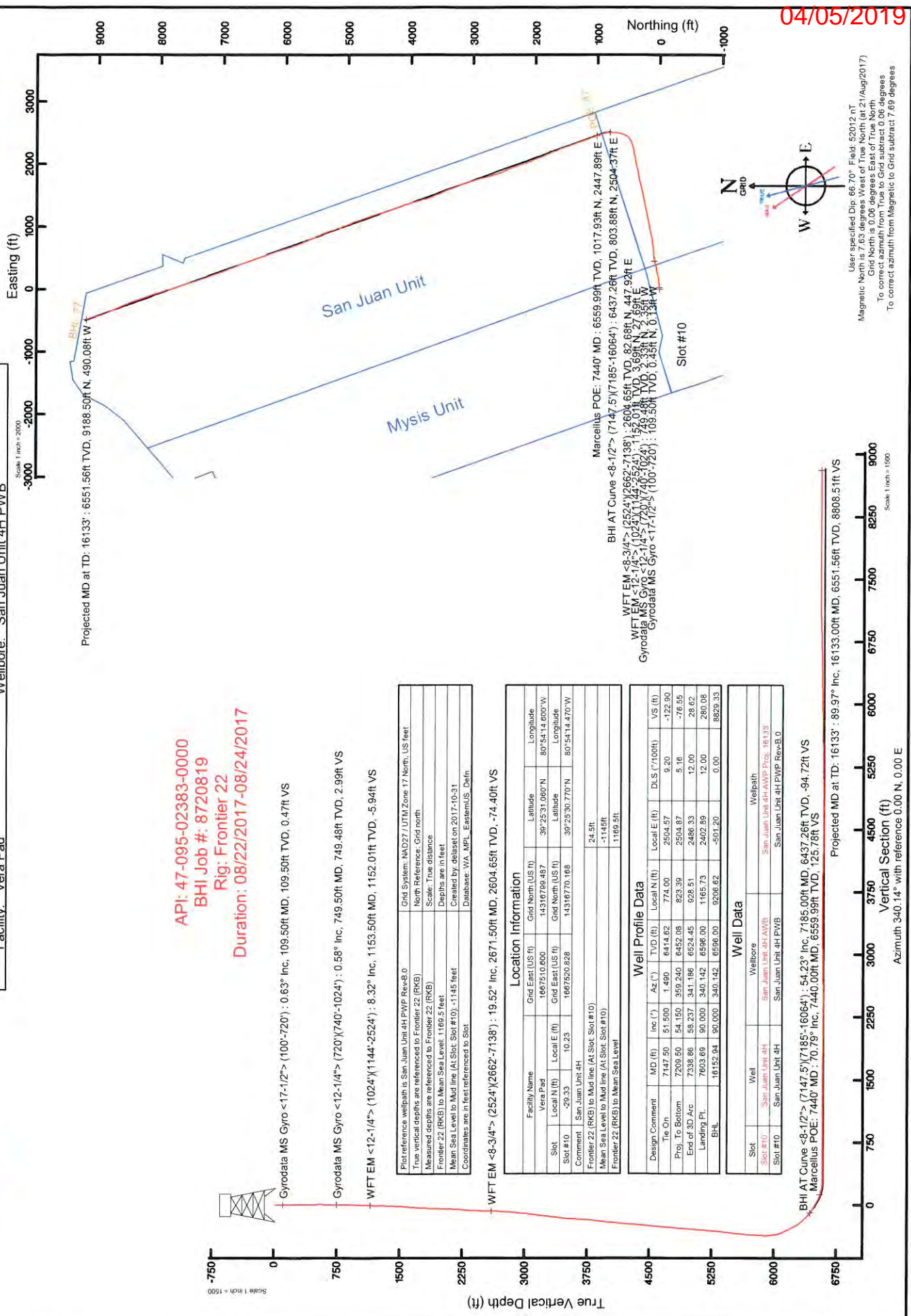




# ANTERO RESOURCES CORPORATION



Location: Tyler County, WV  
 Field: Tyler  
 Facility: Vera Pad  
 Slot: Slot #10  
 Well: San Juan Unit 4H  
 Wellbore: San\_Juan\_Unit\_4H\_PWB



Projected MD at TD: 16133' : 6551.56ft TVD, 9188.50ft N, 490.08ft W

API: 47-095-02383-0000  
 BHI Job #: 8720819  
 Rig: Frontier 22  
 Duration: 08/22/2017-08/24/2017

