.770	1623.50	0.48	11.72	31.27	1650593.16	14295901.04	39°22'04.549"N	80°57'50.374"W	33.39	69.459	0.15	-0.08	-16.08	
1650.00	0.440	209.670	1648.50	0.61	11.55	31.18	1650593.07	14295900.87	39°22'04.547"N	80°57'50.375"W	33.25	69.677	0.09	0.00	11.60	
1675.00	0.470	213.570	1673.50	0.73	11.38	31.08	1650592.97	14295900.70	39°22'04.545"N	80°57'50.376"W	33.09	69.889	0.17	0.12	15.60	
1700.00	0.480	221.110	1698.50	0.83	11.21	30.95	1650592.84	14295900.53	39°22'04.544"N	80°57'50.378"W	32.92	70.082	0.25	0.04	30.16	
1725.00	0.510	224.900	1723.50	0.93	11.06	30.80	1650592.69	14295900.38	39°22'04.542"N	80°57'50.380"W	32.73	70.254	0.18	0.12	15.16	
1750.00	0.540	230.410	1748.50	1.01	10.90	30.63	1650592.52	14295900.22	39°22'04.541"N	80°57'50.382"W	32.52	70.408	0.23	0.12	22.04	
1775.00	0.520	232.030	1773.50	1.08	10.76	30.45	1650592.34	14295900.08	39°22'04.539"N	80°57'50.384"W	32.30	70.543	0.10	-0.08	6.48	
1800.00	0.500	238.990	1798.50	1.13	10.63	30.27	1650592.16	14295899.95	39°22'04.538"N	80°57'50.387"W	32.08	70.647	0.26	-0.08	27.84	
1825.00	0.500	249.660	1823.49	1.15	10.54	30.07	1650591.97	14295899.86	39°22'04.537"N	80°57'50.389"W	31.87	70.690	0.37	0.00	42.68	
1850.00	0.510	254.880	1848.49	1.13	10.47	29.87	1650591.76	14295899.79	39°22'04.536"N	80°57'50.392"W	31.65	70.678	0.19	0.04	21.28	
1875.00	0.480	258.290	1873.49	1.10	10.42	29.66	1650591.55	14295899.74	39°22'04.536"N	80°57'50.394"W	31.43	70.638	0.17	-0.12	13.24	
1900.00	0.470	257.170	1898.49	1.07	10.38	29.45	1650591.34	14295899.70	39°22'04.535"N	80°57'50.397"W	31.23	70.591	0.05	-0.04	-4.48	
1925.00	0.380	254.120	1923.49	1.05	10.33	29.27	1650591.16	14295899.65	39°22'04.535"N	80°57'50.399"W	31.04	70.559	0.37	-0.36	-12.20	
1950.00	0.270	240.590	1948.49	1.05	10.28	29.14	1650591.03	14295899.60	39°22'04.534"N	80°57'50.401"W	30.90	70.569	0.53	-0.44	-54.12	
1975.00	0.230	219.510	1973.49	1.08	10.21	29.06	1650590.85	14295899.53	39°22'04.534"N	80°57'50.402"W	30.80	70.636	0.40	-0.16	-84.32	
2000.00	0.210	220.410	1998.49	1.12	10.14	29.00	1650590.89	14295899.46	39°22'04.533"N	80°57'50.403"W	30.72	70.727	0.08	-0.08	3.60	
2025.00	0.190	201.730	2023.49	1.18	10.07	28.95	1650590.84	14295899.39	39°22'04.532"N	80°57'50.403"W	30.65	70.829	0.27	-0.08	-74.72	
2050.00	0.220	187.850	2048.49	1.25	9.98	28.93	1650590.82	14295899.30	39°22'04.532"N	80°57'50.404"W	30.60	70.968	0.23	0.12	-55.52	
2075.00	0.250	164.820	2073.49	1.34	9.88	28.94	1650590.83	14295899.20	39°22'04.531"N	80°57'50.403"W	30.58	71.150	0.39	0.12	-92.12	
2100.00	0.310	159.370	2098.49	1.47	9.76	28.98	1650590.87	14295899.08	39°22'04.529"N	80°57'50.403"W	30.58	71.379	0.26	0.24	-21.80	
2125.00	0.270	155.620	2123.49	1.59	9.65	29.02	1650590.92	14295898.97	39°22'04.528"N	80°57'50.402"W	30.59	71.615	0.18	-0.16	-15.00	
2150.00	0.310	158.100	2148.49	1.72	9.53	29.07	1650590.96	14295898.85	39°22'04.527"N	80°57'50.402"W	30.60	71.851	0.17	0.16	9.92	
2175.00	0.300	148.680	2173.49	1.85	9.41	29.13	1650591.02	14295898.73	39°22'04.526"N	80°57'50.401"W	30.62	72.097	0.20	-0.04	-37.68	
2200.00	0.330	139.330	2198.49	1.98	9.30	29.21	1650591.11	14295898.62	39°22'04.525"N	80°57'50.400"W	30.66	72.340	0.24	0.12	-37.40	
2225.00	0.390	128.530	2223.49	2.13	9.19	29.33	1650591.22	14295898.51	39°22'04.524"N	80°57'50.399"W	30.73	72.595	0.36	0.24	-43.20	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #10
Area	Tyler County, WV		Well	Dillon Unit 1H
Field	Tyler		Wellbore	Dillon Unit 1H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (353 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
2250.00	0.440	111.760	2248.49	2.26	9.10	29.48	1650591.37	14295898.43	39°22'04.523"N	80°57'50.397"W	30.86	72.839	0.52	0.20	-67.08	
2275.00	0.480	109.290	2273.49	2.40	9.03	29.67	1650591.56	14295898.36	39°22'04.522"N	80°57'50.394"W	31.02	73.065	0.18	0.16	-9.88	
2300.00	0.480	109.660	2298.49	2.54	8.96	29.87	1650591.76	14295898.29	39°22'04.521"N	80°57'50.392"W	31.18	73.293	0.01	0.00	1.48	
2325.00	0.510	110.150	2323.48	2.68	8.89	30.07	1650591.96	14295898.21	39°22'04.521"N	80°57'50.389"W	31.36	73.529	0.12	0.12	1.96	
2350.00	0.450	107.170	2348.48	2.81	8.82	30.27	1650592.16	14295898.14	39°22'04.520"N	80°57'50.387"W	31.53	73.748	0.26	-0.24	-11.92	
2375.00	0.490	111.850	2373.48	2.95	8.76	30.46	1650592.35	14295898.08	39°22'04.519"N	80°57'50.384"W	31.70	73.965	0.22	0.16	18.72	
2400.00	0.470	112.960	2398.48	3.09	8.68	30.66	1650592.55	14295898.00	39°22'04.519"N	80°57'50.382"W	31.86	74.199	0.09	-0.08	4.44	
2425.00	0.470	111.930	2423.48	3.23	8.60	30.85	1650592.74	14295897.92	39°22'04.518"N	80°57'50.379"W	32.02	74.426	0.03	0.00	-4.12	
2450.00	0.520	113.330	2448.48	3.38	8.51	31.05	1650592.94	14295897.84	39°22'04.517"N	80°57'50.377"W	32.19	74.664	0.21	0.20	5.60	
2475.00	0.430	112.060	2473.48	3.53	8.43	31.24	1650593.13	14295897.75	39°22'04.516"N	80°57'50.374"W	32.35	74.891	0.36	-0.36	-5.08	
2500.00	0.460	111.340	2498.48	3.66	8.36	31.42	1650593.31	14295897.68	39°22'04.516"N	80°57'50.372"W	32.51	75.096	0.12	0.12	-2.88	
2525.00	0.480	113.420	2523.48	3.80	8.28	31.61	1650593.50	14295897.61	39°22'04.515"N	80°57'50.370"W	32.67	75.314	0.11	0.08	8.32	
2550.00	0.460	118.200	2548.48	3.95	8.19	31.79	1650593.68	14295897.52	39°22'04.514"N	80°57'50.367"W	32.83	75.546	0.18	-0.08	19.12	
2575.00	0.400	116.480	2573.48	4.09	8.11	31.96	1650593.85	14295897.43	39°22'04.513"N	80°57'50.365"W	32.97	75.763	0.25	-0.24	-6.88	
2600.00	0.370	118.180	2598.48	4.22	8.03	32.11	1650594.00	14295897.35	39°22'04.512"N	80°57'50.363"W	33.10	75.956	0.13	-0.12	6.80	
2625.00	0.310	110.140	2623.47	4.33	7.97	32.24	1650594.13	14295897.29	39°22'04.512"N	80°57'50.361"W	33.21	76.115	0.31	-0.24	-32.16	
2650.00	0.670	33.620	2648.47	4.29	8.07	32.39	1650594.28	14295897.39	39°22'04.513"N	80°57'50.360"W	33.38	76.010	2.68	1.44	-306.08	
2675.00	1.210	15.520	2673.47	3.99	8.44	32.54	1650594.43	14295897.77	39°22'04.516"N	80°57'50.358"W	33.62	75.451	2.44	2.16	-72.40	
2700.00	1.360	14.120	2698.46	3.54	8.99	32.68	1650594.57	14295898.31	39°22'04.522"N	80°57'50.356"W	33.89	74.625	0.61	0.60	-5.60	
2725.00	1.450	12.120	2723.46	3.03	9.58	32.82	1650594.71	14295898.90	39°22'04.528"N	80°57'50.354"W	34.19	73.722	0.41	0.36	-8.00	
2750.00	2.770	8.400	2748.44	2.25	10.49	32.97	1650594.86	14295899.81	39°22'04.537"N	80°57'50.352"W	34.60	72.352	5.31	5.28	-14.88	
2775.00	3.590	6.400	2773.40	1.03	11.87	33.15	1650595.04	14295901.19	39°22'04.550"N	80°57'50.350"W	35.21	70.305	3.31	3.28	-8.00	
2800.00	3.950	4.810	2798.35	-0.44	13.50	33.31	1650595.20	14295902.82	39°22'04.566"N	80°57'50.348"W	35.94	67.935	1.50	1.44	-6.36	
2825.00	4.150	4.510	2823.28	-2.02	15.26	33.45	1650595.34	14295904.58	39°22'04.584"N	80°57'50.346"W	36.77	65.476	0.80	0.80	-1.20	
2850.00	5.290	4.900	2848.20	-3.87	17.31	33.62	1650595.51	14295906.63	39°22'04.604"N	80°57'50.344"W	37.82	62.756	4.56	4.56	1.56	
2875.00	5.620	4.120	2873.09	-6.01	19.68	33.81	1650595.70	14295909.00	39°22'04.627"N	80°57'50.341"W	39.12	59.795	1.35	1.32	-3.12	
2900.00	5.740	3.630	2897.96	-8.25	22.15	33.98	1650595.86	14295911.47	39°22'04.652"N	80°57'50.339"W	40.56	56.898	0.52	0.48	-1.96	
2925.00	5.890	4.970	2922.83	-10.53	24.68	34.17	1650596.05	14295913.99	39°22'04.677"N	80°57'50.337"W	42.14	54.162	0.81	0.60	5.36	
2950.00	6.390	9.750	2947.69	-12.87	27.32	34.51	1650596.40	14295916.64	39°22'04.703"N	80°57'50.332"W	44.02	51.630	2.86	2.00	19.12	
2975.00	6.490	10.190	2972.53	-15.26	30.09	35.00	1650596.89	14295919.40	39°22'04.730"N	80°57'50.326"W	46.15	49.316	0.45	0.40	1.76	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055  
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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Terry Snider Pad
		Dillon Unit 1H	Dillon Unit 1H AWB
		Well	
		Slot	Slot #10

