

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

API 47-095-02352 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 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 4357624m Easting 503101m
Landing Point of Curve Northing 4357611.44m Easting 503528.44m
Bottom Hole Northing 4355017m Easting 504554m

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 5/11/2016 Date drilling ceased 11/5/2016
Date completion activities began 10/4/2017 Date completion activities ceased 4/10/2018
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

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Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

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:
Jeb
9/12/2018

API 47-095 - 02352 Farm name Terry L. Snider Well number Dillon Unit 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	53'	New	94#, H-40	N/A	Y
Surface	17-1/2"	13-3/8"	500'	New	48#, H-40	N/A	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2484'	New	36#, J-55	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"/8-1/2"	5-1/2"	16399'	New	23#, P-110	N/A	Y
Tubing		2-3/8"	6707'		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	102 sx	15.6	1.18	120	0'	8 Hrs.
Surface	Class A	603 sx	15.6	1.18	826	0'	8 Hrs.
Coal							
Intermediate 1	Class A	975 sx	15.6	1.18	1181	0'	8 Hrs.
Intermediate 2							
Intermediate 3							
Production	Class H	402 sx (Lead) 1379 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) 16399 MD, 6473' TVD (BHL), 6476' (Deepest Point Drilled) Loggers TD (ft) 16399' MD
 Deepest formation penetrated Marcellus Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) 5854'

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

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

API 47- 095 - 02352 Farm name Terry L. Snider Well number Dillon Unit 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
*PLEASE SEE ATTACHED EXHIBIT 1					

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
*PLEASE SEE ATTACHED EXHIBIT 2								

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Please insert additional pages as applicable.

API 47- 095 - 02352 Farm name Terry L. Snider Well number Dillon Unit 2H

PRODUCING FORMATION(S)	DEPTHS		
Marcellus	6417' (TOP)	TVD	6858' (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 11485 mcfpd Oil 162 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 ₂ 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

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Please insert additional pages as applicable.

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

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

API 47-095-02352 Farm Name Terry L. Snider Well Number Dillon Unit 2H

EXHIBIT 1

Stage No.	Perforation Date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formations
1	1/4/2018	16130	16300	60	Marcellus
2	1/6/2018	15929	16099	60	Marcellus
3	1/6/2018	15728	15898	60	Marcellus
4	1/8/2018	15527	15697	60	Marcellus
5	1/9/2018	15326	15495	60	Marcellus
6	1/9/2018	15125	15294	60	Marcellus
7	1/12/2018	14924	15093	60	Marcellus
8	1/15/2018	14722	14892	60	Marcellus
9	1/15/2018	14521	14691	60	Marcellus
10	1/16/2018	14320	14490	60	Marcellus
11	1/16/2018	14119	14289	60	Marcellus
12	1/17/2018	13918	14088	60	Marcellus
13	1/18/2018	13717	13886	60	Marcellus
14	1/20/2018	13516	13685	60	Marcellus
15	1/20/2018	13315	13484	60	Marcellus
16	1/20/2018	13113	13283	60	Marcellus
17	1/21/2018	12912	13082	60	Marcellus
18	1/21/2018	12711	12881	60	Marcellus
19	1/22/2018	12510	12680	60	Marcellus
20	1/22/2018	12309	12478	60	Marcellus
21	1/23/2018	12108	12277	60	Marcellus
22	1/23/2018	11907	12076	60	Marcellus
23	1/23/2018	11705	11875	60	Marcellus
24	1/24/2018	11504	11674	60	Marcellus
25	1/24/2018	11303	11473	60	Marcellus
26	1/24/2018	11102	11272	60	Marcellus
27	1/25/2018	10901	11071	60	Marcellus
28	1/25/2018	10700	10869	60	Marcellus
29	1/26/2018	10499	10668	60	Marcellus
30	1/26/2018	10298	10467	60	Marcellus
31	1/26/2018	10096	10266	60	Marcellus
32	1/27/2018	9895	10065	60	Marcellus
33	1/27/2018	9694	9864	60	Marcellus
34	1/28/2018	9493	9663	60	Marcellus
35	1/28/2018	9292	9462	60	Marcellus
36	1/28/2018	9091	9260	60	Marcellus
37	1/29/2018	8890	9059	60	Marcellus
38	1/29/2018	8689	8858	60	Marcellus
39	1/29/2018	8487	8657	60	Marcellus
40	1/30/2018	8286	8456	60	Marcellus
41	1/30/2018	8085	8255	60	Marcellus
42	1/31/2018	7884	8054	60	Marcellus
43	1/31/2018	7683	7852	60	Marcellus
44	1/31/2018	7482	7651	60	Marcellus
45	2/1/2018	7281	7450	60	Marcellus
46	2/1/2018	7079	7249	60	Marcellus
47	2/1/2018	6878	7048	60	Marcellus

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API 47-095-02352 Farm Name Terry L. Snider Well Number Dillon Unit 2H

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 (bbbls)	Amount of Nitrogen/ other (units)
1	1/4/2018	79.3	7799	5478	4513	17790	8990	N/A
2	1/6/2018	72.4	7541	5465	3498	16504	10227	N/A
3	1/6/2018	77.8	7931	7107	4031	19069	11651	N/A
4	1/8/2018	78	7596	5278	4381	17255	9698	N/A
5	1/9/2018	76.8	7658	5327	3866	16851	10321	N/A
6	1/9/2018	71.2	7400	5232	3832	16464	10207	N/A
7	1/12/2018	57.7	6911	5252	5254	17417	18756	N/A
8	1/15/2018	73.5	7093	5106	4814	17013	9927	N/A
9	1/15/2018	70.5	7224	5118	4456	16798	10313	N/A
10	1/16/2018	75.2	7205	5044	4113	16362	10267	N/A
11	1/16/2018	74.9	7120	5432	4257	16809	8896	N/A
12	1/17/2018	73	7071	5317	4899	17287	9216	N/A
13	1/18/2018	60.9	7374	5205	3855	16434	16897	N/A
14	1/20/2018	72.9	7174	5617	3963	16754	9766	N/A
15	1/20/2018	75.8	7271	5299	3805	16375	9272	N/A
16	1/20/2018	76.7	7136	5026	4341	16503	8975	N/A
17	1/21/2018	75.1	7180	5399	4773	17352	9044	N/A
18	1/21/2018	75.8	7053	5183	4008	16244	11551	N/A
19	1/22/2018	75.1	7418	5292	3240	15950	11055	N/A
20	1/22/2018	73.5	7376	5175	3911	16462	11865	N/A
21	1/23/2018	74.5	6758	4967	4733	16458	8942	N/A
22	1/23/2018	73.5	6812	5240	4822	16874	9581	N/A
23	1/23/2018	73.7	6787	5442	4178	16407	9359	N/A
24	1/24/2018	74	6810	5296	4496	16602	8898	N/A
25	1/24/2018	78.8	6954	4982	4761	16697	8992	N/A
26	1/24/2018	78.7	6812	5015	4180	16007	9030	N/A
27	1/25/2018	77.3	6888	5087	4222	16197	9042	N/A
28	1/25/2018	77.4	6940	4929	4585	16454	9186	N/A
29	1/26/2018	78.4	6856	5043	4358	16257	9040	N/A
30	1/26/2018	77.7	6843	4879	4313	16035	9558	N/A
31	1/26/2018	78.5	6935	5101	4592	16628	8901	N/A
32	1/27/2018	78.7	6845	5129	4900	16874	8677	N/A
33	1/27/2018	76.8	7062	5095	4480	16637	10821	N/A
34	1/28/2018	79.1	6734	5438	4890	17062	8540	N/A
35	1/28/2018	76	6763	5281	4872	16916	11794	N/A
36	1/28/2018	79	6856	5252	4236	16344	8783	N/A
37	1/29/2018	79.4	6790	5026	4468	16284	8671	N/A
38	1/29/2018	79.7	7024	5012	4569	16605	10267	N/A
39	1/29/2018	78.6	6754	5085	4996	16835	9588	N/A
40	1/30/2018	79.6	6670	5109	4472	16251	9418	N/A
41	1/30/2018	76.7	6751	5055	4837	16643	9084	N/A
42	1/31/2018	75.8	6463	5003	4907	16373	9374	N/A
43	1/31/2018	74.5	6533	5152	4801	16486	9895	N/A
44	1/31/2018	76.1	6922	5035	4003	15960	10310	N/A
45	2/1/2018	77.3	6467	5161	4294	15922	9155	N/A
46	2/1/2018	75.1	6435	5140	4491	16066	9208	N/A
47	2/1/2018	75.8	6327	5854	4315	16496	8954	N/A
	AVG=	75.5	7,007	5,237	4,395	782,063	469,962	TOTAL

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EXHIBIT 3

LITHOLOGY/ FORMATION	TOP DEPTH (TVD)	BOTTOM DEPTH (TVD)	TOP DEPTH (MD)	BOTTOM DEPTH (MD)
	From Surface	From Surface	From Surface	From Surface
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	2,039	N/A	2,040	N/A
Big Injun	2,149	N/A	2,152	N/A
Gantz Sand	2,565	N/A	2,576	N/A
Fifty Foot Sandstone	2,855	N/A	2,875	N/A
Gordon	2,935	N/A	2,959	N/A
Fifth Sandstone	3,212	N/A	3,244	N/A
Bayard	3,277	N/A	3,310	N/A
Warren	3,668	N/A	3,713	N/A
Speechley	4,008	N/A	4,063	N/A
Balltown	4,306	N/A	4,370	N/A
Bradford	4,694	N/A	4,769	N/A
Benson	5,071	N/A	5,160	N/A
Alexander	5,289	N/A	5,385	N/A
Rhinestreet	5,854	N/A	5,964	N/A
Sycamore	6,190	N/A	6,351	N/A
Middlesex	6,284	N/A	6,495	N/A
Burkett	6,378	N/A	6,709	N/A
Tully	6,406	N/A	6,812	N/A
Marcellus	6,417	N/A	6,858	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