- Gyrodatta MS Gyro <17-1/2"> (100°-720') : 0.63° Inc, 109.50ft MD, 109.50ft TVD, 0.47ft VS
- Gyrodatta MS Gyro <12-1/4"> (720°)(740°-1024') : 0.58° Inc, 749.50ft MD, 749.48ft TVD, 2.99ft VS
- WFT EM <12-1/4"> (1024°)(1144°-2524') : 8.32° Inc, 1153.50ft MD, 1152.01ft TVD, -5.94ft VS
- WFT EM <8-3/4"> (2524°)(2662°-7138') : 19.52° Inc, 2671.50ft MD, 2604.65ft TVD, -74.40ft VS

Plot reference wellpath is San_Juan_Unit_4H_PWB_RevB.0		Grid System: NAD27 / UTM Zone 17 North, US feet	
True vertical depths are referenced to Frontier 22 (RKB)		North Reference: Grid north	
Measured depths are referenced to Frontier 22 (RKB)		Scale: True distance	
Frontier 22 (RKB) to Mean Sea Level: 1169.5 feet		Depths are in feet	
Mean Sea Level to Mad line (At Slot Slot #10): -1145 feet		Created by: delaseton/2017-10-31	
Coordinates are in feet referenced to Slot		Database: WA_MPL_EasternUS_Defn	

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Vera Pad	14316709.487	39°25'31.080"N	80°54'14.800"W
Slot	Local E (ft)	Grid North (US ft)	Longitude
Slot #10	-29.33	14316710.168	80°54'14.270"W
Comment: San_Juan_Unit_4H			
Frontier 22 (RKB) to Mad line (At Slot Slot #10): 24.5 ft			
Mean Sea Level to Mad line (At Slot Slot #10): -1145ft			
Frontier 22 (RKB) to Mean Sea Level: 1169.5ft			

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (7100ft)	VS (ft)
Tie On	7147.50	51.500	1.490	6414.62	774.00	2504.57	9.20	-122.90
Proj. To Bottom	7209.50	54.150	359.240	6452.08	823.39	2504.87	5.16	-76.55
End of 3D Arc	7338.86	58.237	341.186	6524.45	828.51	2486.33	12.00	28.62
Landing Pt.	7603.69	90.000	340.142	6596.00	1165.73	2402.89	12.00	280.08
BHL	16152.94	90.000	340.142	6596.00	9206.62	-501.20	0.00	8829.33

Well Data			
Well	Wellbore	Wellpath	
Slot	San_Juan_Unit_4H	San_Juan_Unit_4H_PWB	
Slot #10	San_Juan_Unit_4H	San_Juan_Unit_4H_PWB_RevB.0	

BHI AT Curve <8-1/2"> (7147.5)(7185-16064') : 54.23° Inc, 7185.00ft MD, 6437.26ft TVD, -94.72ft VS  
 Marcellus POE: 7440' MD, 70.79° Inc, 7440.00ft MD, 6559.99ft TVD, 125.78ft VS

Projected MD at TD: 16133' : 89.97° Inc, 16133.00ft MD, 6551.56ft TVD, 8808.51ft VS

Vertical Section (ft)  
 Azimuth 340.14° with reference 0.00 N, 0.00 E

04/05/2019

User specified Dip: 66.70° Field: 52012 nt  
 Magnetic North is 7.63 degrees West of True North (at 21/Aug/2017)  
 Grid North is 0.06 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.06 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.69 degrees



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Vera Pad
Slot	Slot #10
Well	San Juan Unit 4H
Wellbore	San Juan Unit 4H AWB

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999601
Convergence at slot	0.06° East
Software System	WellArchitect® 5.1
User	Delaset
Report Generated	31/Oct/2017 at 09:23
Database/Source file	WA_MPL_EasternUS_Defn/San_Juan_Unit_4H_AWP_Proj_16133_.xml

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [ft]	East [ft]	Easting [US ft]	Northing [US ft]	Latitude	Longitude
Slot Location	-29.33	10.23	1667520.83	14316770.17	39°25'30.770"N	80°54'14.470"W
Facility Reference Pt			1667510.60	14316799.49	39°25'31.060"N	80°54'14.600"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	Frontier 22 (RKB)
MD Reference Pt	Frontier 22 (RKB)
Field Vertical Reference	Mean Sea Level
	Frontier 22 (RKB) to Facility Vertical Datum
	Frontier 22 (RKB) to Mean Sea Level
	Frontier 22 (RKB) to Mud Line at Slot (Slot #10)
	Section Origin
	Section Azimuth
	24.50ft
	1169.50ft
	24.50ft
	N 0.00, E 0.00 ft
	340.14°