## REFERENCE WELLPATH IDENTIFICATION

WELLPATH DATA (353 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[°]	[°]	[ft]	[°]
Comments	Turn Rate	[°/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]
3000.00	6.520	2997.37	-17.68	32.87	35.50	1650597.39	14295922.18	39°22'04.758"N	80°57'50.320"W	48.38	47.19	0.12
3025.00	6.720	14.200	3022.21	-20.08	36.11	1650598.00	14295925.00	39°22'04.786"N	80°57'50.312"W	50.77	45.36	2.01
3050.00	7.030	19.360	3047.03	-22.43	38.55	1650598.86	14295927.86	39°22'04.814"N	80°57'50.301"W	53.42	43.806	2.76
3075.00	7.040	19.400	3071.84	-24.75	41.44	1650599.88	14295930.75	39°22'04.842"N	80°57'50.288"W	56.22	42.515	0.04
3100.00	7.110	19.480	3096.65	-27.08	44.34	1650600.90	14295933.65	39°22'04.871"N	80°57'50.275"W	59.06	41.344	0.28
3125.00	7.360	24.350	3121.45	-29.36	47.26	1650602.08	14295936.56	39°22'04.900"N	80°57'50.260"W	62.04	40.380	2.65
3150.00	7.600	27.300	3146.24	-31.57	50.19	1650603.50	14295939.49	39°22'04.929"N	80°57'50.242"W	65.19	39.662	1.81
3175.00	7.620	27.540	3171.02	-33.76	53.13	1650605.02	14295942.43	39°22'04.958"N	80°57'50.223"W	68.43	39.075	0.15
3200.00	7.730	27.410	3195.79	-35.95	56.09	1650606.56	14295945.39	39°22'04.987"N	80°57'50.203"W	71.71	38.538	0.44
3225.00	8.250	26.390	3220.55	-38.27	59.19	1650608.13	14295948.49	39°22'05.018"N	80°57'50.183"W	75.11	38.003	2.16
3250.00	8.490	25.350	3245.28	-40.74	62.46	1650609.72	14295951.76	39°22'05.050"N	80°57'50.163"W	78.67	37.445	1.13
3275.00	8.570	24.180	3270.01	-43.31	65.83	1650611.27	14295955.13	39°22'05.083"N	80°57'50.143"W	82.30	36.878	0.76
3300.00	8.600	23.740	3294.73	-45.93	69.24	1650612.79	14295958.54	39°22'05.117"N	80°57'50.124"W	85.94	36.322	0.29
3325.00	8.970	23.140	3319.43	-48.64	72.74	1650614.30	14295962.04	39°22'05.152"N	80°57'50.104"W	89.66	35.778	1.52
3350.00	8.990	22.540	3344.13	-51.44	76.34	1650615.82	14295965.63	39°22'05.187"N	80°57'50.085"W	93.47	35.242	0.38
3375.00	8.940	21.580	3368.82	-54.27	79.95	1650617.28	14295969.24	39°22'05.223"N	80°57'50.066"W	97.27	34.719	0.63
3400.00	8.900	22.060	3393.52	-57.09	83.55	1650618.72	14295972.84	39°22'05.259"N	80°57'50.048"W	101.05	34.228	0.34
3425.00	9.110	26.610	3418.21	-59.82	87.11	1650620.33	14295976.40	39°22'05.294"N	80°57'50.027"W	104.90	33.863	2.97
3450.00	9.110	27.000	3442.90	-62.46	90.64	1650622.12	14295979.93	39°22'05.329"N	80°57'50.005"W	108.83	33.606	0.25
3475.00	9.030	26.620	3467.58	-65.09	94.16	1650623.89	14295983.45	39°22'05.363"N	80°57'49.982"W	112.75	33.369	0.40
3500.00	9.220	28.080	3492.27	-67.70	97.68	1650625.71	14295986.97	39°22'05.398"N	80°57'49.959"W	116.69	33.166	1.20
3525.00	9.560	29.230	3516.93	-70.32	101.26	1650627.67	14295990.54	39°22'05.434"N	80°57'49.934"W	120.76	33.014	1.55
3550.00	9.650	29.490	3541.58	-72.96	104.90	1650629.71	14295994.18	39°22'05.469"N	80°57'49.908"W	124.92	32.892	0.40
3575.00	9.610	27.000	3566.23	-75.67	108.58	1650631.69	14295997.86	39°22'05.506"N	80°57'49.882"W	129.09	32.742	1.67
3600.00	10.040	25.090	3590.86	-78.56	112.41	1650633.56	14296001.69	39°22'05.544"N	80°57'49.859"W	133.33	32.527	2.16
3625.00	10.370	23.520	3615.47	-81.66	116.45	1650635.38	14296005.73	39°22'05.584"N	80°57'49.836"W	137.71	32.260	1.82
3650.00	10.470	22.510	3640.05	-84.90	120.62	1650637.14	14296009.89	39°22'05.625"N	80°57'49.813"W	142.17	31.964	0.71
3675.00	10.410	21.600	3664.64	-88.19	124.81	1650638.84	14296014.09	39°22'05.666"N	80°57'49.791"W	146.64	31.660	0.70
3700.00	10.510	22.670	3689.23	-91.48	129.02	1650640.55	14296018.29	39°22'05.708"N	80°57'49.770"W	151.11	31.375	0.87
3725.00	10.440	22.740	3713.81	-94.74	133.21	1650642.30	14296022.48	39°22'05.749"N	80°57'49.747"W	155.61	31.123	0.28