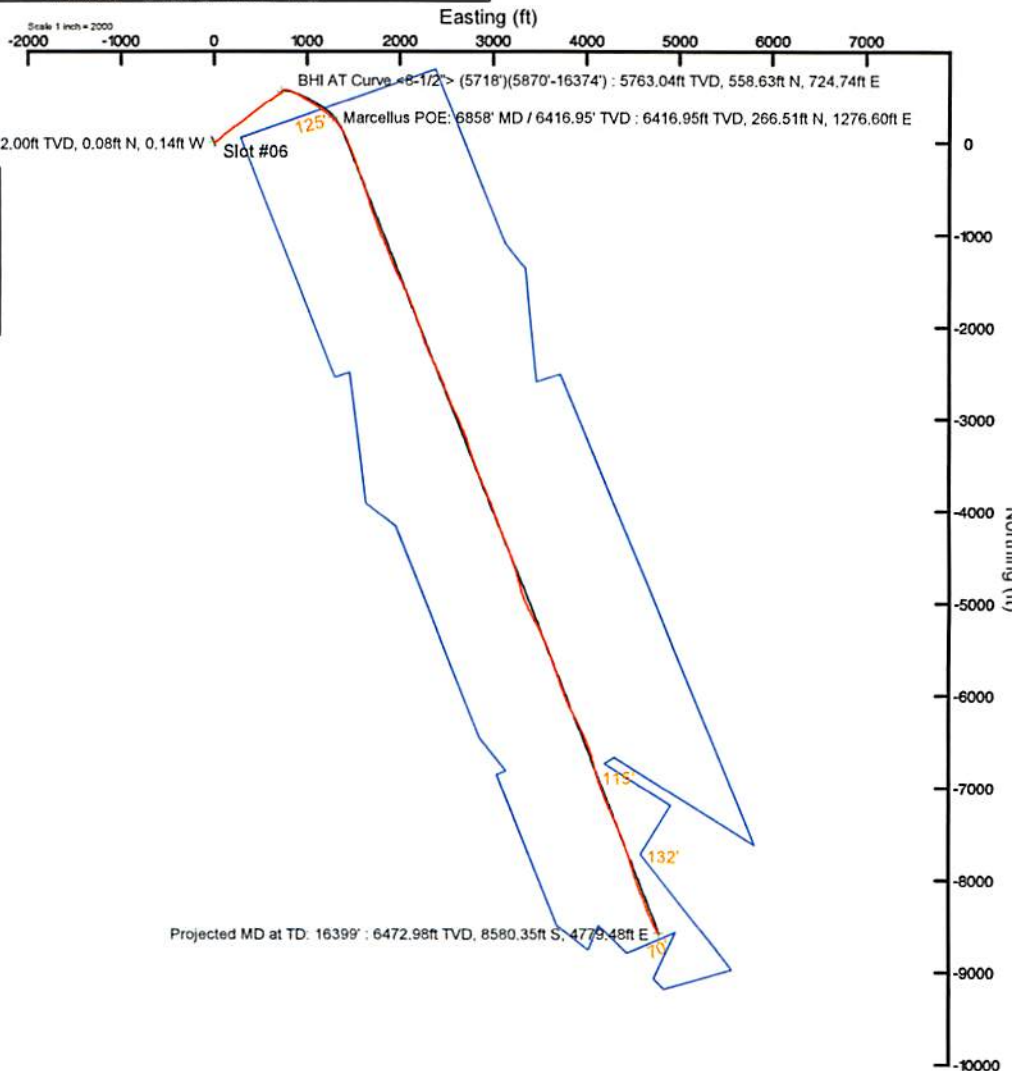
Location: Tyler County, WV
 Field: Tyler
 Facility: Terry Snider Pad

Slot: Slot #06
 Well: Dillon Unit 2H
 Wellbore: Dillon Unit 2H PWB



Plot reference wellpath is Dillon Unit 2H PWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North US feet
True vertical depths are referenced to Patterson 342 (RKB)	* = Wellbore was transformed from a different geoidic datum
Measured depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Patterson 342 (RKB) to Mean Sea Level: 1172 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #06): -1147 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ehsayan on 2016-11-12
	Database: WA_MPL_EASTERNUS_Data

Gyrodata MS Gyro <8-3/4"> (100'-5706') : 112.00ft TVD, 0.08ft N, 0.14ft W



Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Terry Snider Pad	1650540.845	14295934.525	39°22'04.880"N	80°57'51.040"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
Slot #06	-9.11	3.93	1650544.770	14295925.420	39°22'04.790"N
Comment: Dillon Unit 2H					
Patterson 342 (RKB) to Mud line (At Slot: Slot #06)			25ft		
Mean Sea Level to Mud line (At Slot: Slot #06)			-1147ft		
Patterson 342 (RKB) to Mean Sea Level			1172ft		

Well Profile Data								
Design Comment	MD (ft)	Inc. (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	5718.00	12.230	48.810	5615.28	533.20	699.86	0.00	-241.96
Proj. to Bottom / KOP	5898.00	12.230	48.810	5791.20	558.31	728.55	0.00	-254.91
End of 3D Arc	6990.90	71.571	123.288	6382.46	364.06	1163.96	8.57	65.84
POE	6790.67	75.799	131.690	6408.00	331.07	1232.96	10.00	140.31
Landing Pt.	7093.22	90.000	158.658	6446.00	86.99	1401.51	10.00	428.99
BHL	16403.22	90.000	158.658	6446.00	-8584.60	4789.69	0.00	9738.99

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #06	Dillon Unit 2H	Dillon Unit 2H AWB	Dillon Unit 2H AWP Proj. 16399'
Slot #06	Dillon Unit 2H	Dillon Unit 2H PWB	Dillon Unit 2H PWP Rev-B.0

Scale 1 inch = 1500

Gyrodata MS Gyro <8-3/4"> (100'-5706') : 0.21" Inc, 112.00ft MD, 112.00ft TVD, -0.13ft VS

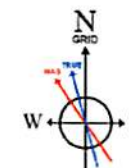
API: 47-095-02352-0000
 BHI Job #: 8223275
 Rig: Patterson 342
 Duration: 10/26/2016-11/1/2016

BHI AT Curve <8-1/2"> (5718')(5870'-16374') : 14.91" Inc, 5870.00ft MD, 5763.04ft TVD, -256.60ft VS

Marcellus POE: 6858' MD / 6416.95' TVD : 77.74" Inc, 6858.00ft MD, 6416.95ft TVD, 216.32ft VS

Projected MD at TD: 16399' : 90.18" Inc, 16399.00ft MD, 6472.98ft TVD, 9731.32ft VS

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User specified Dip: 66.70° Field: 52035 nT
 Magnetic North is 7.76 degrees West of True North (at 10/25/2016)
 Grid North is 0.02 degrees East of True North
 To correct azimuth from True to Grid subtract 0.02 degrees
 To correct azimuth from Magnetic to Grid subtract 7.78 degrees

Vertical Section (ft)
 Azimuth 158.66° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Tyler County, WV	Well	Dillon Unit 2H
Field	Tyler	Wellbore	Dillon Unit 2H 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	Edsaryar
Scale	0.999600	Report Generated	11/12/2016 at 12:31:39 PM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Dillon_Unit_2H_AWP_Proj_16399_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-9.11	3.93	1650544.77	14295925.42	39°22'04.790"N	80°57'50.990"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 #06)	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	158.66°

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Tyler County, WV	Well	Dillon Unit 2H
Field	Tyler	Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (193 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	0.00	301.570	0.00	0.00	0.00	0.00	1650544.77	14295925.42	39°22'04.790"N	80°57'50.990"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.00	301.570	25.00	0.00	0.00	0.00	1650544.77	14295925.42	39°22'04.790"N	80°57'50.990"W	0.00	0.000	0.00	0.00	0.00	
112.00	0.210	301.570	112.00	-0.13	0.08	-0.14	1650544.63	14295925.50	39°22'04.791"N	80°57'50.992"W	0.16	301.570	0.24	0.24	-67.16	Gyrodata MS Gyro <8-3/4"> (100'-5706')
212.00	0.210	344.260	212.00	-0.46	0.36	-0.34	1650544.43	14295925.78	39°22'04.793"N	80°57'50.994"W	0.49	316.159	0.15	0.00	42.69	
312.00	0.130	350.400	312.00	-0.75	0.64	-0.41	1650544.36	14295926.06	39°22'04.796"N	80°57'50.995"W	0.76	327.499	0.08	-0.08	6.14	
412.00	0.050	44.940	412.00	-0.88	0.79	-0.40	1650544.37	14295926.21	39°22'04.798"N	80°57'50.995"W	0.88	333.143	0.11	-0.08	54.54	
512.00	0.100	205.060	512.00	-0.84	0.74	-0.40	1650544.37	14295926.16	39°22'04.797"N	80°57'50.995"W	0.84	331.289	0.15	0.05	160.12	
612.00	0.340	157.100	612.00	-0.48	0.39	-0.33	1650544.44	14295925.81	39°22'04.794"N	80°57'50.994"W	0.51	319.829	0.28	0.24	-47.96	
712.00	0.630	158.410	711.99	0.37	-0.40	-0.01	1650544.76	14295925.02	39°22'04.786"N	80°57'50.990"W	0.40	181.197	0.29	0.29	1.31	
812.00	1.080	162.630	811.98	1.86	-1.81	0.48	1650545.25	14295923.61	39°22'04.772"N	80°57'50.984"W	1.87	165.277	0.45	0.45	4.22	
912.00	1.060	160.770	911.97	3.72	-3.58	1.06	1650545.83	14295921.84	39°22'04.755"N	80°57'50.977"W	3.74	163.495	0.04	-0.02	-1.86	
1012.00	0.900	134.020	1011.95	5.36	-5.00	1.93	1650546.70	14295920.42	39°22'04.741"N	80°57'50.965"W	5.36	158.889	0.48	-0.16	-26.75	
1112.00	0.650	80.660	1111.94	6.19	-5.45	3.06	1650547.82	14295919.97	39°22'04.736"N	80°57'50.951"W	6.25	150.746	0.73	-0.25	-53.36	
1212.00	0.690	8.310	1211.94	5.79	-4.77	3.70	1650548.47	14295920.66	39°22'04.743"N	80°57'50.943"W	6.04	142.166	0.79	0.04	-72.35	
1312.00	1.300	332.030	1311.92	4.14	-3.17	3.26	1650548.03	14295922.25	39°22'04.759"N	80°57'50.949"W	4.54	134.216	0.85	0.61	-36.28	
1412.00	1.320	327.250	1411.90	1.88	-1.20	2.10	1650546.87	14295924.22	39°22'04.778"N	80°57'50.963"W	2.42	119.691	0.11	0.02	-4.78	
1512.00	0.790	320.770	1511.88	0.10	0.30	1.04	1650545.81	14295925.72	39°22'04.793"N	80°57'50.977"W	1.09	73.729	0.54	-0.53	-6.48	
1612.00	0.420	7.110	1611.87	-0.88	1.20	0.65	1650545.42	14295926.62	39°22'04.802"N	80°57'50.982"W	1.37	28.478	0.59	-0.37	46.34	
1712.00	1.900	73.930	1711.85	-1.05	2.02	2.29	1650547.06	14295927.44	39°22'04.810"N	80°57'50.961"W	3.06	48.525	1.78	1.48	66.82	
1812.00	3.260	63.140	1811.75	-1.17	3.77	6.42	1650551.19	14295929.19	39°22'04.827"N	80°57'50.908"W	7.44	59.590	1.44	1.36	-10.79	
1912.00	5.220	53.980	1911.47	-2.60	7.73	12.64	1650557.40	14295933.15	39°22'04.866"N	80°57'50.829"W	14.81	58.551	2.07	1.96	-9.16	
2012.00	7.220	54.170	2010.88	-5.33	14.08	21.41	1650566.17	14295939.50	39°22'04.929"N	80°57'50.717"W	25.63	56.667	2.00	2.00	0.19	
2112.00	9.290	59.740	2109.84	-8.15	21.83	33.48	1650578.24	14295947.24	39°22'05.006"N	80°57'50.564"W	39.97	56.895	2.22	2.07	5.57	
2212.00	10.730	59.060	2208.31	-10.95	30.68	48.44	1650593.19	14295956.09	39°22'05.093"N	80°57'50.373"W	57.34	57.647	1.44	1.44	-0.68	
2312.00	11.120	52.310	2306.51	-15.22	41.37	64.05	1650608.80	14295966.77	39°22'05.199"N	80°57'50.174"W	76.25	57.145	1.34	0.39	-6.75	
2412.00	12.090	46.270	2404.46	-21.93	54.50	79.25	1650623.99	14295979.90	39°22'05.328"N	80°57'49.981"W	96.18	55.484	1.55	0.97	-6.04	
2512.00	12.600	44.920	2502.15	-30.31	69.46	94.52	1650639.25	14295994.86	39°22'05.476"N	80°57'49.786"W	117.30	53.688	0.59	0.51	-1.35	
2612.00	12.380	43.320	2599.79	-39.28	84.99	109.58	1650654.30	14296010.37	39°22'05.630"N	80°57'49.594"W	138.67	52.203	0.41	-0.22	-1.60	
2712.00	14.860	52.780	2696.98	-47.38	100.55	127.15	1650671.87	14296025.93	39°22'05.783"N	80°57'49.371"W	162.10	51.664	3.33	2.48	9.46	
2812.00	14.780	52.480	2793.65	-54.45	116.07	147.48	1650692.19	14296041.44	39°22'05.937"N	80°57'49.112"W	187.67	51.796	0.11	-0.08	-0.30	