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #10
Area	Tyler County, WV		Well	Dillon Unit 1H
Field	Tyler		Wellbore	Dillon Unit 1H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (353 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
3750.00	10.340	22.230	3738.40	-98.00	137.38	82.15	1650644.02	14296026.65	39°22'05.790"N	80°57'49.725"W	160.07	30.880	0.54	-0.40	-2.04	
3775.00	10.330	22.050	3762.99	-101.25	141.53	83.84	1650645.71	14296030.80	39°22'05.832"N	80°57'49.704"W	164.50	30.643	0.14	-0.04	-0.72	
3800.00	10.560	21.820	3787.58	-104.55	145.74	85.54	1650647.41	14296035.00	39°22'05.873"N	80°57'49.682"W	168.98	30.410	0.93	0.92	-0.92	
3825.00	10.710	21.580	3812.15	-107.92	150.02	87.24	1650649.11	14296039.29	39°22'05.915"N	80°57'49.660"W	173.55	30.180	0.63	0.60	-0.96	
3850.00	10.700	19.790	3836.71	-111.37	154.37	88.88	1650650.75	14296043.63	39°22'05.958"N	80°57'49.639"W	178.13	29.933	1.33	-0.04	-7.16	
3875.00	10.770	18.880	3861.28	-114.90	158.76	90.43	1650652.29	14296048.02	39°22'06.002"N	80°57'49.620"W	182.71	29.665	0.73	0.28	-3.64	
3900.00	11.180	20.090	3885.82	-118.49	163.25	92.01	1650653.88	14296052.51	39°22'06.046"N	80°57'49.600"W	187.39	29.408	1.88	1.64	4.84	
3925.00	11.210	20.040	3910.34	-122.13	167.81	93.68	1650655.54	14296057.06	39°22'06.091"N	80°57'49.578"W	192.18	29.173	0.13	0.12	-0.20	
3950.00	11.280	19.400	3934.86	-125.81	172.40	95.32	1650657.19	14296061.65	39°22'06.137"N	80°57'49.557"W	196.99	28.940	0.57	0.28	-2.56	
3975.00	11.400	21.120	3959.38	-129.48	177.01	97.03	1650658.89	14296066.26	39°22'06.182"N	80°57'49.536"W	201.85	28.729	1.44	0.48	6.88	
4000.00	11.600	24.100	3983.87	-133.07	181.61	98.94	1650660.81	14296070.86	39°22'06.228"N	80°57'49.511"W	206.81	28.583	2.51	0.80	11.92	
4025.00	11.740	24.190	4008.36	-136.61	186.22	101.01	1650662.87	14296075.47	39°22'06.273"N	80°57'49.485"W	211.85	28.477	0.56	0.56	0.36	
4050.00	11.650	24.000	4032.84	-140.16	190.85	103.08	1650664.94	14296080.09	39°22'06.319"N	80°57'49.459"W	216.90	28.374	0.39	-0.36	-0.76	
4075.00	11.420	26.700	4057.33	-143.59	195.36	105.22	1650667.08	14296084.61	39°22'06.363"N	80°57'49.431"W	221.90	28.306	2.35	-0.92	10.80	
4100.00	11.150	28.360	4081.85	-146.81	199.70	107.48	1650669.34	14296088.95	39°22'06.406"N	80°57'49.402"W	226.79	28.289	1.69	-1.08	6.64	
4125.00	10.800	28.750	4106.39	-149.87	203.88	109.75	1650671.61	14296093.12	39°22'06.448"N	80°57'49.373"W	231.55	28.295	1.43	-1.40	1.56	
4150.00	10.700	28.800	4130.95	-152.86	207.97	112.00	1650673.86	14296097.21	39°22'06.488"N	80°57'49.345"W	236.21	28.304	0.40	-0.40	0.20	
4175.00	10.940	32.040	4155.51	-155.76	212.01	114.38	1650676.23	14296101.25	39°22'06.528"N	80°57'49.315"W	240.90	28.346	2.62	0.96	12.96	
4200.00	11.100	32.470	4180.05	-158.59	216.06	116.93	1650678.78	14296105.29	39°22'06.568"N	80°57'49.282"W	245.67	28.422	0.72	0.64	1.72	
4225.00	11.170	31.800	4204.58	-161.47	220.14	119.49	1650681.35	14296109.38	39°22'06.608"N	80°57'49.249"W	250.48	28.493	0.59	0.28	-2.68	
4250.00	11.190	31.960	4229.10	-164.37	224.26	122.05	1650683.91	14296113.49	39°22'06.649"N	80°57'49.217"W	255.32	28.557	0.15	0.08	0.64	
4275.00	11.480	32.170	4253.62	-167.29	228.42	124.66	1650686.52	14296117.66	39°22'06.690"N	80°57'49.184"W	260.23	28.624	1.17	1.16	0.84	
4300.00	11.530	31.610	4278.11	-170.28	232.66	127.30	1650689.15	14296121.89	39°22'06.732"N	80°57'49.150"W	265.21	28.685	0.49	0.20	-2.24	
4325.00	11.480	30.170	4302.61	-173.33	236.94	129.86	1650691.71	14296126.17	39°22'06.774"N	80°57'49.117"W	270.19	28.726	1.17	-0.20	-5.76	
4350.00	11.370	29.480	4327.12	-176.43	241.23	132.32	1650694.17	14296130.46	39°22'06.817"N	80°57'49.086"W	275.14	28.745	0.70	-0.44	-2.76	
4375.00	11.240	28.730	4351.63	-179.55	245.51	134.70	1650696.55	14296134.74	39°22'06.859"N	80°57'49.056"W	280.04	28.752	0.79	-0.52	-3.00	
4400.00	10.790	26.030	4376.17	-182.70	249.75	136.90	1650698.75	14296138.98	39°22'06.901"N	80°57'49.028"W	284.81	28.729	2.74	-1.80	-10.80	
4425.00	10.590	22.800	4400.74	-185.93	253.97	138.82	1650700.67	14296143.20	39°22'06.943"N	80°57'49.003"W	289.44	28.660	2.53	-0.80	-12.92	
4450.00	10.590	23.940	4425.31	-189.19	258.19	140.64	1650702.49	14296147.41	39°22'06.984"N	80°57'48.980"W	294.01	28.578	0.84	0.00	4.56	
4475.00	10.650	26.280	4449.88	-192.36	262.36	142.60	1650704.44	14296151.58	39°22'07.026"N	80°57'48.955"W	298.61	28.524	1.74	0.24	9.36	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Dillon Unit 1H
Field	Tyler	Wellbore	Dillon Unit 1H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (353 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
4500.00	10.840	25.930	4474.45	-195.51	266.55	144.65	1650706.49	14296155.76	39°22'07.067"N	80°57'48.929"W	303.27	28.487	0.80	0.76	-1.40	
4525.00	10.960	26.100	4498.99	-198.71	270.80	146.72	1650708.56	14296160.01	39°22'07.109"N	80°57'48.902"W	307.99	28.449	0.50	0.48	0.68	
4550.00	11.410	28.330	4523.52	-201.92	275.11	148.94	1650710.78	14296164.32	39°22'07.151"N	80°57'48.874"W	312.84	28.431	2.50	1.80	8.92	
4575.00	11.800	29.120	4548.01	-205.15	279.52	151.36	1650713.20	14296168.73	39°22'07.195"N	80°57'48.843"W	317.87	28.435	1.68	1.56	3.16	
4600.00	11.970	29.440	4572.47	-208.41	284.01	153.88	1650715.72	14296173.22	39°22'07.239"N	80°57'48.811"W	323.01	28.449	0.73	0.68	1.28	
4625.00	12.080	29.510	4596.92	-211.70	288.54	156.44	1650718.28	14296177.75	39°22'07.284"N	80°57'48.779"W	328.22	28.465	0.44	0.44	0.28	
4650.00	12.150	31.140	4621.37	-214.95	293.07	159.09	1650720.93	14296182.28	39°22'07.329"N	80°57'48.745"W	333.46	28.494	1.40	0.28	6.52	
4675.00	12.230	31.560	4645.80	-218.15	297.58	161.83	1650723.67	14296186.78	39°22'07.373"N	80°57'48.710"W	338.74	28.539	0.48	0.32	1.68	
4700.00	12.320	30.680	4670.23	-221.38	302.13	164.58	1650726.42	14296191.33	39°22'07.418"N	80°57'48.675"W	344.05	28.579	0.83	0.36	-3.52	
4725.00	12.330	29.770	4694.66	-224.70	306.74	167.27	1650729.10	14296195.94	39°22'07.464"N	80°57'48.641"W	349.38	28.604	0.78	0.04	-3.64	
4750.00	12.630	29.110	4719.06	-228.11	311.44	169.92	1650731.76	14296200.64	39°22'07.511"N	80°57'48.607"W	354.78	28.617	1.33	1.20	-2.64	
4775.00	12.890	28.380	4743.45	-231.65	316.29	172.58	1650734.41	14296205.48	39°22'07.558"N	80°57'48.573"W	360.30	28.618	1.22	1.04	-2.92	
4800.00	12.560	30.180	4767.83	-235.15	321.09	175.27	1650737.10	14296210.28	39°22'07.606"N	80°57'48.539"W	365.81	28.628	2.06	-1.32	7.20	
4825.00	12.450	28.750	4792.24	-238.56	325.80	177.93	1650739.76	14296214.99	39°22'07.652"N	80°57'48.505"W	371.22	28.640	1.31	-0.44	-5.72	
4850.00	11.720	28.800	4816.69	-241.92	330.39	180.45	1650742.28	14296219.58	39°22'07.698"N	80°57'48.473"W	376.46	28.642	2.92	-2.92	0.20	
4875.00	11.490	28.700	4841.18	-245.14	334.80	182.87	1650744.70	14296223.99	39°22'07.741"N	80°57'48.442"W	381.49	28.644	0.92	-0.92	-0.40	
4900.00	11.310	28.620	4865.68	-248.32	339.13	185.24	1650747.07	14296228.32	39°22'07.784"N	80°57'48.412"W	386.43	28.644	0.72	-0.72	-0.32	
4925.00	10.370	28.300	4890.24	-251.35	343.27	187.48	1650749.31	14296232.45	39°22'07.825"N	80°57'48.383"W	391.13	28.642	3.77	-3.76	-1.28	
4950.00	9.800	27.900	4914.85	-254.19	347.13	189.54	1650751.37	14296236.31	39°22'07.863"N	80°57'48.357"W	395.51	28.636	2.30	-2.28	-1.60	
4975.00	9.620	27.200	4939.49	-256.97	350.87	191.49	1650753.32	14296240.05	39°22'07.900"N	80°57'48.332"W	399.72	28.624	0.86	-0.72	-2.80	
5000.00	9.330	27.140	4964.15	-259.69	354.53	193.37	1650755.20	14296243.71	39°22'07.936"N	80°57'48.308"W	403.84	28.610	1.16	-1.16	-0.24	
5025.00	8.560	26.960	4988.85	-262.27	357.99	195.14	1650756.97	14296247.17	39°22'07.970"N	80°57'48.285"W	407.72	28.595	3.08	-3.08	-0.72	
5050.00	8.310	25.980	5013.58	-264.73	361.27	196.78	1650758.60	14296250.45	39°22'08.003"N	80°57'48.265"W	411.39	28.576	1.15	-1.00	-3.92	
5075.00	8.410	26.270	5038.31	-267.19	364.54	198.38	1650760.20	14296253.71	39°22'08.035"N	80°57'48.244"W	415.02	28.555	0.43	0.40	1.16	
5100.00	8.630	25.110	5063.03	-269.71	367.87	199.98	1650761.80	14296257.05	39°22'08.068"N	80°57'48.224"W	418.72	28.529	1.12	0.88	-4.64	
5125.00	8.760	25.150	5087.75	-272.31	371.30	201.59	1650763.41	14296260.47	39°22'08.102"N	80°57'48.203"W	422.49	28.499	0.52	0.52	0.16	
5150.00	8.760	24.860	5112.45	-274.94	374.75	203.20	1650765.02	14296263.92	39°22'08.136"N	80°57'48.183"W	426.29	28.468	0.18	0.00	-1.16	
5175.00	8.790	24.670	5137.16	-277.58	378.21	204.79	1650766.61	14296267.38	39°22'08.170"N	80°57'48.162"W	430.10	28.435	0.17	0.12	-0.76	
5200.00	8.800	25.610	5161.87	-280.21	381.67	206.42	1650768.24	14296270.84	39°22'08.204"N	80°57'48.142"W	433.91	28.406	0.58	0.04	3.76	
5225.00	8.730	28.010	5186.58	-282.75	385.07	208.13	1650769.95	14296274.24	39°22'08.238"N	80°57'48.120"W	437.72	28.392	1.49	-0.28	9.60	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Terry Snider Pad
Slot	Slot #10
Dillon Unit 1H	Dillon Unit 1H AWB

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Dist	Dir	DLS	Build Rate	Turn Rate	Comments
5250.00	8.610	5211.29	-285.20	388.39	209.91	1650771.73	14296277.56	39°22'08.271"N	80°57'48.097"W	441.49	28.390	0.51	-0.48	1.20	-0.48	1.20	
5275.00	8.590	5236.01	-287.61	391.68	211.70	1650773.51	14296280.84	39°22'08.303"N	80°57'48.075"W	445.23	28.391	0.21	-0.08	1.32	-0.08	1.32	
5300.00	8.430	5260.73	-290.01	394.94	213.44	1650775.26	14296284.10	39°22'08.336"N	80°57'48.052"W	448.93	28.389	0.87	-0.64	-3.96	-0.64	-3.96	
5325.00	8.320	5265.47	-292.45	398.19	215.07	1650776.89	14296287.36	39°22'08.368"N	80°57'48.031"W	452.56	28.375	1.26	-0.44	-8.08	-0.44	-8.08	
5350.00	8.280	5310.21	-294.93	401.46	216.61	1650778.43	14296290.62	39°22'08.400"N	80°57'48.012"W	456.17	28.350	0.50	-0.16	-3.28	-0.16	-3.28	
5375.00	8.540	5334.94	-297.46	404.78	218.14	1650779.96	14296293.94	39°22'08.433"N	80°57'47.992"W	459.82	28.321	1.04	-0.32	-0.32	-0.32	-0.32	
5400.00	9.110	5359.64	-300.12	408.26	219.74	1650781.56	14296297.42	39°22'08.467"N	80°57'47.972"W	463.64	28.291	2.28	-0.52	-0.52	-0.52	-0.52	
5425.00	9.890	5384.30	-303.00	412.02	221.45	1650783.26	14296301.18	39°22'08.504"N	80°57'47.950"W	467.76	28.257	3.13	-1.24	-1.24	-1.24	-1.24	
5450.00	10.180	5408.92	-306.02	415.98	223.27	1650785.08	14296305.14	39°22'08.543"N	80°57'47.927"W	472.11	28.224	1.26	-2.76	-2.76	-2.76	-2.76	
5475.00	10.320	5433.52	-309.05	419.99	225.20	1650787.01	14296309.14	39°22'08.583"N	80°57'47.902"W	476.55	28.200	1.20	-0.56	5.96	-0.56	5.96	
5500.00	10.710	5458.10	-312.09	424.05	227.27	1650789.08	14296313.21	39°22'08.623"N	80°57'47.876"W	481.11	28.188	1.70	1.56	3.76	1.56	3.76	
5525.00	10.780	5482.66	-315.15	428.18	229.42	1650791.23	14296317.34	39°22'08.664"N	80°57'47.849"W	485.77	28.183	0.37	0.28	1.32	0.28	1.32	
5550.00	10.910	5507.21	-318.21	432.34	231.63	1650793.44	14296321.49	39°22'08.705"N	80°57'47.821"W	490.48	28.180	0.59	0.52	1.48	0.52	1.48	
5575.00	10.790	5531.76	-321.29	436.50	233.82	1650795.63	14296325.65	39°22'08.746"N	80°57'47.793"W	495.18	28.177	0.67	-0.48	-2.48	-0.48	-2.48	
5597.00	10.620	5553.38	-323.99	440.14	235.69	1650797.50	14296329.29	39°22'08.782"N	80°57'47.769"W	499.27	28.169	0.90	-0.77	-2.50	-0.77	-2.50	
5620.00	12.380	5684.69	-341.75	463.94	247.81	1650809.61	14296353.08	39°22'09.017"N	80°57'47.614"W	525.98	28.108	1.31	0.06	0.06	1.31	0.06	BH AT Curve <8-1/2"> (5597)-(5731-16030)
5777.00	12.410	5729.62	-347.45	472.17	253.18	1650814.98	14296361.30	39°22'09.099"N	80°57'47.546"W	535.76	28.200	5.67	26.46	26.46	5.67	26.46	
5824.00	12.060	5775.58	-350.66	478.53	260.63	1650822.43	14296367.67	39°22'09.162"N	80°57'47.451"W	544.90	28.574	9.41	-0.74	44.51	-0.74	44.51	
5918.00	11.230	5867.66	-347.18	481.92	278.86	1650840.65	14296371.05	39°22'09.185"N	80°57'47.219"W	556.79	30.055	7.44	-1.09	37.11	-1.09	37.11	
5966.00	11.710	5914.72	-341.34	479.19	287.89	1650849.68	14296368.32	39°22'09.168"N	80°57'47.104"W	559.02	30.997	7.27	1.00	36.33	1.00	36.33	
6013.00	14.440	5960.50	-332.93	473.71	296.95	1650858.73	14296362.84	39°22'09.114"N	80°57'46.989"W	559.08	32.082	7.66	5.81	22.23	5.81	22.23	
6060.00	18.510	6005.56	-321.33	465.28	307.25	1650869.03	14296354.42	39°22'09.030"N	80°57'46.857"W	557.57	33.439	9.41	8.66	13.06	8.66	13.06	
6107.00	137.200	6049.54	-306.18	453.60	318.99	1650880.76	14296342.74	39°22'08.915"N	80°57'46.708"W	554.53	35.116	9.90	9.11	11.09	9.11	11.09	
6154.00	27.110	6092.14	-287.52	438.65	331.99	1650893.76	14296327.80	39°22'08.767"N	80°57'46.543"W	550.12	37.120	9.66	9.19	7.06	9.19	7.06	
6201.00	32.460	6132.92	-265.17	420.28	346.37	1650908.13	14296309.43	39°22'08.585"N	80°57'46.360"W	544.61	39.494	11.72	5.62	5.62	11.38	5.62	
6249.00	36.920	6172.38	-238.78	398.27	362.54	1650924.30	14296287.43	39°22'08.368"N	80°57'46.154"W	538.57	42.311	9.37	2.08	2.08	9.29	2.08	
6296.00	41.610	6208.76	-210.01	374.22	380.04	1650941.79	14296263.40	39°22'08.130"N	80°57'45.931"W	533.36	45.442	9.99	-0.83	-0.83	9.98	-0.83	
6343.00	46.210	6242.61	-178.56	348.04	399.44	1650961.18	14296237.22	39°22'07.871"N	80°57'45.684"W	529.79	48.934	9.82	-1.21	-1.21	9.79	-1.21	
6390.00	51.050	6273.66	-144.65	319.99	420.81	1650982.54	14296209.19	39°22'07.594"N	80°57'45.412"W	528.66	52.750	10.42	10.30	-2.11	10.30	-2.11	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055  
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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Terry Snider Pad
	Well	Wellbore	
	Dillon Unit 1H		Dillon Unit 1H AWB
	Slot #10		