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #06
Area	Tyler County, WV		Well	Dillon Unit 2H
Field	Tyler		Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (193 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]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
2912.00	15.180	52.800	2890.25	-61.58	131.76	168.02	1650712.72	14296057.12	39°22'06.092"N	80°57'48.850"W	213.52	51.898	0.41	0.40	0.32	
3012.00	14.700	51.650	2986.87	-68.87	147.54	188.40	1650733.10	14296072.90	39°22'06.247"N	80°57'48.590"W	239.30	51.934	0.56	-0.48	-1.15	
3112.00	13.920	50.720	3083.77	-76.29	163.03	207.66	1650752.35	14296088.39	39°22'06.400"N	80°57'48.345"W	264.01	51.865	0.81	-0.78	-0.93	
3212.00	13.280	57.500	3180.97	-82.21	176.82	226.66	1650771.34	14296102.17	39°22'06.537"N	80°57'48.103"W	287.47	52.042	1.72	-0.64	6.78	
3312.00	12.310	54.930	3278.49	-86.97	189.12	245.07	1650789.75	14296114.46	39°22'06.658"N	80°57'47.869"W	309.56	52.344	1.12	-0.97	-2.57	
3412.00	13.900	52.310	3375.88	-92.88	202.59	263.30	1650807.97	14296127.92	39°22'06.791"N	80°57'47.636"W	332.22	52.425	1.70	1.59	-2.62	
3512.00	13.120	55.330	3473.11	-98.88	216.39	282.14	1650826.80	14296141.72	39°22'06.928"N	80°57'47.396"W	355.57	52.514	1.05	-0.78	3.02	
3612.00	13.100	54.740	3570.51	-104.22	229.38	300.73	1650845.38	14296154.71	39°22'07.056"N	80°57'47.160"W	378.23	52.665	0.14	-0.02	-0.59	
3712.00	14.450	56.360	3667.63	-109.60	242.84	320.37	1650865.02	14296168.16	39°22'07.189"N	80°57'46.910"W	402.01	52.838	1.40	1.35	1.62	
3812.00	15.020	50.720	3764.35	-116.25	257.96	340.79	1650885.43	14296183.27	39°22'07.338"N	80°57'46.649"W	427.41	52.877	1.54	0.57	-5.64	
3912.00	14.170	47.290	3861.12	-124.71	274.46	359.82	1650904.44	14296199.77	39°22'07.501"N	80°57'46.407"W	452.55	52.664	1.21	-0.85	-3.43	
4012.00	14.150	49.050	3958.08	-133.27	290.78	378.04	1650922.66	14296216.08	39°22'07.662"N	80°57'46.175"W	476.93	52.434	0.43	-0.02	1.76	
4112.00	14.320	47.450	4055.01	-141.84	307.15	396.39	1650941.00	14296232.45	39°22'07.824"N	80°57'45.941"W	501.46	52.229	0.43	0.17	-1.60	
4212.00	14.120	51.130	4151.95	-149.99	323.17	414.99	1650959.60	14296248.46	39°22'07.982"N	80°57'45.704"W	525.98	52.091	0.93	-0.20	3.68	
4312.00	13.290	54.470	4249.10	-156.48	337.50	433.84	1650978.44	14296262.79	39°22'08.124"N	80°57'45.464"W	549.66	52.120	1.15	-0.83	3.34	
4412.00	13.530	52.630	4346.38	-162.53	351.28	452.50	1650997.08	14296276.56	39°22'08.260"N	80°57'45.227"W	572.84	52.177	0.49	0.24	-1.84	
4512.00	13.080	48.620	4443.70	-169.64	365.86	470.28	1651014.86	14296291.13	39°22'08.404"N	80°57'45.000"W	595.84	52.118	1.03	-0.45	-4.01	
4612.00	13.460	56.010	4541.03	-176.07	379.85	488.42	1651033.00	14296305.12	39°22'08.542"N	80°57'44.769"W	618.74	52.128	1.74	0.38	7.39	
4712.00	13.250	51.500	4638.33	-182.00	393.49	507.04	1651051.61	14296318.75	39°22'08.677"N	80°57'44.532"W	641.82	52.187	1.06	-0.21	-4.51	
4812.00	15.370	51.750	4735.22	-189.23	408.83	526.42	1651070.98	14296334.09	39°22'08.829"N	80°57'44.285"W	666.53	52.166	2.12	2.12	0.25	
4912.00	15.580	53.100	4831.60	-196.69	425.10	547.57	1651092.12	14296350.35	39°22'08.989"N	80°57'44.016"W	693.21	52.176	0.42	0.21	1.35	
5012.00	14.540	51.150	4928.16	-204.07	441.04	568.08	1651112.63	14296366.28	39°22'09.147"N	80°57'43.754"W	719.19	52.176	1.16	-1.04	-1.95	
5112.00	14.470	59.620	5024.99	-209.81	455.23	588.64	1651133.17	14296380.47	39°22'09.287"N	80°57'43.493"W	744.13	52.283	2.12	-0.07	8.47	
5212.00	14.910	58.500	5121.72	-214.04	468.27	610.39	1651154.91	14296393.50	39°22'09.416"N	80°57'43.216"W	769.32	52.506	0.52	0.44	-1.12	
5312.00	15.190	56.410	5218.29	-219.09	482.24	632.27	1651176.79	14296407.47	39°22'09.554"N	80°57'42.937"W	795.19	52.667	0.61	0.28	-2.09	
5412.00	11.940	50.610	5315.49	-225.08	496.06	651.19	1651195.69	14296421.28	39°22'09.690"N	80°57'42.696"W	818.61	52.701	3.52	-3.25	-5.80	
5512.00	10.470	54.130	5413.58	-230.56	507.95	666.54	1651211.05	14296433.16	39°22'09.808"N	80°57'42.500"W	838.03	52.690	1.62	-1.47	3.52	
5612.00	12.030	54.390	5511.66	-235.41	519.34	682.38	1651226.88	14296444.55	39°22'09.920"N	80°57'42.299"W	857.53	52.726	1.56	1.56	0.26	
5712.00	12.280	49.150	5609.42	-241.53	532.36	698.90	1651243.39	14296457.57	39°22'10.049"N	80°57'42.088"W	878.56	52.703	1.13	0.25	-5.24	
5718.00	12.230	48.810	5615.28	-241.96	533.20	699.86	1651244.35	14296458.41	39°22'10.057"N	80°57'42.076"W	879.83	52.697	1.46	-0.83	-5.67	

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Tyler County, WV	Well	Dillon Unit 2H
Field	Tyler	Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (193 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
5870.00	14.910	40.720	5763.04	-256.60	558.63	724.74	1651269.22	14296483.83	39°22'10.308"N	80°57'41.759"W	915.05	52.375	2.16	1.76	-5.32	BHI AT Curve <8-1/2"> (5718')(5870'-16374')
5912.00	14.860	42.880	5803.63	-261.47	566.67	731.93	1651276.40	14296491.86	39°22'10.388"N	80°57'41.668"W	925.65	52.252	1.33	-0.12	5.14	
5965.00	16.360	65.090	5854.72	-264.89	574.80	743.33	1651287.80	14296499.99	39°22'10.468"N	80°57'41.522"W	939.65	52.286	11.55	2.83	41.91	
6012.00	18.880	84.640	5899.55	-263.21	578.31	756.92	1651301.39	14296503.49	39°22'10.503"N	80°57'41.349"W	952.56	52.619	13.61	5.36	41.60	
6059.00	20.700	97.070	5943.79	-257.16	577.99	772.74	1651317.20	14296503.18	39°22'10.499"N	80°57'41.148"W	964.99	53.204	9.73	3.87	26.45	
6105.00	23.000	103.930	5986.49	-248.10	574.83	789.54	1651333.99	14296500.02	39°22'10.468"N	80°57'40.934"W	976.63	53.943	7.46	5.00	14.91	
6152.00	26.750	108.200	6029.13	-236.06	569.31	808.51	1651352.95	14296494.50	39°22'10.414"N	80°57'40.692"W	988.84	54.849	8.84	7.98	9.09	
6199.00	31.110	112.500	6070.26	-220.91	561.36	829.79	1651374.22	14296486.55	39°22'10.335"N	80°57'40.422"W	1001.83	55.921	10.27	9.28	9.15	
6247.00	35.240	115.600	6110.43	-202.19	550.62	853.74	1651398.17	14296475.82	39°22'10.229"N	80°57'40.117"W	1015.91	57.180	9.30	8.60	6.46	
6294.00	39.540	118.390	6147.76	-180.86	537.64	879.15	1651423.56	14296462.85	39°22'10.100"N	80°57'39.793"W	1030.51	58.552	9.83	9.15	5.94	
6341.00	41.980	119.150	6183.36	-157.31	522.87	906.04	1651450.45	14296448.08	39°22'09.954"N	80°57'39.451"W	1046.09	60.011	5.30	5.19	1.62	
6351.00†	43.081	119.619	6190.73	-152.08	519.55	911.93	1651456.33	14296444.77	39°22'09.921"N	80°57'39.376"W	1049.55	60.329	11.46	11.01	4.69	Sycamore: 6351' MD / 6190.7' TVD
6388.00	47.170	121.200	6216.83	-131.49	506.27	934.53	1651478.93	14296431.49	39°22'09.790"N	80°57'39.088"W	1062.86	61.554	11.46	11.05	4.27	
6435.00	51.080	122.800	6247.58	-102.98	487.43	964.65	1651509.04	14296412.66	39°22'09.604"N	80°57'38.705"W	1080.81	63.193	8.71	8.32	3.40	
6480.00	54.160	122.960	6274.90	-73.97	468.02	994.68	1651539.05	14296393.26	39°22'09.412"N	80°57'38.323"W	1099.29	64.802	6.85	6.84	0.36	
6495.00†	55.198	122.988	6283.57	-64.03	461.36	1004.95	1651549.31	14296386.60	39°22'09.346"N	80°57'38.192"W	1105.79	65.341	6.92	6.92	0.19	Middlesex: 6495' MD / 6283.6' TVD
6530.00	57.620	123.050	6302.93	-40.34	445.48	1029.39	1651573.75	14296370.72	39°22'09.189"N	80°57'37.881"W	1121.65	66.599	6.92	6.92	0.18	
6575.00	61.510	122.970	6325.72	-8.81	424.34	1061.92	1651606.26	14296349.59	39°22'08.980"N	80°57'37.467"W	1143.57	68.218	8.65	8.64	-0.18	
6624.00	65.240	123.400	6347.68	26.85	400.37	1098.57	1651642.90	14296325.63	39°22'08.743"N	80°57'37.000"W	1169.26	69.976	7.65	7.61	0.88	
6671.00	68.970	124.020	6365.96	62.34	376.34	1134.58	1651678.90	14296301.61	39°22'08.505"N	80°57'36.542"W	1195.37	71.649	8.03	7.94	1.32	
6709.00†	71.812	124.608	6378.71	91.89	356.16	1164.14	1651708.45	14296281.44	39°22'08.305"N	80°57'36.165"W	1217.41	72.989	7.62	7.48	1.55	Burket: 6709' MD / 6378.7' TVD
6719.00	72.560	124.760	6381.77	99.78	350.75	1171.97	1651716.27	14296276.02	39°22'08.252"N	80°57'36.066"W	1223.33	73.339	7.62	7.48	1.52	
6766.00	74.990	127.730	6394.91	137.88	324.06	1208.36	1651752.64	14296249.35	39°22'07.988"N	80°57'35.603"W	1251.06	74.987	7.97	5.17	6.32	
6812.00†	75.920	129.776	6406.46	176.47	296.19	1243.08	1651787.35	14296221.49	39°22'07.712"N	80°57'35.161"W	1277.88	76.598	4.76	2.02	4.45	Tully: 6812' MD / 6406.5' TVD
6813.00	75.940	129.820	6406.70	177.32	295.57	1243.82	1651788.09	14296220.87	39°22'07.706"N	80°57'35.151"W	1278.46	76.633	4.76	2.04	4.43	
6858.00†	77.739	133.284	6416.95	216.32	266.51	1276.60	1651820.86	14296191.82	39°22'07.419"N	80°57'34.734"W	1304.13	78.208	8.49	4.00	7.70	Marcellus POE: 6858' MD / 6416.95' TVD
6859.00	77.780	133.360	6417.16	217.20	265.84	1277.31	1651821.57	14296191.15	39°22'07.412"N	80°57'34.725"W	1304.69	78.243	8.49	4.05	7.64	
6907.00	79.410	137.310	6426.66	260.40	232.38	1310.38	1651854.62	14296157.71	39°22'07.081"N	80°57'34.304"W	1330.82	79.944	8.75	3.40	8.23	
6953.00	79.570	142.200	6435.05	303.18	197.87	1339.59	1651883.82	14296123.21	39°22'06.740"N	80°57'33.932"W	1354.12	81.598	10.46	0.35	10.63	
7001.00	82.160	147.320	6442.68	349.16	159.17	1366.92	1651911.14	14296084.53	39°22'06.357"N	80°57'33.585"W	1376.15	83.358	11.83	5.40	10.67	