## REFERENCE WELLPATH IDENTIFICATION

WELLPATH DATA (353 stations) † = Interpolated/extrapolated station												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
ftm	ft	ft	ftm	ft	ftm	ftm	ftm	ftm	ftm	ftm	ftm	ftm
6407.00†	52.493	141.956	6284.18	-131.85	309.46	429.02	1650990.75	14296198.66	39°22'07.490"N	80°57'45.308"W	528.98	54.196
6437.00	55.040	141.530	6301.91	-108.70	290.46	444.00	1651005.72	14296179.67	39°22'07.302"N	80°57'45.117"W	530.57	56.808
6483.00	58.730	141.730	6327.04	-71.86	260.26	467.91	1651029.63	14296149.48	39°22'07.003"N	80°57'44.813"W	535.42	60.917
6532.00	62.630	142.330	6351.03	-30.93	226.58	494.19	1651055.89	14296115.81	39°22'06.670"N	80°57'44.478"W	543.65	65.369
6577.00	66.650	142.510	6370.30	8.11	194.36	518.98	1651080.67	14296083.61	39°22'06.352"N	80°57'44.163"W	554.18	69.469
6589.00†	67.079	142.456	6375.02	18.71	185.61	525.70	1651087.39	14296074.86	39°22'06.265"N	80°57'44.077"W	557.50	70.553
6626.00	68.400	142.290	6389.03	51.58	158.49	546.61	1651108.29	14296047.75	39°22'05.997"N	80°57'43.811"W	569.12	73.830
6651.00†	68.550	142.130	6398.20	73.90	140.10	560.85	1651122.52	14296029.37	39°22'05.815"N	80°57'43.630"W	578.08	75.974
6671.00	68.670	142.130	6405.50	91.76	125.39	572.27	1651133.94	14296014.67	39°22'05.670"N	80°57'43.485"W	585.85	77.641
6679.00†	69.450	142.491	6408.36	98.93	119.48	576.84	1651138.51	14296008.76	39°22'05.612"N	80°57'43.427"W	589.08	78.298
6720.00	73.460	144.290	6421.40	136.42	88.28	600.01	1651161.67	14295977.57	39°22'05.303"N	80°57'43.132"W	606.47	81.630
6814.00	82.940	149.400	6439.94	226.60	10.96	649.88	1651211.52	14295900.28	39°22'04.539"N	80°57'42.497"W	649.97	89.034
6860.00	86.000	151.100	6444.37	271.89	-28.79	672.59	1651234.23	14295860.55	39°22'04.146"N	80°57'42.208"W	673.21	92.451
6909.00	89.660	153.430	6446.65	320.55	-72.12	695.37	1651257.00	14295817.24	39°22'03.717"N	80°57'41.918"W	699.10	95.921
7003.00	89.820	154.660	6446.66	414.24	-156.63	736.51	1651298.12	14295732.75	39°22'02.882"N	80°57'41.395"W	752.98	102.006
7098.00	90.030	156.980	6446.78	509.12	-243.29	775.42	1651337.01	14295646.13	39°22'02.025"N	80°57'40.900"W	812.69	107.420
7192.00	89.630	158.300	6447.06	603.10	-330.22	811.18	1651372.76	14295559.23	39°22'01.166"N	80°57'40.445"W	875.82	112.151
7288.00	89.850	164.230	6447.48	696.96	-419.20	841.36	1651402.92	14295470.29	39°22'00.286"N	80°57'40.062"W	940.01	116.484
7380.00	91.570	166.560	6446.32	790.29	-510.15	865.06	1651426.61	14295379.38	39°21'59.387"N	80°57'39.760"W	1004.28	120.529
7474.00	91.690	159.220	6443.64	883.93	-599.89	892.68	1651454.23	14295289.68	39°21'58.500"N	80°57'39.409"W	1075.52	123.901
7569.00	89.970	156.730	6442.27	978.90	-687.94	928.30	1651489.83	14295201.66	39°21'57.630"N	80°57'38.956"W	1155.42	126.541
7662.00	89.880	158.850	6442.39	1071.89	-774.03	963.45	1651524.97	14295115.60	39°21'56.779"N	80°57'38.509"W	1235.87	128.778
7757.00	90.710	157.840	6441.90	1166.88	-862.32	998.51	1651560.01	14295027.35	39°21'55.906"N	80°57'38.063"W	1319.33	130.814
7851.00	89.630	154.270	6441.62	1260.77	-948.22	1036.65	1651598.14	14294941.49	39°21'55.057"N	80°57'37.578"W	1404.91	132.449
7945.00	89.350	154.940	6442.46	1354.53	-1033.13	1076.96	1651638.43	14294856.61	39°21'54.218"N	80°57'37.065"W	1492.38	133.810
8040.00	89.200	157.660	6443.66	1449.44	-1120.10	1115.14	1651676.60	14294769.67	39°21'53.358"N	80°57'36.580"W	1580.56	135.127
8134.00	89.380	160.000	6444.82	1543.42	-1207.75	1149.08	1651710.53	14294682.06	39°21'52.491"N	80°57'36.148"W	1667.05	136.426
8228.00	89.880	162.910	6445.43	1637.30	-1296.85	1178.98	1651740.41	14294592.99	39°21'51.611"N	80°57'35.768"W	1752.66	137.726
8323.00	90.310	156.870	6445.27	1732.23	-1386.02	1211.62	1651773.04	14294503.86	39°21'50.729"N	80°57'35.353"W	1840.95	138.841

Middlesex: 6407 MD  
Turn Rate  
DLS  
Build Rate  
Build Rate  
DLS  
Closure Dir  
Closure Dist  
Longitude  
Latitude  
Grid North  
Grid East  
North  
East  
North  
Vert Sect  
Inclination  
Azimuth  
TVD

Marcellus POE: 6679 MD  
Fully: 6651 MD  
Burket: 6589 MD

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #10
Area	Tyler County, WV		Well	Dillon Unit 1H
Field	Tyler		Wellbore	Dillon Unit 1H AWP
Facility	Terry Snider Pad			

WELLPATH DATA (353 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
8417.00	91.940	151.150	6443.43	1825.86	-1470.46	1252.79	1651814.19	14294419.45	39°21'49.894"N	80°57'34.829"W	1931.77	139.570	6.33	1.73	-6.09	
8511.00	89.690	149.660	6442.09	1918.88	-1552.18	1299.20	1651860.58	14294337.77	39°21'49.086"N	80°57'34.239"W	2024.15	140.070	2.87	-2.39	-1.59	
8605.00	89.110	155.680	6443.07	2012.32	-1635.65	1342.34	1651903.70	14294254.34	39°21'48.261"N	80°57'33.690"W	2115.94	140.625	6.43	-0.62	6.40	
8700.00	89.720	161.330	6444.04	2107.28	-1724.00	1377.13	1651938.48	14294166.02	39°21'47.388"N	80°57'33.247"W	2206.50	141.382	5.98	0.64	5.95	
8794.00	88.710	165.030	6445.33	2200.96	-1813.95	1404.32	1651965.66	14294076.10	39°21'46.499"N	80°57'32.902"W	2294.02	142.254	4.08	-1.07	3.94	
8889.00	90.370	168.720	6446.10	2294.95	-1906.45	1425.89	1651987.22	14293983.64	39°21'45.584"N	80°57'32.628"W	2380.69	143.206	4.26	1.75	3.88	
8983.00	91.290	160.770	6444.73	2388.33	-1997.05	1450.60	1652011.92	14293893.08	39°21'44.689"N	80°57'32.314"W	2468.29	144.006	8.51	0.98	-8.46	
9077.00	89.450	160.700	6444.13	2482.26	-2085.78	1481.61	1652042.92	14293804.38	39°21'43.812"N	80°57'31.919"W	2558.45	144.612	1.96	-1.96	-0.07	
9171.00	89.720	160.490	6444.81	2576.20	-2174.44	1512.84	1652074.14	14293715.76	39°21'42.935"N	80°57'31.522"W	2648.94	145.172	0.36	0.29	-0.22	
9266.00	89.570	156.530	6445.40	2671.18	-2262.82	1547.64	1652108.92	14293627.42	39°21'42.062"N	80°57'31.080"W	2741.45	145.630	4.17	-0.16	-4.17	
9360.00	90.490	155.830	6445.35	2765.10	-2348.81	1585.60	1652146.87	14293541.46	39°21'41.212"N	80°57'30.597"W	2833.91	145.978	1.23	0.98	-0.74	
9453.00	89.750	154.590	6445.15	2857.93	-2433.24	1624.59	1652185.84	14293457.07	39°21'40.377"N	80°57'30.101"W	2925.74	146.270	1.55	-0.80	-1.33	
9547.00	90.400	162.200	6445.03	2951.86	-2520.57	1659.18	1652220.42	14293369.77	39°21'39.514"N	80°57'29.661"W	3017.64	146.645	8.13	0.69	8.10	
9641.00	90.340	159.340	6444.42	3045.78	-2609.31	1690.14	1652251.36	14293281.06	39°21'38.636"N	80°57'29.267"W	3108.87	147.068	3.04	-0.06	-3.04	
9735.00	89.420	157.620	6444.62	3139.77	-2696.75	1724.62	1652285.83	14293193.65	39°21'37.772"N	80°57'28.829"W	3201.06	147.400	2.08	-0.98	-1.83	
9829.00	90.000	159.310	6445.09	3233.77	-2784.19	1759.12	1652320.31	14293106.26	39°21'36.908"N	80°57'28.390"W	3293.36	147.714	1.90	0.62	1.80	
9924.00	90.180	161.360	6444.94	3328.72	-2873.64	1791.09	1652352.27	14293016.84	39°21'36.023"N	80°57'27.984"W	3386.12	148.066	2.17	0.19	2.16	
10018.00	90.430	156.370	6444.44	3422.69	-2961.29	1824.97	1652386.14	14292929.23	39°21'35.157"N	80°57'27.553"W	3478.47	148.356	5.32	0.27	-5.31	
10112.00	89.570	155.370	6444.44	3516.58	-3047.07	1863.39	1652424.55	14292843.48	39°21'34.309"N	80°57'27.064"W	3571.68	148.553	1.40	-0.91	-1.06	
10206.00	89.510	161.000	6445.20	3610.54	-3134.30	1898.31	1652459.45	14292756.28	39°21'33.447"N	80°57'26.620"W	3664.35	148.799	5.99	-0.06	5.99	
10301.00	90.650	165.430	6445.07	3705.21	-3225.23	1925.74	1652486.87	14292665.39	39°21'32.548"N	80°57'26.272"W	3756.41	149.159	4.82	1.20	4.66	
10395.00	90.030	157.660	6444.51	3799.01	-3314.33	1955.47	1652516.59	14292576.33	39°21'31.667"N	80°57'25.894"W	3848.20	149.459	8.29	-0.66	-8.27	
10489.00	89.850	158.240	6444.61	3893.00	-3401.45	1990.76	1652551.86	14292489.24	39°21'30.806"N	80°57'25.445"W	3941.19	149.661	0.65	-0.19	0.62	
10584.00	90.280	160.090	6444.50	3987.99	-3490.24	2024.55	1652585.64	14292400.49	39°21'29.928"N	80°57'25.015"W	4034.92	149.884	2.00	0.45	1.95	
10678.00	90.860	152.500	6443.56	4081.84	-3576.24	2062.31	1652623.38	14292314.52	39°21'29.078"N	80°57'24.535"W	4128.27	150.029	8.10	0.62	-8.07	
10773.00	89.820	149.250	6443.00	4175.96	-3659.21	2108.54	1652669.60	14292231.58	39°21'28.258"N	80°57'23.947"W	4223.24	150.048	3.59	-1.09	-3.42	
10867.00	89.940	156.210	6443.19	4269.40	-3742.71	2151.58	1652712.62	14292148.12	39°21'27.432"N	80°57'23.400"W	4317.08	150.107	7.41	0.13	7.40	
10961.00	90.620	156.990	6442.74	4363.34	-3828.98	2188.91	1652749.94	14292061.88	39°21'26.579"N	80°57'22.925"W	4410.49	150.245	1.10	0.72	0.83	
11055.00	91.200	153.350	6441.24	4457.14	-3914.26	2228.37	1652789.38	14291976.63	39°21'25.736"N	80°57'22.423"W	4504.12	150.347	3.92	0.62	-3.87	
11150.00	89.260	155.570	6440.86	4551.88	-3999.97	2269.33	1652830.32	14291890.96	39°21'24.889"N	80°57'21.902"W	4598.87	150.432	3.10	-2.04	2.34	