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #06
Area	Tyler County, WV		Well	Dillon Unit 2H
Field	Tyler		Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (193 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
7047.00	84.080	152.000	6448.19	394.25	119.77	1389.97	1651934.18	14296045.14	39°22'05.968"N	80°57'33.291"W	1395.12	85.075	10.93	4.17	10.17	
7096.00	86.950	156.200	6452.03	442.93	75.84	1411.30	1651955.50	14296001.23	39°22'05.534"N	80°57'33.020"W	1413.34	86.924	10.36	5.86	8.57	
7142.00	87.970	157.130	6454.06	488.86	33.65	1429.50	1651973.70	14295959.05	39°22'05.117"N	80°57'32.788"W	1429.90	88.652	3.00	2.22	2.02	
7190.00	90.280	157.500	6454.80	536.84	-10.63	1448.01	1651992.20	14295914.79	39°22'04.679"N	80°57'32.553"W	1448.05	90.421	4.87	4.81	0.77	
7284.00	90.280	157.840	6454.34	630.82	-97.58	1483.73	1652027.90	14295827.88	39°22'03.819"N	80°57'32.099"W	1486.93	93.763	0.36	0.00	0.36	
7379.00	90.090	158.890	6454.03	725.82	-185.89	1518.75	1652062.91	14295739.61	39°22'02.946"N	80°57'31.653"W	1530.08	96.978	1.12	-0.20	1.11	
7472.00	89.820	161.230	6454.10	818.78	-273.31	1550.46	1652094.61	14295652.22	39°22'02.082"N	80°57'31.250"W	1574.37	99.997	2.53	-0.29	2.52	
7567.00	90.220	159.790	6454.07	913.73	-362.86	1582.16	1652126.29	14295562.71	39°22'01.197"N	80°57'30.847"W	1623.24	102.917	1.57	0.42	-1.52	
7661.00	90.030	162.050	6453.87	1007.65	-451.69	1612.89	1652157.01	14295473.91	39°22'00.319"N	80°57'30.456"W	1674.94	105.645	2.41	-0.20	2.40	
7755.00	90.580	163.240	6453.36	1101.42	-541.41	1640.92	1652185.03	14295384.23	39°21'59.432"N	80°57'30.100"W	1727.93	108.260	1.39	0.59	1.27	
7849.00	90.030	161.500	6452.86	1195.22	-630.99	1669.39	1652213.49	14295294.69	39°21'58.546"N	80°57'29.738"W	1784.66	110.705	1.94	-0.59	-1.85	
7943.00	89.880	162.310	6452.94	1289.07	-720.34	1698.59	1652242.67	14295205.37	39°21'57.663"N	80°57'29.367"W	1845.02	112.981	0.88	-0.16	0.86	
8038.00	90.220	162.560	6452.86	1383.86	-810.91	1727.26	1652271.33	14295114.84	39°21'56.768"N	80°57'29.002"W	1908.14	115.149	0.44	0.36	0.26	
8132.00	90.060	159.480	6452.63	1477.77	-899.79	1757.83	1652301.89	14295026.00	39°21'55.889"N	80°57'28.614"W	1974.73	117.107	3.28	-0.17	-3.28	
8227.00	90.310	156.690	6452.32	1572.76	-987.91	1793.28	1652337.33	14294937.90	39°21'55.018"N	80°57'28.163"W	2047.39	118.850	2.95	0.26	-2.94	
8321.00	89.820	156.230	6452.21	1666.69	-1074.09	1830.82	1652374.86	14294851.76	39°21'54.166"N	80°57'27.685"W	2122.63	120.399	0.71	-0.52	-0.49	
8415.00	90.150	159.340	6452.24	1760.66	-1161.10	1866.36	1652410.38	14294764.79	39°21'53.306"N	80°57'27.233"W	2198.05	121.887	3.33	0.35	3.31	
8509.00	90.340	159.330	6451.83	1854.66	-1249.05	1899.53	1652443.54	14294676.87	39°21'52.437"N	80°57'26.811"W	2273.40	123.327	0.20	0.20	-0.01	
8604.00	90.250	157.640	6451.35	1949.65	-1337.43	1934.37	1652478.36	14294588.53	39°21'51.563"N	80°57'26.368"W	2351.70	124.660	1.78	-0.09	-1.78	
8698.00	90.830	154.090	6450.46	2043.52	-1423.19	1972.80	1652516.77	14294502.80	39°21'50.715"N	80°57'25.880"W	2432.57	125.807	3.83	0.62	-3.78	
8793.00	90.280	151.810	6449.54	2138.04	-1507.79	2015.99	1652559.95	14294418.23	39°21'49.879"N	80°57'25.330"W	2517.47	126.793	2.47	-0.58	-2.40	
8887.00	90.180	154.830	6449.16	2231.62	-1591.77	2058.20	1652602.14	14294334.29	39°21'49.049"N	80°57'24.793"W	2601.90	127.718	3.21	-0.11	3.21	
8981.00	90.030	157.690	6448.99	2325.52	-1677.81	2096.03	1652639.96	14294248.28	39°21'48.198"N	80°57'24.312"W	2684.85	128.676	3.05	-0.16	3.04	
9075.00	90.030	158.680	6448.94	2419.52	-1765.08	2130.97	1652674.88	14294161.05	39°21'47.335"N	80°57'23.868"W	2767.04	129.635	1.05	0.00	1.05	
9170.00	90.090	159.410	6448.84	2514.52	-1853.79	2164.94	1652708.84	14294072.37	39°21'46.458"N	80°57'23.436"W	2850.18	130.573	0.77	0.06	0.77	
9264.00	90.310	161.830	6448.51	2608.45	-1942.46	2196.13	1652740.02	14293983.74	39°21'45.582"N	80°57'23.039"W	2931.92	131.493	2.59	0.23	2.57	
9358.00	89.510	161.350	6448.66	2702.33	-2031.65	2225.82	1652769.69	14293894.59	39°21'44.700"N	80°57'22.662"W	3013.61	132.389	0.99	-0.85	-0.51	
9451.00	89.750	161.380	6449.26	2795.23	-2119.77	2255.53	1652799.40	14293806.50	39°21'43.829"N	80°57'22.284"W	3095.30	133.223	0.26	0.26	0.03	
9545.00	90.150	159.110	6449.34	2889.18	-2208.23	2287.30	1652831.15	14293718.08	39°21'42.955"N	80°57'21.880"W	3179.31	133.992	2.45	0.43	-2.41	
9639.00	89.750	155.410	6449.42	2983.14	-2294.91	2323.63	1652867.47	14293631.43	39°21'42.098"N	80°57'21.418"W	3265.87	134.644	3.96	-0.43	-3.94	