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj.: 16055

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Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Terry Snider Pad
Slot	Dillon Unit 1H
Slot #10	Dillon Unit 1H AWP

## REFERENCE WELLPATH IDENTIFICATION

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
11244.00	6442.43	160.310	6445.83	-4087.05	2304.62	1652865.59	14291803.91	39°21'24.028"N	80°57'21.453"W	4692.04	150.582	5.06	-0.46	5.04	3.27	1138.00
88.830	163.380	6443.11	4739.67	-4176.36	2333.90	1652894.87	14291714.65	39°21'23.145"N	80°57'21.081"W	4784.25	150.802	3.64	1.61	5.04	3.27	1138.00
90.340	163.380	6443.11	4739.67	-4176.36	2333.90	1652894.87	14291714.65	39°21'23.145"N	80°57'21.081"W	4784.25	150.802	3.64	1.61	5.04	3.27	1138.00
90.620	159.590	6442.32	4833.53	-4255.47	2363.74	1652924.70	14291625.57	39°21'22.264"N	80°57'20.702"W	4876.63	151.007	4.04	4.04	5.04	3.27	11432.00
90.620	159.590	6442.32	4833.53	-4255.47	2363.74	1652924.70	14291625.57	39°21'22.264"N	80°57'20.702"W	4876.63	151.007	4.04	4.04	5.04	3.27	11432.00
91.750	156.970	6442.01	4928.52	-4353.72	2398.90	1652959.84	14291637.36	39°21'21.392"N	80°57'20.255"W	4970.87	151.145	2.91	-0.92	2.76	-4.03	11527.00
89.750	156.970	6442.01	4928.52	-4353.72	2398.90	1652959.84	14291637.36	39°21'21.392"N	80°57'20.255"W	4970.87	151.145	2.91	-0.92	2.76	-4.03	11527.00
89.250	161.210	6442.82	5021.49	-4440.57	2432.08	1652993.01	14291450.54	39°21'20.533"N	80°57'19.833"W	5062.97	151.291	4.59	-0.53	4.56	-0.77	11620.00
89.250	161.210	6442.82	5021.49	-4440.57	2432.08	1652993.01	14291450.54	39°21'20.533"N	80°57'19.833"W	5062.97	151.291	4.59	-0.53	4.56	-0.77	11620.00
90.000	160.490	6443.43	5115.42	-4529.37	2462.92	1653023.83	14291361.78	39°21'19.666"N	80°57'19.441"W	5155.69	151.464	1.10	0.79	-0.77	-0.77	11714.00
90.000	160.490	6443.43	5115.42	-4529.37	2462.92	1653023.83	14291361.78	39°21'19.666"N	80°57'19.441"W	5155.69	151.464	1.10	0.79	-0.77	-0.77	11714.00
90.180	157.340	6443.28	5210.40	-4617.99	2497.09	1653057.99	14291273.19	39°21'18.780"N	80°57'19.006"W	5249.89	151.599	3.32	0.19	-3.32	1.62	11809.00
90.180	157.340	6443.28	5210.40	-4617.99	2497.09	1653057.99	14291273.19	39°21'18.780"N	80°57'19.006"W	5249.89	151.599	3.32	0.19	-3.32	1.62	11809.00
89.780	158.860	6443.31	5304.40	-4705.21	2532.15	1653093.03	14291186.01	39°21'17.917"N	80°57'18.561"W	5343.29	151.713	1.67	-0.43	1.62	1.62	11903.00
89.780	158.860	6443.31	5304.40	-4705.21	2532.15	1653093.03	14291186.01	39°21'17.917"N	80°57'18.561"W	5343.29	151.713	1.67	-0.43	1.62	1.62	11903.00
90.180	159.400	6443.34	5398.39	-4793.04	2565.63	1653126.51	14291098.21	39°21'17.049"N	80°57'18.135"W	5436.52	151.841	0.71	0.43	0.57	0.57	11997.00
90.180	159.400	6443.34	5398.39	-4793.04	2565.63	1653126.51	14291098.21	39°21'17.049"N	80°57'18.135"W	5436.52	151.841	0.71	0.43	0.57	0.57	11997.00
90.340	157.250	6442.91	5493.39	-4881.32	2600.72	1653161.58	14291009.97	39°21'16.176"N	80°57'17.689"W	5530.91	151.952	2.27	0.17	-2.26	1.83	12092.00
90.340	157.250	6442.91	5493.39	-4881.32	2600.72	1653161.58	14291009.97	39°21'16.176"N	80°57'17.689"W	5530.91	151.952	2.27	0.17	-2.26	1.83	12092.00
89.910	155.160	6442.71	5587.30	-4967.32	2638.64	1653199.49	14290924.00	39°21'15.326"N	80°57'17.207"W	5624.65	152.023	2.27	-0.46	-2.22	1.83	12186.00
89.910	155.160	6442.71	5587.30	-4967.32	2638.64	1653199.49	14290924.00	39°21'15.326"N	80°57'17.207"W	5624.65	152.023	2.27	-0.46	-2.22	1.83	12186.00
90.000	157.990	6442.78	5681.23	-5053.57	2676.01	1653236.84	14290837.79	39°21'14.474"N	80°57'16.732"W	5718.35	152.097	3.01	0.10	3.01	3.01	12280.00
90.000	157.990	6442.78	5681.23	-5053.57	2676.01	1653236.84	14290837.79	39°21'14.474"N	80°57'16.732"W	5718.35	152.097	3.01	0.10	3.01	3.01	12280.00
89.970	157.940	6442.80	5775.22	-5140.70	2711.28	1653272.09	14290750.69	39°21'13.612"N	80°57'16.283"W	5811.87	152.192	0.06	-0.03	-0.05	1.83	12374.00
89.970	157.940	6442.80	5775.22	-5140.70	2711.28	1653272.09	14290750.69	39°21'13.612"N	80°57'16.283"W	5811.87	152.192	0.06	-0.03	-0.05	1.83	12374.00
89.420	162.040	6443.30	5869.17	-5229.00	2743.43	1653304.23	14290662.42	39°21'12.739"N	80°57'15.874"W	5904.99	152.316	4.40	-0.59	4.36	4.36	12468.00
89.420	162.040	6443.30	5869.17	-5229.00	2743.43	1653304.23	14290662.42	39°21'12.739"N	80°57'15.874"W	5904.99	152.316	4.40	-0.59	4.36	4.36	12468.00
12663.00	164.800	6443.99	5963.83	-5320.04	2770.54	1653331.33	14290571.42	39°21'11.839"N	80°57'15.530"W	5998.23	152.491	2.93	0.36	2.91	2.91	12663.00
12663.00	164.800	6443.99	5963.83	-5320.04	2770.54	1653331.33	14290571.42	39°21'11.839"N	80°57'15.530"W	5998.23	152.491	2.93	0.36	2.91	2.91	12663.00
90.740	160.890	6443.59	6057.55	-5409.84	2798.26	1653359.04	14290481.66	39°21'10.952"N	80°57'15.178"W	6090.70	152.650	4.29	1.05	-4.16	1.83	12657.00
90.740	160.890	6443.59	6057.55	-5409.84	2798.26	1653359.04	14290481.66	39°21'10.952"N	80°57'15.178"W	6090.70	152.650	4.29	1.05	-4.16	1.83	12657.00
90.830	156.400	6442.30	6151.52	-5497.36	2832.48	1653393.24	14290394.18	39°21'10.087"N	80°57'14.743"W	6184.16	152.741	4.78	0.10	-4.78	1.83	12751.00
90.830	156.400	6442.30	6151.52	-5497.36	2832.48	1653393.24	14290394.18	39°21'10.087"N	80°57'14.743"W	6184.16	152.741	4.78	0.10	-4.78	1.83	12751.00
12845.00	155.520	6441.85	6245.41	-5583.20	2870.77	1653431.52	14290308.37	39°21'09.238"N	80°57'14.256"W	6278.01	152.789	1.51	-1.18	-0.94	1.83	12845.00
12845.00	155.520	6441.85	6245.41	-5583.20	2870.77	1653431.52	14290308.37	39°21'09.238"N	80°57'14.256"W	6278.01	152.789	1.51	-1.18	-0.94	1.83	12845.00
88.950	157.240	6442.94	6339.33	-5669.32	2908.43	1653469.16	14290222.29	39°21'08.387"N	80°57'13.777"W	6371.82	152.842	2.00	-0.82	1.83	1.83	12939.00
88.950	157.240	6442.94	6339.33	-5669.32	2908.43	1653469.16	14290222.29	39°21'08.387"N	80°57'13.777"W	6371.82	152.842	2.00	-0.82	1.83	1.83	12939.00
13033.00	159.870	6443.31	6433.31	-5756.79	2942.79	1653503.51	14290134.85	39°21'07.522"N	80°57'13.340"W	6465.34	152.925	2.80	0.17	2.80	2.80	13033.00
13033.00	159.870	6443.31	6433.31	-5756.79	2942.79	1653503.51	14290134.85	39°21'07.522"N	80°57'13.340"W	6465.34	152.925	2.80	0.17	2.80	2.80	13033.00
89.170	163.740	6445.95	6527.14	-5846.06	2972.13	1653522.84	14290045.61	39°21'06.639"N	80°57'12.967"W	6558.20	153.051	4.12	0.06	4.12	4.12	13127.00
89.170	163.740	6445.95	6527.14	-5846.06	2972.13	1653522.84	14290045.61	39°21'06.639"N	80°57'12.967"W	6558.20	153.051	4.12	0.06	4.12	4.12	13127.00
89.260	164.460	6447.23	6620.70	-5936.46	2997.88	1653558.58	14289955.25	39°21'05.746"N	80°57'12.640"W	6650.47	153.206	0.77	0.10	-1.46	1.83	13221.00
89.260	164.460	6447.23	6620.70	-5936.46	2997.88	1653558.58	14289955.25	39°21'05.746"N	80°57'12.640"W	6650.47	153.206	0.77	0.10	-1.46	1.83	13221.00
89.110	163.070	6448.58	6715.31	-6027.66	3024.43	1653585.12	14289864.09	39°21'04.644"N	80°57'12.302"W	6743.87	153.354	1.47	-0.16	-1.46	1.83	13316.00
89.110	163.070	6448.58	6715.31	-6027.66	3024.43	1653585.12	14289864.09	39°21'04.644"N	80°57'12.302"W	6743.87	153.354	1.47	-0.16	-1.46	1.83	13316.00
89.140	155.160	6451.43	6903.13	-6202.63	3092.72	1653653.38	14289689.19	39°21'03.115"N	80°57'11.434"W	6930.91	153.499	3.29	0.00	-3.29	1.83	13504.00
89.140	155.160	6451.43	6903.13	-6202.63	3092.72	1653653.38	14289689.19	39°21'03.115"N	80°57'11.434"W	6930.91	153.499	3.29	0.00	-3.29	1.83	13504.00
88.800	155.130	6453.12	6996.94	-6287.91	3132.22	1653692.87	14289603.94	39°21'02.272"N	80°57'10.932"W	7024.86	153.521	0.36	-0.36	-0.03	1.83	13693.00
88.800	155.130	6453.12	6996.94	-6287.91	3132.22	1653692.87	14289603.94	39°21'02.272"N	80°57'10.932"W	7024.86	153.521	0.36	-0.36	-0.03	1.83	13693.00
88.550	159.530	6455.32	7091.87	-6375.52	3168.84	1653729.47	14289516.37	39°21'01.406"N	80°57'10.466"W	7119.60	153.571	4.61	-0.26	4.60	4.60	13693.00
88.550	159.530	6455.32	7091.87	-6375.52	3168.84	1653729.47	14289516.37	39°21'01.406"N	80°57'10.466"W	7119.60	153.571	4.61	-0.26	4.60	4.60	13693.00
13787.00	162.300	6456.96	7185.77	-6464.32	3199.59	1653760.21	14289427.60	39°21'00.528"N	80°57'10.076"W	7212.82	153.666	3.13	0.96	2.98	2.98	13787.00
13787.00	162.300	6456.96	7185.77	-6464.32	3199.59	1653760.21	14289427.60	39°21'00.528"N	80°57'10.076"W	7212.82	153.666	3.13	0.96	2.98	2.98	13787.00
89.630	159.030	6457.72	7279.70	-6553.00	3230.71	1653791.31	14289338.96	39°20'59.651"N	80°57'09.680"W	7306.11	153.756	3.48	0.19	-3.48	1.83	13881.00
89.630	159.030															





# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Terry Snider Pad
Slot	Slot #10
Dillon Unit 1H	Dillon Unit 1H AWP

## WELLPATH DATA (353 stations)

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)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
14070.00	89.480	159.990	6459.47	7468.64	-6728.02	3301.94	1653862.52	14289164.00	39°20'57.92"N	80°57'08.75"W	7494.61	153.859	4.03	0.11	4.03	
14164.00	89.910	162.960	6459.97	7562.52	-6817.14	3331.80	1653892.37	14289074.92	39°20'57.04"N	80°57'08.395"W	7587.78	153.953	3.19	0.46	3.16	
14258.00	90.220	158.380	6459.87	7656.43	-6905.82	3362.91	1653923.46	14288986.28	39°20'56.163"N	80°57'08.000"W	7681.11	154.035	4.88	0.33	-4.87	
14352.00	89.540	157.660	6460.06	7750.42	-6992.99	3398.09	1653958.63	14288899.15	39°20'55.302"N	80°57'07.552"W	7774.89	154.084	1.05	-0.72	-0.77	
14446.00	90.000	153.590	6460.44	7844.27	-7078.59	3436.88	1653997.40	14288813.58	39°20'54.455"N	80°57'07.059"W	7868.83	154.102	4.36	0.49	-4.33	
14540.00	89.260	150.680	6461.05	7937.66	-7161.68	3480.81	1654041.31	14288730.52	39°20'53.634"N	80°57'06.501"W	7962.77	154.079	3.19	-0.79	-3.10	
14634.00	89.540	153.690	6462.03	8031.05	-7244.80	3524.66	1654085.15	14288647.43	39°20'52.812"N	80°57'05.943"W	8056.70	154.057	3.22	0.30	3.20	
14728.00	90.000	151.900	6462.41	8219.58	-7415.77	3605.13	1654165.58	14288476.54	39°20'51.122"N	80°57'04.920"W	8245.64	154.074	5.16	0.00	-5.16	
14823.00	90.000	151.900	6462.41	8219.58	-7415.77	3605.13	1654165.58	14288476.54	39°20'51.122"N	80°57'04.920"W	8245.64	154.074	5.16	0.00	-5.16	
14917.00	89.780	157.420	6462.59	8313.32	-7500.69	3645.34	1654205.78	14288391.65	39°20'50.282"N	80°57'04.409"W	8339.60	154.080	5.88	-0.23	5.87	
15011.00	90.310	161.130	6462.52	8407.29	-7588.59	3678.60	1654239.03	14288303.78	39°20'49.413"N	80°57'03.986"W	8433.20	154.138	3.99	0.56	3.95	
15106.00	90.120	162.540	6462.16	8502.14	-7678.85	3708.22	1654268.63	14288213.56	39°20'48.521"N	80°57'03.609"W	8527.35	154.224	1.50	-0.20	1.48	
15200.00	90.340	163.810	6461.96	8595.84	-7768.85	3735.35	1654295.76	14288123.60	39°20'47.631"N	80°57'03.265"W	8620.20	154.321	1.45	0.00	1.45	
15293.00	90.340	163.810	6461.96	8595.84	-7768.85	3735.35	1654295.76	14288123.60	39°20'47.631"N	80°57'03.265"W	8620.20	154.321	1.45	0.00	1.45	
15387.00	90.430	159.820	6460.96	8782.28	-7947.46	3790.54	1654350.92	14287945.05	39°20'45.866"N	80°57'02.563"W	8805.14	154.501	4.25	0.10	-4.24	
15482.00	90.150	160.650	6460.48	8871.24	-8036.87	3822.67	1654383.04	14287855.69	39°20'44.982"N	80°57'02.155"W	8899.66	154.562	0.92	-0.29	0.87	
15576.00	90.180	160.680	6460.21	8971.18	-8125.56	3853.79	1654414.15	14287767.03	39°20'44.105"N	80°57'01.760"W	8993.14	154.626	0.05	0.03	0.03	
15670.00	90.150	158.860	6459.93	9065.16	-8213.76	3886.29	1654446.64	14287678.86	39°20'43.233"N	80°57'01.347"W	9086.76	154.679	1.94	-0.03	-1.94	
15765.00	90.220	158.360	6459.63	9160.16	-8302.22	3920.94	1654481.27	14287590.44	39°20'42.359"N	80°57'00.906"W	9181.53	154.720	0.53	0.07	-0.53	
15859.00	90.120	159.040	6459.35	9254.16	-8389.79	3955.09	1654515.40	14287502.90	39°20'41.493"N	80°57'00.472"W	9275.31	154.760	0.73	-0.11	0.72	
15953.00	90.120	159.580	6459.15	9348.15	-8477.73	3988.30	1654548.60	14287415.00	39°20'40.624"N	80°57'00.050"W	9369.02	154.806	0.57	0.00	0.57	
16030.00	90.000	159.120	6459.07	9425.15	-8549.78	4015.45	1654575.74	14287342.98	39°20'39.911"N	80°56'59.705"W	9445.78	154.843	0.62	-0.16	-0.60	
16055.00	90.000	159.120	6459.07	9450.15	-8573.14	4024.36	1654584.65	14287319.63	39°20'39.680"N	80°56'59.592"W	9470.71	154.854	0.00	0.00	0.00	Projected MD at TD: 16055'

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Dillon Unit 1H
Field	Tyler	Wellbore	Dillon Unit 1H AWB
Facility	Terry Slider Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Dillon Unit 1H POE - Rev-1	6409.00	142.83	587.68	1651149.35	14296032.10	39°22'05.842"N	80°57'43.289"W	point
Dillon Unit 1H BHL - Rev-1	6446.00	-8559.00	4022.79	1654583.07	14287333.76	39°20'39.820"N	80°56'59.612"W	point
Dillon Unit 1H LP - Rev-1	6446.00	-56.90	695.45	1651257.08	14295832.45	39°22'03.868"N	80°57'41.917"W	point

WELLPATH COMPOSITION - Ref Wellbore: Dillon Unit 1H AWB Ref Wellpath: Dillon Unit 1H AWP Proj: 16055'			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
25.00	5597.00	Gyrodatta standard - Continuous gyro	01 Gyrodatta Cont. Gyro <8-3/4"> (50-5597')
5597.00	16030.00	BHI AutoTrak Curve (Short)	02 AT Curve <8-1/2"> (5597')(5731'-16030')
16030.00	16055.00	Blind Drilling (std)	Projection to bit

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# Actual Wellpath Report

Dillon Unit 1H AWP Proj: 16055'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Dillon Unit 1H
Field	Tyler	Wellbore	Dillon Unit 1H AWB
Facility	Terry Snider Pad		