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Tyler County, WV	Well	Dillon Unit 2H
Field	Tyler	Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (193 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]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
9733.00	89.010	153.640	6450.44	3076.88	-2379.76	2364.06	1652907.88	14293546.61	39°21'41.259"N	80°57'20.904"W	3354.41	135.190	2.04	-0.79	-1.88	
9827.00	89.170	154.150	6451.94	3170.55	-2464.16	2405.41	1652949.22	14293462.25	39°21'40.425"N	80°57'20.378"W	3443.56	135.691	0.57	0.17	0.54	
9922.00	88.740	157.610	6453.67	3265.40	-2550.84	2444.22	1652988.01	14293375.61	39°21'39.568"N	80°57'19.884"W	3532.85	136.223	3.67	-0.45	3.64	
10016.00	90.090	161.230	6454.63	3359.37	-2638.82	2477.26	1653021.03	14293287.66	39°21'38.698"N	80°57'19.464"W	3619.42	136.809	4.11	1.44	3.85	
10110.00	90.460	159.210	6454.18	3453.33	-2727.27	2509.07	1653052.83	14293199.25	39°21'37.824"N	80°57'19.060"W	3705.86	137.386	2.18	0.39	-2.15	
10205.00	90.030	157.910	6453.77	3548.33	-2815.69	2543.79	1653087.54	14293110.86	39°21'36.950"N	80°57'18.619"W	3794.60	137.904	1.44	-0.45	-1.37	
10299.00	91.020	154.100	6452.91	3642.21	-2901.55	2582.01	1653125.74	14293025.04	39°21'36.101"N	80°57'18.133"W	3884.04	138.335	4.19	1.05	-4.05	
10393.00	89.260	155.260	6452.68	3735.97	-2986.51	2622.21	1653165.92	14292940.11	39°21'35.261"N	80°57'17.621"W	3974.32	138.716	2.24	-1.87	1.23	
10488.00	90.430	158.510	6452.94	3830.91	-3073.87	2659.49	1653203.20	14292852.78	39°21'34.397"N	80°57'17.147"W	4064.68	139.134	3.64	1.23	3.42	
10582.00	89.420	158.900	6453.06	3924.91	-3161.45	2693.63	1653237.32	14292765.24	39°21'33.531"N	80°57'16.713"W	4153.36	139.568	1.15	-1.07	0.41	
10677.00	89.570	162.460	6453.90	4019.83	-3251.08	2725.06	1653268.73	14292675.64	39°21'32.645"N	80°57'16.314"W	4242.11	140.030	3.75	0.16	3.75	
10771.00	90.520	163.070	6453.82	4113.59	-3340.86	2752.91	1653296.57	14292585.90	39°21'31.758"N	80°57'15.960"W	4328.96	140.511	1.20	1.01	0.65	
10865.00	90.890	158.350	6452.67	4207.50	-3429.55	2783.95	1653327.60	14292497.25	39°21'30.881"N	80°57'15.565"W	4417.26	140.932	5.04	0.39	-5.02	
10959.00	89.820	160.400	6452.08	4301.48	-3517.52	2817.06	1653360.69	14292409.31	39°21'30.012"N	80°57'15.144"W	4506.52	141.310	2.46	-1.14	2.18	
11054.00	90.060	160.270	6452.18	4396.44	-3606.98	2849.03	1653392.65	14292319.89	39°21'29.127"N	80°57'14.738"W	4596.44	141.696	0.29	0.25	-0.14	
11148.00	90.000	156.080	6452.13	4490.42	-3694.22	2883.97	1653427.58	14292232.68	39°21'28.265"N	80°57'14.293"W	4686.63	142.022	4.46	-0.06	-4.46	
11242.00	89.910	156.870	6452.21	4584.35	-3780.41	2921.48	1653465.08	14292146.53	39°21'27.413"N	80°57'13.816"W	4777.72	142.303	0.85	-0.10	0.84	
11336.00	89.940	159.750	6452.33	4678.34	-3867.74	2956.22	1653499.80	14292059.23	39°21'26.549"N	80°57'13.375"W	4868.13	142.608	3.06	0.03	3.06	
11431.00	89.850	159.330	6452.50	4773.32	-3956.75	2989.43	1653533.00	14291970.26	39°21'25.670"N	80°57'12.952"W	4959.09	142.928	0.45	-0.09	-0.44	
11525.00	89.940	160.710	6452.68	4867.30	-4045.09	3021.55	1653565.10	14291881.95	39°21'24.796"N	80°57'12.544"W	5049.01	143.241	1.47	0.10	1.47	
11619.00	89.940	159.120	6452.78	4961.27	-4133.37	3053.83	1653597.37	14291793.71	39°21'23.924"N	80°57'12.134"W	5139.13	143.542	1.69	0.00	-1.69	
11713.00	89.970	159.620	6452.85	5055.26	-4221.34	3086.95	1653630.48	14291705.77	39°21'23.054"N	80°57'11.713"W	5229.63	143.823	0.53	0.03	0.53	
11807.00	89.910	159.180	6452.95	5149.25	-4309.33	3120.02	1653663.54	14291617.82	39°21'22.184"N	80°57'11.292"W	5320.23	144.095	0.47	-0.06	-0.47	
11901.00	89.780	159.450	6453.20	5243.25	-4397.27	3153.22	1653696.73	14291529.91	39°21'21.315"N	80°57'10.870"W	5410.99	144.356	0.32	-0.14	0.29	
11996.00	89.940	160.500	6453.43	5338.22	-4486.53	3185.75	1653729.24	14291440.70	39°21'20.432"N	80°57'10.457"W	5502.54	144.623	1.12	0.17	1.11	
12090.00	89.970	159.420	6453.51	5432.19	-4574.84	3217.96	1653761.44	14291352.42	39°21'19.560"N	80°57'10.047"W	5593.25	144.877	1.15	0.03	-1.15	
12184.00	89.970	166.060	6453.56	5525.90	-4664.55	3245.84	1653789.31	14291262.74	39°21'18.673"N	80°57'09.693"W	5682.74	145.168	7.06	0.00	7.06	
12278.00	89.660	165.830	6453.86	5619.14	-4755.74	3268.67	1653812.12	14291171.59	39°21'17.771"N	80°57'09.403"W	5770.72	145.499	0.41	-0.33	-0.24	
12372.00	89.600	163.280	6454.47	5712.64	-4846.33	3293.70	1653837.14	14291081.03	39°21'16.876"N	80°57'09.085"W	5859.64	145.799	2.71	-0.06	-2.71	
12467.00	89.660	160.020	6455.08	5807.49	-4936.49	3323.60	1653867.04	14290990.92	39°21'15.985"N	80°57'08.705"W	5951.07	146.049	3.43	0.06	-3.43	

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Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #06
Area	Tyler County, WV		Well	Dillon Unit 2H
Field	Tyler		Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (193 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
12561.00	89.660	155.220	6455.64	5901.45	-5023.38	3359.38	1653902.80	14290904.06	39°21'15.126"N	80°57'08.250"W	6043.16	146.227	5.11	0.00	-5.11	
12655.00	89.630	153.660	6456.22	5995.19	-5108.18	3399.94	1653943.34	14290819.30	39°21'14.287"N	80°57'07.734"W	6136.21	146.353	1.66	-0.03	-1.66	
12749.00	89.660	151.320	6456.80	6088.64	-5191.54	3443.35	1653986.74	14290735.96	39°21'13.463"N	80°57'07.182"W	6229.67	146.445	2.49	0.03	-2.49	
12843.00	89.690	152.510	6457.34	6181.98	-5274.47	3487.60	1654030.97	14290653.07	39°21'12.643"N	80°57'06.619"W	6323.24	146.526	1.27	0.03	1.27	
12937.00	89.660	155.870	6457.87	6275.68	-5359.08	3528.52	1654071.87	14290568.49	39°21'11.807"N	80°57'06.099"W	6416.40	146.638	3.57	-0.03	3.57	
13031.00	89.690	157.520	6458.40	6369.62	-5445.41	3565.71	1654109.05	14290482.20	39°21'10.953"N	80°57'05.626"W	6508.97	146.783	1.76	0.03	1.76	
13125.00	89.630	159.440	6458.96	6463.62	-5532.85	3600.19	1654143.51	14290394.80	39°21'10.089"N	80°57'05.188"W	6601.04	146.948	2.04	-0.06	2.04	
13220.00	89.420	160.710	6459.75	6558.58	-5622.16	3632.56	1654175.87	14290305.52	39°21'09.206"N	80°57'04.776"W	6693.59	147.133	1.35	-0.22	1.34	
13314.00	89.380	160.850	6460.73	6652.51	-5710.91	3663.51	1654206.80	14290216.80	39°21'08.329"N	80°57'04.383"W	6784.97	147.320	0.15	-0.04	0.15	
13408.00	89.450	161.130	6461.69	6746.43	-5799.78	3694.12	1654237.41	14290127.97	39°21'07.450"N	80°57'03.994"W	6876.34	147.505	0.31	0.07	0.30	
13502.00	89.450	160.670	6462.60	6840.35	-5888.60	3724.88	1654268.15	14290039.19	39°21'06.572"N	80°57'03.603"W	6967.81	147.684	0.49	0.00	-0.49	
13597.00	89.230	159.320	6463.69	6935.32	-5977.86	3757.38	1654300.64	14289949.96	39°21'05.690"N	80°57'03.190"W	7060.64	147.849	1.44	-0.23	-1.42	
13691.00	89.450	156.020	6464.77	7029.29	-6064.79	3793.08	1654336.33	14289863.06	39°21'04.830"N	80°57'02.736"W	7153.27	147.977	3.52	0.23	-3.51	
13785.00	89.320	153.220	6465.78	7123.04	-6149.71	3833.37	1654376.60	14289778.18	39°21'03.991"N	80°57'02.224"W	7246.63	148.063	2.98	-0.14	-2.98	
13880.00	89.450	152.220	6466.80	7217.52	-6234.14	3876.91	1654420.12	14289693.79	39°21'03.156"N	80°57'01.670"W	7341.31	148.123	1.06	0.14	-1.05	
13974.00	89.380	154.270	6467.76	7311.09	-6318.06	3919.22	1654462.41	14289609.90	39°21'02.326"N	80°57'01.132"W	7434.93	148.188	2.18	-0.07	2.18	
14068.00	89.540	154.540	6468.65	7404.83	-6402.84	3959.83	1654503.00	14289525.16	39°21'01.488"N	80°57'00.616"W	7528.38	148.265	0.33	0.17	0.29	
14162.00	89.350	157.060	6469.56	7498.70	-6488.56	3998.35	1654541.52	14289439.46	39°21'00.641"N	80°57'00.126"W	7621.57	148.358	2.69	-0.20	2.68	
14256.00	89.420	161.340	6470.57	7592.67	-6576.41	4031.72	1654574.87	14289351.65	39°20'59.772"N	80°56'59.702"W	7713.88	148.489	4.55	0.07	4.55	
14350.00	89.380	163.900	6471.55	7686.43	-6666.11	4059.80	1654602.94	14289261.99	39°20'58.886"N	80°56'59.345"W	7805.06	148.658	2.72	-0.04	2.72	
14444.00	89.350	167.120	6472.60	7779.74	-6757.10	4083.31	1654626.44	14289171.03	39°20'57.986"N	80°56'59.046"W	7895.05	148.855	3.43	-0.03	3.43	
14538.00	89.570	164.350	6473.48	7873.01	-6848.19	4106.47	1654649.59	14289079.98	39°20'57.086"N	80°56'58.752"W	7985.04	149.051	2.96	0.23	-2.95	
14632.00	89.690	160.690	6474.09	7966.78	-6937.83	4134.70	1654677.81	14288990.38	39°20'56.200"N	80°56'58.393"W	8076.46	149.207	3.90	0.13	-3.89	
14727.00	89.510	160.140	6474.75	8061.73	-7027.33	4166.55	1654709.64	14288900.91	39°20'55.315"N	80°56'57.989"W	8169.67	149.336	0.61	-0.19	-0.58	
14821.00	89.850	157.990	6475.28	8155.72	-7115.12	4200.13	1654743.21	14288813.16	39°20'54.447"N	80°56'57.562"W	8262.33	149.446	2.32	0.36	-2.29	
14915.00	89.750	155.700	6475.60	8249.67	-7201.54	4237.09	1654780.16	14288726.77	39°20'53.593"N	80°56'57.092"W	8355.55	149.529	2.44	-0.11	-2.44	
15009.00	89.910	156.010	6475.88	8343.56	-7287.32	4275.54	1654818.59	14288641.03	39°20'52.745"N	80°56'56.603"W	8448.98	149.599	0.37	0.17	0.33	
15104.00	89.780	156.100	6476.14	8438.46	-7374.14	4314.10	1654857.13	14288554.24	39°20'51.886"N	80°56'56.113"W	8543.38	149.671	0.17	-0.14	0.09	
15198.00	90.180	156.650	6476.17	8532.38	-7460.26	4351.77	1654894.79	14288468.16	39°20'51.035"N	80°56'55.634"W	8636.75	149.744	0.72	0.43	0.59	
15292.00	90.120	158.840	6475.93	8626.36	-7547.25	4387.37	1654930.37	14288381.20	39°20'50.175"N	80°56'55.182"W	8729.84	149.830	2.33	-0.06	2.33	

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399

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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Terry Snider Pad
Slot #06	Well	Dillon Unit 2H	Dillon Unit 2H AWP

WELLPATH DATA (193 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)	(US ft)	(US ft)	(ft)	(ft)	(ft)	(°)	(/100ft)	(/100ft)	(/100ft)	
15386.00	89.910	161.070	6475.90	8720.33	-7635.55	4419.58	1654962.58	14288292.93	39°20'49.30"N	80°56'54.72"W	8822.38	149.937	2.38	-0.22	2.37	
15480.00	90.280	160.990	6475.75	8814.25	-7724.45	4450.14	1654993.12	14288204.07	39°20'48.42"N	80°56'54.384"W	8914.64	150.053	0.40	-0.39	-0.09	
15574.00	90.090	163.180	6475.44	8908.08	-7813.89	4479.05	1655022.02	14288114.67	39°20'47.539"N	80°56'55.017"W	9006.59	150.178	2.34	-0.20	2.33	
15669.00	90.220	164.370	6475.19	9002.70	-7905.10	4505.60	1655048.55	14288023.50	39°20'46.637"N	80°56'53.679"W	9098.96	150.319	1.26	0.14	1.25	
15763.00	90.220	161.520	6474.83	9096.43	-7994.96	4533.16	1655076.11	14287933.68	39°20'45.749"N	80°56'53.329"W	9190.70	150.447	3.03	0.00	-3.03	
15858.00	90.150	158.280	6474.52	9191.39	-8084.16	4565.80	1655108.74	14287844.51	39°20'44.867"N	80°56'52.914"W	9284.41	150.543	3.41	-0.07	-3.41	
15952.00	90.220	159.350	6474.22	9285.39	-8171.80	4599.77	1655142.70	14287756.90	39°20'44.001"N	80°56'52.483"W	9377.44	150.626	1.14	0.07	1.14	
16046.00	90.090	160.070	6473.96	9379.37	-8259.97	4632.37	1655175.28	14287668.77	39°20'43.129"N	80°56'52.068"W	9470.27	150.715	0.78	-0.14	0.77	
16141.00	90.150	157.710	6473.76	9474.36	-8348.59	4666.58	1655209.48	14287580.19	39°20'42.253"N	80°56'51.633"W	9564.30	150.796	2.49	0.06	-2.48	
16235.00	90.180	155.530	6473.49	9568.30	-8434.86	4703.88	1655246.76	14287493.95	39°20'41.400"N	80°56'51.159"W	9657.82	150.853	2.32	0.03	-2.32	
16329.00	90.180	151.350	6473.20	9661.89	-8518.93	4745.90	1655288.77	14287409.92	39°20'40.569"N	80°56'50.625"W	9751.70	150.878	4.45	0.00	-4.45	
16374.00	90.180	151.330	6473.05	9706.52	-8558.41	4767.49	1655310.34	14287370.45	39°20'40.179"N	80°56'50.351"W	9796.70	150.880	0.04	0.00	-0.04	
16399.00	90.180	151.330	6472.98	9731.32	-8580.35	4779.48	1655322.33	14287348.52	39°20'39.962"N	80°56'50.198"W	9821.70	150.881	0.00	0.00	0.00	Projected MD at TD: 16399'

HOLE & CASING SECTIONS - Ref Wellbore: Dillon Unit 2H AWP Proj: 16399'									
String/Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	Start EW	End N/S	End EW
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
20in Conductor	25.00	65.00	40.00	25.00	65.00	0.00	0.00	0.00	-0.03
13.375in Casing Surface	25.00	512.00	487.00	25.00	512.00	0.00	0.00	0.00	-0.40
9.625in Casing Intermediate	25.00	2496.00	2471.00	25.00	2486.54	0.00	0.00	0.00	92.06

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399



Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Terry Snider Pad
	Dillon Unit 2H	Well	Dillon Unit 2H AWB
		Wellbore	

WELLPATH DATA (193 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)	(ft)	(ft)	(ft)	(°/100ft)
15386.00	161.070	6475.90	8720.33	-7635.55	4419.58	1654962.58	14288292.93	39°20'49.302"N	80°56'54.772"W	8822.38	149.937	-2.37
15480.00	160.990	6475.75	8814.25	-7724.45	4450.14	1654993.12	14288204.07	39°20'48.423"N	80°56'54.384"W	8914.64	150.053	-0.39
15480.00	163.180	6475.44	8908.08	-7813.89	4479.05	1655022.02	14288114.67	39°20'47.539"N	80°56'54.017"W	9006.59	150.178	-2.34
15669.00	164.370	6475.19	9002.70	-7905.10	4505.60	1655048.55	14288023.50	39°20'46.637"N	80°56'53.679"W	9098.96	150.319	-2.33
15669.00	161.520	6474.83	9096.43	-7994.96	4533.16	1655076.11	14287933.68	39°20'45.749"N	80°56'53.329"W	9190.70	150.447	1.25
15763.00	158.280	6474.52	9191.39	-8084.16	4565.80	1655108.74	14287844.51	39°20'44.867"N	80°56'52.914"W	9284.41	150.543	3.41
15763.00	159.350	6474.22	9285.39	-8171.80	4599.77	1655142.70	14287756.90	39°20'44.001"N	80°56'52.483"W	9377.44	150.626	-3.03
15952.00	160.070	6473.96	9379.37	-8259.97	4632.37	1655175.28	14287668.77	39°20'43.129"N	80°56'52.068"W	9470.27	150.715	-3.41
16046.00	157.710	6473.76	9474.36	-8348.59	4666.58	1655209.48	14287580.19	39°20'42.253"N	80°56'51.633"W	9564.30	150.796	0.77
16141.00	155.530	6473.49	9568.30	-8434.86	4703.88	1655246.76	14287493.95	39°20'41.400"N	80°56'51.159"W	9657.82	150.853	1.14
16235.00	151.330	6473.20	9661.89	-8518.93	4745.90	1655288.77	14287409.92	39°20'40.569"N	80°56'50.625"W	9751.70	150.878	-2.48
16329.00	151.350	6473.05	9706.52	-8558.41	4767.49	1655310.34	14287370.45	39°20'40.179"N	80°56'50.351"W	9796.70	150.880	-4.45
16329.00	151.330	6472.98	9731.32	-8580.35	4779.48	1655322.33	14287348.52	39°20'39.962"N	80°56'50.198"W	9821.70	150.881	0.00
16399.00	151.330	6472.98	9731.32	-8580.35	4779.48	1655322.33	14287348.52	39°20'39.962"N	80°56'50.198"W	9821.70	150.881	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Dillon Unit 2H AWP Proj: 16399												
String/Diameter	Start MD	End MD	Interval	Start TVD	End TVD	Start N/S	End N/S	Start E/W	End E/W			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
20in Conductor	25.00	65.00	40.00	25.00	65.00	0.00	0.00	0.00	0.00	-0.03	0.02	-0.03
13.375in Casing Surface	25.00	512.00	487.00	25.00	512.00	0.00	0.00	0.00	0.00	-0.40	0.74	-0.40
9.625in Casing Intermediate	25.00	2496.00	2471.00	25.00	2486.54	0.00	0.00	0.00	0.00	92.06	67.01	92.06

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Tyler County, WV	Well	Dillon Unit 2H
Field	Tyler	Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Dillon Unit 2H POE Rev-2	6404.00	331.07	1232.96	1651777.23	14296256.35	39°22'08.057"N	80°57'35.289"W	point
Dillon Unit 2H POE Rev-3	6408.00	331.07	1232.96	1651777.23	14296256.35	39°22'08.057"N	80°57'35.289"W	point
Dillon Unit 2H BHL Rev-2	6442.00	-8584.60	4789.69	1655332.53	14287344.27	39°20'39.920"N	80°56'50.068"W	point
Dillon Unit 2H LP Rev-2	6442.00	86.99	1401.51	1651945.72	14296012.37	39°22'05.644"N	80°57'33.145"W	point
Dillon Unit 2H BHL Rev-3	6446.00	-8584.60	4789.69	1655332.53	14287344.27	39°20'39.920"N	80°56'50.068"W	point
Dillon Unit 2H LP Rev-3	6446.00	86.99	1401.51	1651945.72	14296012.37	39°22'05.644"N	80°57'33.145"W	point

WELLPATH COMPOSITION - Ref Wellbore: Dillon Unit 2H AWB Ref Wellpath: Dillon Unit 2H AWP Proj: 16399'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
25.00	5718.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro (100'-5706')	Dillon Unit 2H AWB	
5718.00	16374.00	BHI AutoTrak Curve (Short)	02 BHI AT Curve <8-1/2"> (5718')(5870'-16374')	Dillon Unit 2H AWB	
16374.00	16399.00	Blind Drilling (std)	Projection to bit	Dillon Unit 2H AWB	

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Actual Wellpath Report

Dillon Unit 2H AWP Proj: 16399'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Tyler County, WV	Well	Dillon Unit 2H
Field	Tyler	Wellbore	Dillon Unit 2H AWB
Facility	Terry Snider Pad		

COMMENTS

Wellpath general comments

API: 47-095-02352-0000

BHI Job #: 8223275

Rig: Patterson 342

Duration: 10/26/2016-11/1/2016

Gyrodata MS Gyro <8-3/4"> (100'-5706')

BHI AT Curve <8-1/2"> (5718')(5870'-16374')

Sycamore: 6351' MD

Middlesex: 6495' MD

Burket: 6709' MD

Tully: 6812' MD

Marcellus POE: 6858' MD

Projected MD at TD: 16399'

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LATITUDE 39°22'30" 1,649'

8,669' TO BOTTOM HOLE
LATITUDE 39°22'30"

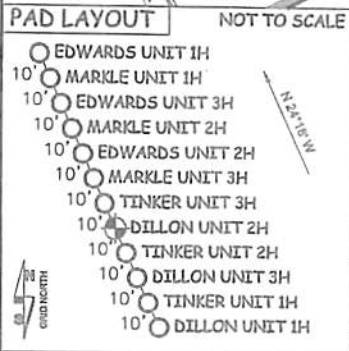
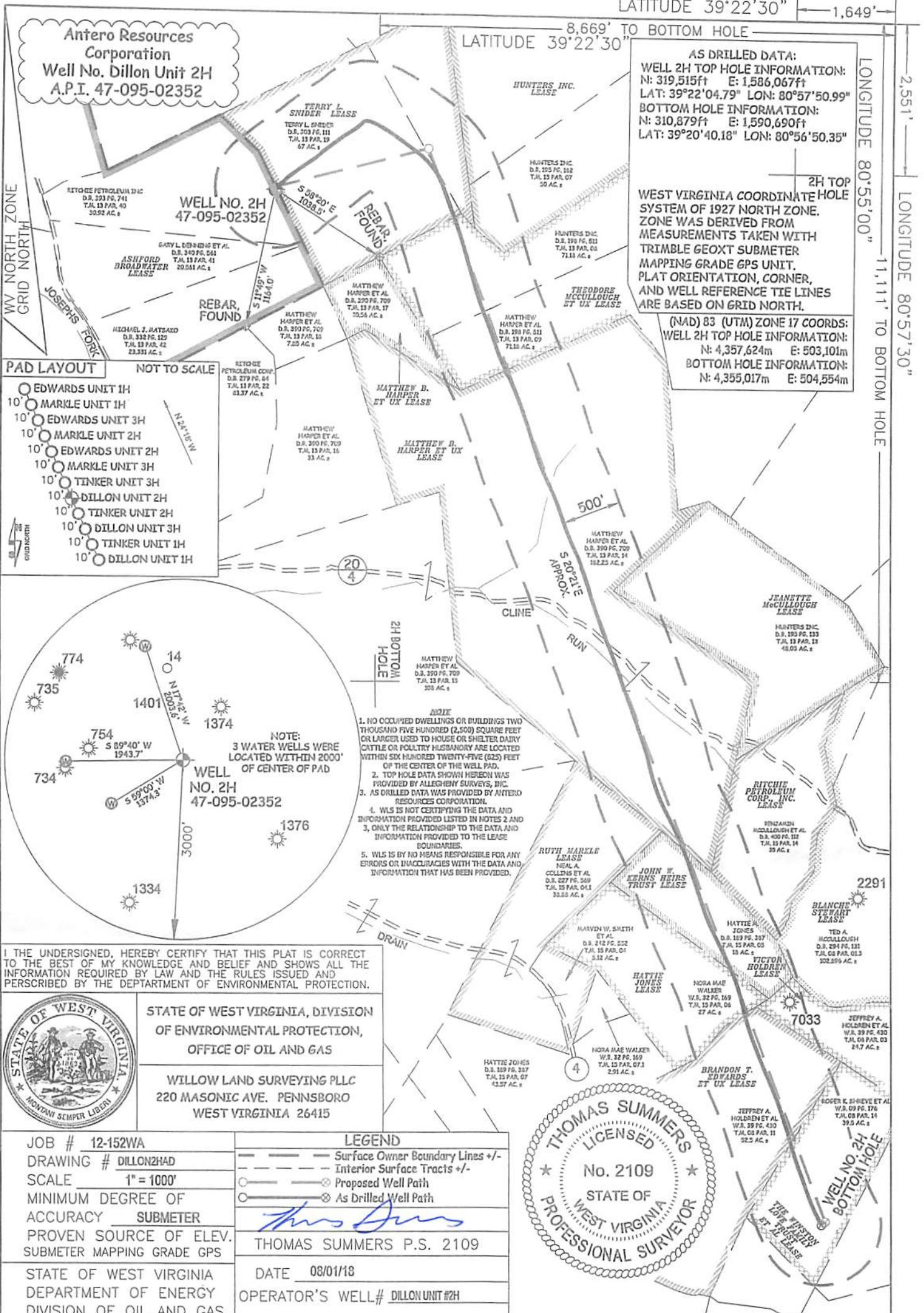
LONGITUDE 80°55'00"
2,551'
LONGITUDE 80°57'30"
11,111' TO BOTTOM HOLE