## COMMENTS

### Wellpath general comments

API: 47-095-02373-0000  
BHI Job #: 8278291  
Rig: Patterson 342  
Duration: 11/26/2016-11/29/2016  
Gyrodata Cont. Gyro <8-3/4"> (50'-5597')  
BHI AT Curve <8-1/2"> (5597')(5731'-16030')  
Middlesex: 6407' MD  
Burket: 6589' MD  
Tully: 6651' MD  
Marcellus POE: 6679' MD  
Projected MD at TD: 16055'

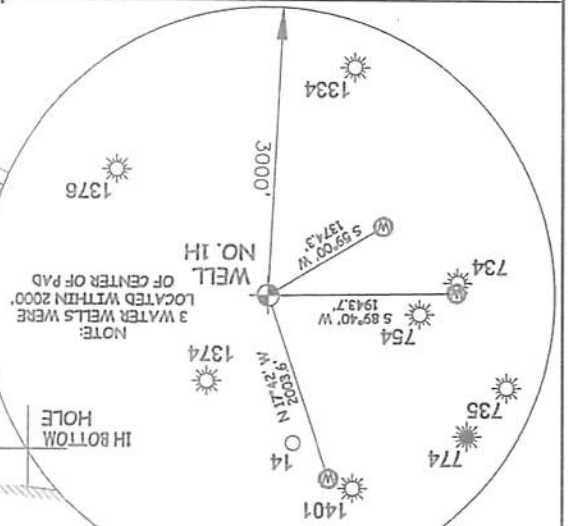
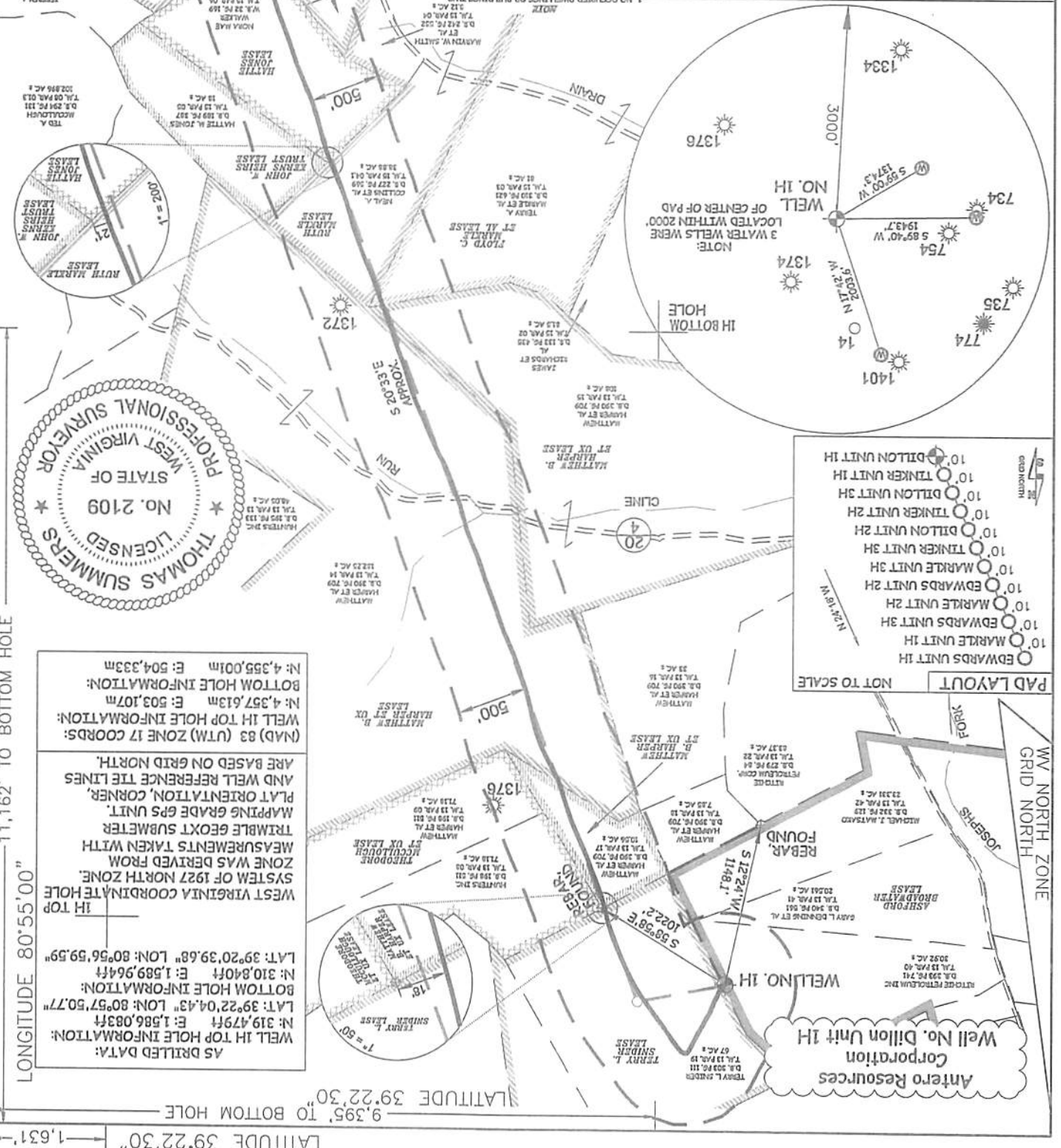
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WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL  
 COUNTY NAME: QUADRANGLE PENNSBORO 7.5 DISTRICT MEADE COUNTY TYLER  
 COUNTY: 47 STATE: 095 PERMIT: 02373  
 LOCATION: ELEVATION 1,146.5 AS-BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK  
 SURFACE OWNER: RITCHIE PETROLEUM INC. ACREAGE 30.92 ACRES +/-  
 OIL & GAS ROYALTY OWNER: ASHFORD BROADWAYER, TERRY L. SNIDER, THEODORE MCCULLOUGH ET AL.  
 LEASE ACREAGE: 633.712 AC. 67 AC. 188.72 AC. 10.56 AC. 182.26 AC. 108 AC. 81 AC. 44 AC. 27 AC. 52.5 AC.  
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE  
 PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL  
 (SPECIFY) AS DRILLED PLUG & ABANDON CLEAN OUT & REFLUG  
 TARGET FORMATION: MARCELLUS  
 WELL OPERATOR: ANTERO RESOURCES CORP. DESIGNATED AGENT: DIANNA STAMPER - CT CORPORATION SYSTEM  
 ADDRESS: 1615 WYNKOOP STREET DENVER, CO 80202  
 FORM WW-6

JOB # 12-152WA	DRAWING # DILLON#AD	SCALE 1" = 1000'	MINIMUM DEGREE OF ACCURACY	PROVEN SOURCE OF ELEV. SUBMETER	STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS
DATE 08/01/18	OPERATOR'S WELL # DILLON UNIT # 1H	THOMAS SUMMERS P.S. 2109	DATE 08/01/18	OPERATOR'S WELL # DILLON UNIT # 1H	DATE 08/01/18

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF OIL AND GAS  
 220 WASHINGTON AVE. PENNSBORO WEST VIRGINIA 26415  
 WILLOW LAND SURVEYING PLLC  
 1 THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.  
 I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



AS DRILLED DATA:  
 WELL 1H TOP HOLE INFORMATION: N: 319.479ft E: 1.586.083ft LON: 80°57'50.77" LAT: 39°22'04.43"  
 BOTTOM HOLE INFORMATION: N: 310.840ft E: 1.589.964ft LON: 80°56'59.59" LAT: 39°20'39.68"  
 (NAD) 83 (UTM) ZONE 17 COORDS: WELL 1H TOP HOLE INFORMATION: N: 4,357.613m E: 503.107m BOTTOM HOLE INFORMATION: N: 4,355.001m E: 504.333m

LATITUDE 39.22'30" LONGITUDE 80.57'30" LONGITUDE 80°55'00" LONGITUDE 80°57'30" LATITUDE 39.22'30" LONGITUDE 80°55'00" LONGITUDE 80°57'30"











## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/3/2018
Job End Date:	2/1/2018
State:	West Virginia
County:	Tyler
API Number:	47-095-02373-08-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Dillon Unit 1H
Latitude:	39.36789722
Longitude:	-80.96410278
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,462
Total Base Water Volume (gal):	19,066,425
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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	89.13448	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.31887	

WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
LP-50	Halliburton	Scale Inhibitor					
				Listed Below			

SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Crystalline silica, quartz	14808-60-7	100.00000	10.47932	
			Hydrochloric acid	7647-01-0	15.00000	0.38840	
			Guar gum	9000-30-0	100.00000	0.03385	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02113	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Inorganic salt	Proprietary	30.00000	0.02113	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02113	
			Methanol	67-56-1	60.00000	0.00412	
			Amines, polyethylenepoly-, ethoxylated, phosphonomethylated, sodium salts	70900-16-2	30.00000	0.00399	
			Glutaraldehyde	111-30-8	30.00000	0.00263	
			Sodium persulfate	7775-27-1	100.00000	0.00098	
			Sodium chloride	7647-14-5	5.00000	0.00066	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00044	
			Ethanol	64-17-5	1.00000	0.00009	
			Ethoxylated alcohols	Proprietary	30.00000	0.00006	
			Modified thiourea polymer	Proprietary	30.00000	0.00006	
			Fatty acids, tall oil	Proprietary	30.00000	0.00006	
			Olefins	Proprietary	5.00000	0.00002	

			Propargyl alcohol	107-19-7	10.00000	0.00002	
			Formaldehyde	50-00-0	0.09000	0.00001	
			Phosphoric acid	7664-38-2	0.10000	0.00001	
			Sodium sulfate	7757-82-6	0.10000	0.00000	

\* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

\*\*\* If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)