AS DRILLED DATA:
WELL 2H TOP HOLE INFORMATION:
N: 319,515ft E: 1,586,067ft
LAT: 39°22'04.79" LON: 80°57'50.99"
BOTTOM HOLE INFORMATION:
N: 310,879ft E: 1,590,690ft
LAT: 39°20'40.18" LON: 80°56'50.35"

WEST VIRGINIA COORDINATE HOLE SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD) 83 (UTM) ZONE 17 COORDS:
WELL 2H TOP HOLE INFORMATION:
N: 4,357,624m E: 503,101m
BOTTOM HOLE INFORMATION:
N: 4,355,017m E: 504,554m

Antero Resources Corporation
Well No. Dillon Unit 2H
A.P.I. 47-095-02352



- NOTE:
1. NO OCCUPIED DWELLINGS OR BUILDINGS TWO THOUSAND FIVE HUNDRED (2,500) SQUARE FEET OR LARGER USED TO HOUSE OR SHELTER DAIRY CATTLE OR POULTRY HUSBANDRY ARE LOCATED WITHIN SIX HUNDRED TWENTY-FIVE (625) FEET OF THE CENTER OF THE WELL PAD.
 2. TOP HOLE DATA SHOWN HEREON WAS PROVIDED BY ALLEGHENY SURVEYS, INC.
 3. AS DRILLED DATA WAS PROVIDED BY ANTERO RESOURCES CORPORATION.
 4. WLS IS NOT CERTIFYING THE DATA AND INFORMATION PROVIDED LISTED IN NOTES 2 AND 3, ONLY THE RELATIONSHIP TO THE DATA AND INFORMATION PROVIDED TO THE LEASE BOUNDARIES.
 5. WLS IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.

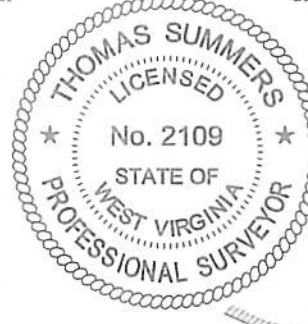
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.



STATE OF WEST VIRGINIA, DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WILLOW LAND SURVEYING PLLC
220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415

JOB # 12-152WA
DRAWING # DILLON2HAD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY SUBMETER
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS

LEGEND
--- Surface Owner Boundary Lines +/-
--- Interior Surface Tracts +/-
○ Proposed Well Path
⊗ As Drilled Well Path
Thomas Summers
THOMAS SUMMERS P.S. 2109
DATE 08/01/18
OPERATOR'S WELL# DILLON UNIT #2H

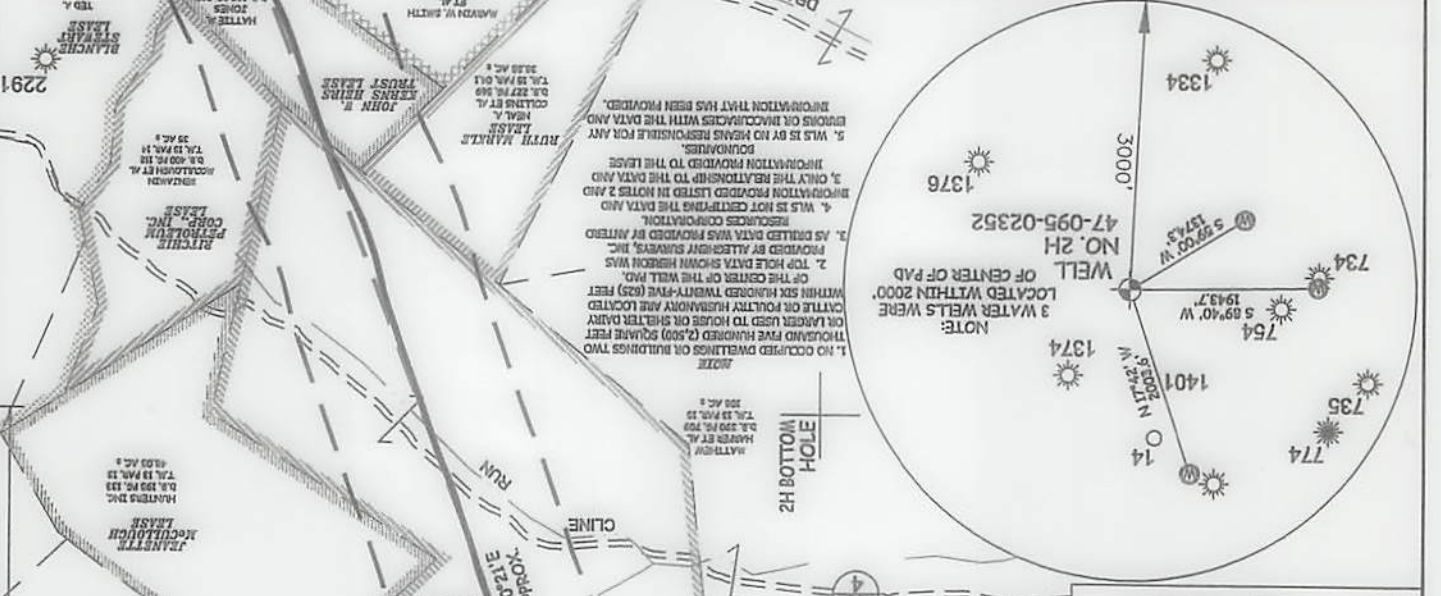


WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___ 47 - 095 - 02352
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X STATE COUNTY PERMIT
LOCATION: ELEVATION 1,146.5' AS-BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK
QUADRANGLE PENNSBORO 7.5' DISTRICT MEADE COUNTY TYLER
SURFACE OWNER RITCHIE PETROLEUM INC. ACREAGE 30.92 ACRES +/-
OIL & GAS ROYALTY OWNER ASHFORD BROADWATER; TERRY L. SNIDER; THEODORE MCCULLOUGH ET UX; LEASE ACREAGE 583.712 ACRES±; 67 ACRES±; 188.72 ACRES±; MATTHEW B. HARPER ET UX; JOHN W. KERNS HEIRS TRUST; HATTIE JONES; BRANDON T. EDWARDS ET UX; THE WINSTON LOVE FAMILY TRUST ET AL 102.25 ACRES±; 18 ACRES±; 27 ACRES±; 52.5 ACRES±; 39.5 ACRES±
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
TARGET FORMATION MARCELLUS ESTIMATED DEPTH 6,473' TVD 16,399' MD
WELL OPERATOR ANTERO RESOURCES CORP. DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
ADDRESS 1615 WYNKOOP STREET ADDRESS 5400 D BIG TYLER ROAD
FORM WW-6 DENVER, CO 80202 CHARLESTON, WV 25313

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
 COUNTY NAME COUNTY MEADE DISTRICT MEADE COUNTY TYLER
 LOCATION: ELEVATION 1,166' AS-BUILT WATERSHED OUTLET MIDDLE ISLAND CREEK
 QUADRANGLE PENNSBORO 7.5
 SURFACE OWNER RITCHIE PETROLEUM INC.
 OIL & GAS ROYALTY OWNER ASHFORD BROADWATER, TERRY L. SNIDER, THEODORE MCCULLOUGH ET UX, LEASE ACRES: 189.72 ACRES
 MATTHEW B. HARPER ET UX, JOHN W. KERNIS HEIRS TRUST, HATTIE JONES, BRANDON J. ADWARDS ET UX, THE WINSTON LOVE FAMILY TRUST ET UX, 182.25 ACRES; 27 ACRES; 52 ACRES; 39.5 ACRES
 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
 TARGET FORMATION MARCELLUS
 WELL OPERATOR ANTERO RESOURCES CORP.
 DESIGNATED AGENT DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS 1615 WYNKOOP STREET DENVER, CO 80202
 ADDRESS 5400 D BIG TYLER ROAD CHARLESTON, WV 25313
 PERMIT COUNTY PERMIT 02352

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 DIVISION OF OIL AND GAS
 JOB # 12-152WA
 DRAWING # DILLOMHAD
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY SUBMETER
 PROVEN SOURCE OF ELEV. THOMAS SUMMERS P.S. 2109
 DATE 08/01/18
 OPERATOR'S WELL # DILLOM UNIT #2H

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF OIL AND GAS
 WILLOW LAND SURVEYING PLLC
 220 MASONIC AVE. PENNSBORO WEST VIRGINIA 26415
 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.



Antero Resources Corporation
 Well No. Dillon Unit 2H
 A.P.I. 47-095-02352

AS DRILLED DATA:
 WELL 2H TOP HOLE INFORMATION: N: 319.515ft E: 1586.067ft LON: 80°57'50.99" LAT: 39°22'04.79" LON: 80°57'50.99"
 BOTTOM HOLE INFORMATION: N: 310.679ft E: 1590.690ft LON: 80°56'50.35" LAT: 39°20'40.18" LON: 80°56'50.35"

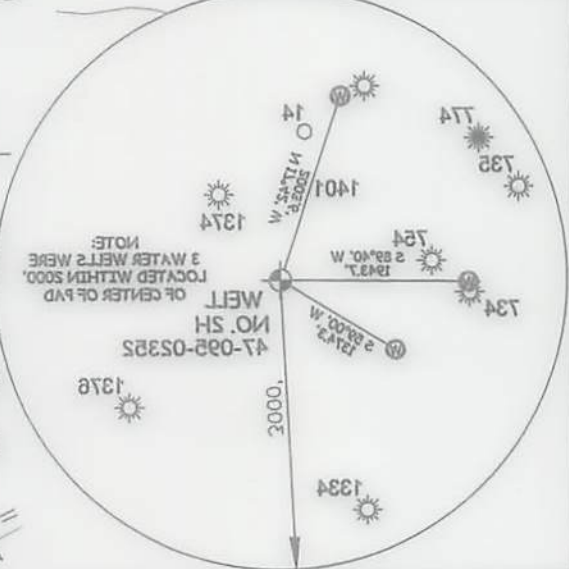
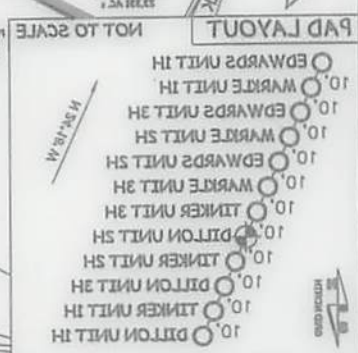
WEST VIRGINIA COORDINATE HOLE 2H TOP
 SYSTEM OF 1927 NORTH ZONE. MEASUREMENTS TAKEN WITH TRIMBLE GEOXT SUBMETER. MAPPING GRADE GPS UNIT. PLAT ORIENTATION, CORNER, AND WELL REFERENCE TIE LINES ARE BASED ON GRID NORTH.

(NAD 83 (UTM) ZONE 17 COORDS:
 WELL 2H TOP HOLE INFORMATION: N: 4,357,624m E: 503,101m
 BOTTOM HOLE INFORMATION: N: 4,355,017m E: 504,554m

PAD LAYOUT
 NOT TO SCALE
 EDWARDS UNIT 1H, EDWARDS UNIT 2H, EDWARDS UNIT 3H, MARKLE UNIT 1H, MARKLE UNIT 2H, MARKLE UNIT 3H, TINKER UNIT 2H, TINKER UNIT 3H, DILLOM UNIT 2H, DILLOM UNIT 3H, TINKER UNIT 1H, DILLOM UNIT 1H

WV NORTH ZONE
 JOSEPHS FORK
 REBAR FOUND
 REBAR FOUND
 WELLS: 5.59' 00' W, 5.09' 40' W, 1943.7', 1401', 1374', 1376', 1334', 734', 754', 735', 774', 14

Antero Resources Corporation
Well No. Dillon Unit 5H
A.P.I. 47-095-0325



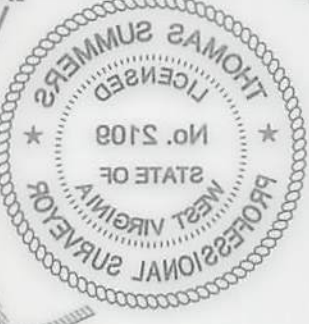
I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PERSCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

WEST VIRGINIA 26415
520 WAGONIC AVE. PENNSBORO
WILLOW LAND SURVEYING PLLC
OFFICE OF OIL AND GAS
STATE OF WEST VIRGINIA, DIVISION
OF ENVIRONMENTAL PROTECTION



JOB # 15-1525WA	THOMAS SUMMERS P.S. 2109
DRAWING # DILLONSHAD	DATE 08/01/18
SCALE 1" = 100'	THOMAS SUMMERS P.S. 2109
MINIMUM DEGREE OF ACCURACY SUBMETER	THOMAS SUMMERS P.S. 2109
PROVEN SOURCE OF ELEV. SUBMETER MAPPING GRADE GPS	THOMAS SUMMERS P.S. 2109
STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS	THOMAS SUMMERS P.S. 2109

FORM W-8
 WELL OPERATOR: ANTERO RESOURCES CORP.
 ADDRESS: 1615 WYNKOP STREET, DENVER, CO 80202
 DESIGNATED AGENT: DIANNA STAMPER - CT CORPORATION SYSTEM
 ADDRESS: 5400 D BIG TYLER ROAD, CHARLESTON, WV 25313
 TARGET FORMATION: MARCELLUS
 ESTIMATED DEPTH: 8473.7VD 10389. MD
 CLEAN OUT & REPLUG: PLUG & ABANDON
 PERMIT: (SPECIFY) AS DRILLED
 PLUG OFF OLD FORMATION / PERFORM NEW FORMATION / OTHER PHYSICAL CHANGE IN WELL
 CONVERT / DRILL DEEPER / REDRILL / FRACTURE OR STIMULATE
 PROPOSED WORK: DRILL / CONVERT / DRILL DEEPER / REDRILL / FRACTURE OR STIMULATE
 SURFACE OWNER: RITCHEE PETROLEUM INC. ACREAGE: 30.93 ACRES +/-
 QUADRANGLE: PENNSBORO T.S. DISTRICT: MEADE COUNTY: TYLER
 LOCATION: ELEVATION 1148.7 AS-BUILT WATERSHED: OUTLET MIDDLE ISLAND CREEK STATE: WV COUNTY: PERMIT: 47-095-0325
 WELL TYPE: OIL / GAS X LIQUID INJECTION / WASTE DISPOSAL / SHALLOW X DEEP / (IF "GAS") PRODUCTION X STORAGE
 COUNTY: PERMIT: 47-095-0325

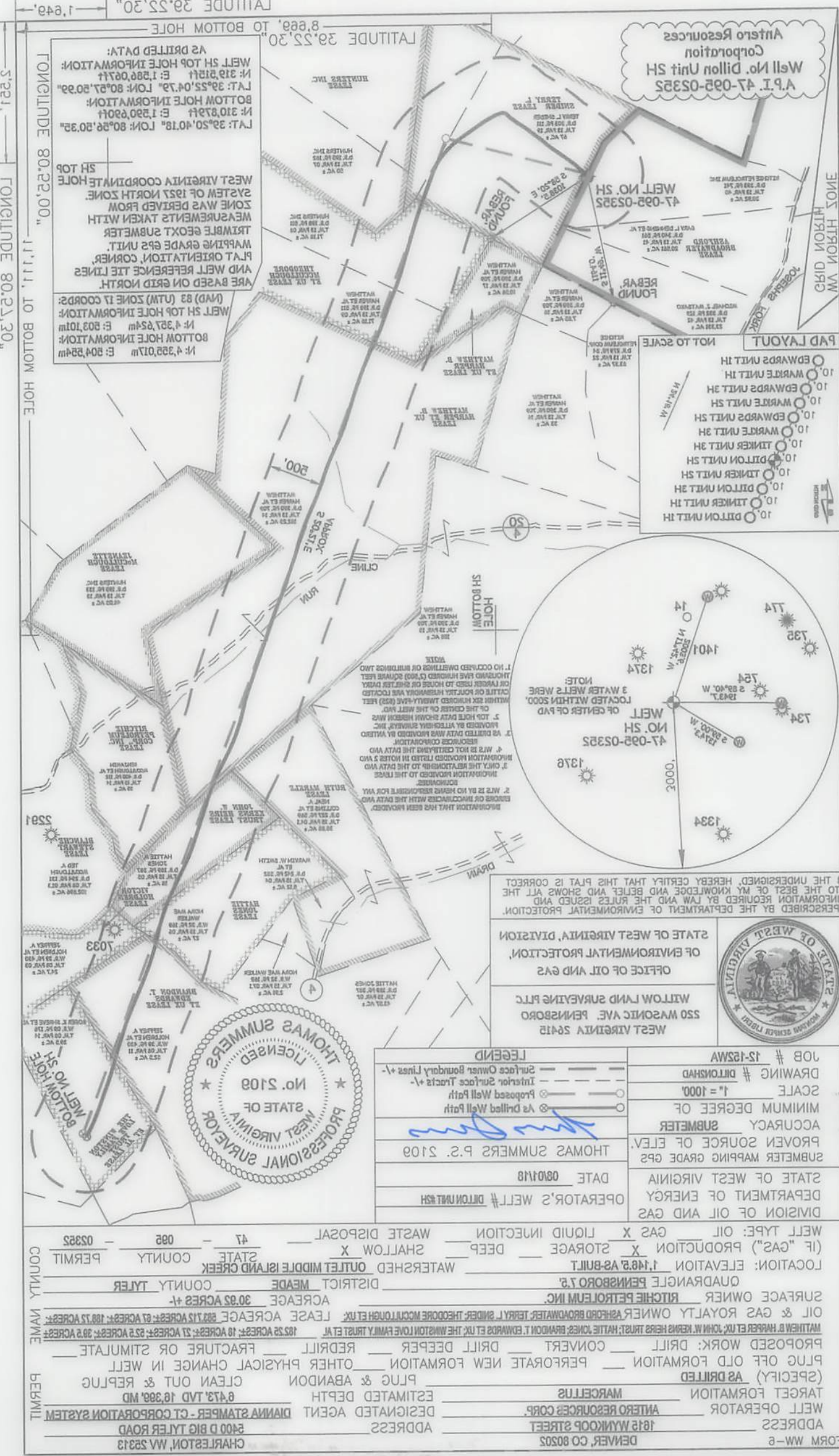


NOTE:
 1. ONLY THE INFORMATION PROVIDED TO THE LICENSEE IS TO BE USED FOR THE PURPOSES OF THIS PLAN.
 2. THE LICENSEE IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THE DATA AND INFORMATION THAT HAS BEEN PROVIDED.
 3. THE LICENSEE IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THE DATA AND INFORMATION PROVIDED TO THE LICENSEE.
 4. THE LICENSEE IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THE DATA AND INFORMATION PROVIDED TO THE LICENSEE.
 5. THE LICENSEE IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THE DATA AND INFORMATION PROVIDED TO THE LICENSEE.

AS DRILLED DATA:
 WELL 5H TOP HOLE INFORMATION:
 N: 319.815ft E: 1.586,067ft
 L.A.T: 39°55'04.73" LON: 80°57'50.92"
 BOTTOM HOLE INFORMATION:
 N: 310.873ft E: 1.550,690ft
 L.A.T: 39°50'40.18" LON: 80°56'50.35"
 WEST VIRGINIA COORDINATE HOLE SH TOP
 ARE BASED ON GRID NORTH AND WELL REFERENCE THE LINES PLAT ORIENTATION, CORNER, MAPPING GRADE GPS UNIT, TRIMBLE GEOX SUBMETER MEASUREMENTS TAKEN WITH SYSTEM OF 1927 NORTH ZONE. ZONE WAS DERIVED FROM WEST VIRGINIA COORDINATE HOLE SH TOP

WELL 5H TOP HOLE INFORMATION:
 N: 357.654m E: 803.101m
 L.A.T: 39°55'04.73" LON: 80°57'50.92"
 BOTTOM HOLE INFORMATION:
 N: 350.017m E: 804.554m
 L.A.T: 39°50'40.18" LON: 80°56'50.35"

LATITUDE 39.55,30" TO BOTTOM HOLE
 LONGITUDE 80.52,00" SH TOP
 LONGITUDE 80.52,30" TO BOTTOM HOLE
 LONGITUDE 80.22,30"



Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/4/2018
Job End Date:	2/1/2018
State:	West Virginia
County:	Tyler
API Number:	47-095-02352-00-00
Operator Name:	Antero Resources Corporation
Well Name and Number:	Dillon 2H
Latitude:	39.37500000
Longitude:	-80.95833333
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,476
Total Base Water Volume (gal):	20,360,091
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	89.54682	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.32033	

HYDROCHLORIC ACID	Halliburton	Solvent					
				Listed Below			
SP BREAKER	Halliburton	Breaker					
				Listed Below			
FR-76	Halliburton	Friction Reducer					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
MC MX 2-2822	Halliburton	Scale Inhibitor					
				Listed Below			
SAND-PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				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	10.06403	
			Hydrochloric acid	7647-01-0	15.00000	0.03887	
			Guar gum	9000-30-0	100.00000	0.03441	
			Inorganic salt	Proprietary	30.00000	0.02188	
			Acrylamide acrylate copolymer	Proprietary	30.00000	0.02188	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02188	
			Methanol	67-56-1	60.00000	0.00410	
			Amines, polyethylenepoly-, ethoxylated, phosphonomethylated, sodium salts	70900-16-2	30.00000	0.00397	
			Glutaraldehyde	111-30-8	30.00000	0.00255	
			Sodium persulfate	7775-27-1	100.00000	0.00096	
			Sodium chloride	7647-14-5	5.00000	0.00066	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00042	
			Ethanol	64-17-5	1.00000	0.00008	
			Ethoxylated alcohols	Proprietary	30.00000	0.00006	
			Fatty acids, tall oil	Proprietary	30.00000	0.00006	
			Modified thiourea polymer	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)