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #10
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Vera Pad	Well	San Juan Unit 4H
				Wellbore	San Juan Unit 4H AWB

## WELLPATH DATA (197 stations) † = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
0.00†	0.00	343.390	0.00	0.00	0.00	0.00	1667520.83	14316770.17	39°25'30.770"N	80°54'14.470"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.00	343.390	24.50	0.00	0.00	0.00	1667520.83	14316770.17	39°25'30.770"N	80°54'14.470"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.630	343.390	109.50	0.47	0.45	-0.13	1667520.69	14316770.62	39°25'30.774"N	80°54'14.472"W	0.47	343.390	0.74	0.74	-19.54	Gyrodatta MS Gyro <17-1/2"> (100'-720')
209.50	0.690	337.210	209.49	1.62	1.53	-0.52	1667520.30	14316771.70	39°25'30.785"N	80°54'14.477"W	1.62	341.093	0.09	0.06	-6.18	
309.50	0.460	305.650	309.49	2.55	2.32	-1.08	1667519.75	14316772.49	39°25'30.793"N	80°54'14.484"W	2.56	334.957	0.38	-0.23	-31.56	
409.50	0.370	277.810	409.48	3.03	2.60	-1.73	1667519.10	14316772.76	39°25'30.796"N	80°54'14.492"W	3.12	326.335	0.22	-0.09	-27.84	
509.50	0.220	324.980	509.48	3.37	2.80	-2.16	1667518.67	14316772.96	39°25'30.798"N	80°54'14.497"W	3.53	322.336	0.27	-0.15	47.17	
709.50	0.230	229.450	709.48	3.12	2.47	-2.34	1667518.49	14316772.63	39°25'30.794"N	80°54'14.500"W	3.56	321.219	0.42	-0.01	-157.36	
729.50	0.250	225.800	729.48	3.08	2.41	-2.41	1667518.42	14316772.58	39°25'30.794"N	80°54'14.501"W	3.41	315.054	0.13	0.10	-18.25	
749.50	0.580	117.580	749.48	2.99	2.33	-2.35	1667518.48	14316772.50	39°25'30.793"N	80°54'14.500"W	3.31	314.825	3.50	1.65	-54.1.10	Gyrodatta MS Gyro <12-1/4"> (720')(740'-1024')
843.50	1.990	97.390	843.46	1.89	1.90	-0.31	1667520.52	14316772.07	39°25'30.789"N	80°54'14.474"W	1.93	350.844	1.55	1.50	-21.48	
938.50	3.870	90.930	938.33	0.00	1.64	4.54	1667525.36	14316771.81	39°25'30.786"N	80°54'14.412"W	4.82	70.138	2.01	1.98	-6.80	
1033.50	6.080	85.640	1032.96	-2.48	1.97	12.76	1667533.58	14316772.14	39°25'30.789"N	80°54'14.307"W	12.91	81.228	2.37	2.33	-5.57	
1153.50	8.320	81.820	1152.01	-5.94	3.69	27.69	1667548.51	14316773.85	39°25'30.806"N	80°54'14.117"W	27.93	82.415	1.91	1.87	-3.18	MFT EM <12-1/4"> (1024')(114'-2524')
1247.50	9.410	81.810	1244.89	-8.87	5.75	42.03	1667562.84	14316775.92	39°25'30.826"N	80°54'13.934"W	42.42	82.210	1.16	1.16	-0.01	
1342.50	10.440	80.530	1338.46	-11.99	8.27	58.21	1667579.01	14316778.44	39°25'30.851"N	80°54'13.728"W	58.79	81.911	1.11	1.08	-1.35	
1437.50	11.750	83.890	1431.69	-15.85	10.72	76.32	1667597.11	14316780.88	39°25'30.875"N	80°54'13.497"W	77.06	82.005	1.54	1.38	3.54	
1532.50	13.360	84.150	1524.41	-20.80	12.87	96.85	1667617.64	14316783.03	39°25'30.896"N	80°54'13.236"W	97.70	82.433	1.70	1.69	0.27	
1626.50	14.690	84.650	1615.61	-26.42	15.09	119.32	1667640.30	14316785.25	39°25'30.918"N	80°54'12.947"W	120.47	82.807	1.42	1.41	0.53	
1720.50	16.770	83.410	1706.08	-32.52	17.75	144.87	1667665.64	14316787.91	39°25'30.944"N	80°54'12.624"W	145.95	83.013	2.24	2.21	-1.32	
1814.50	17.440	82.690	1795.93	-38.69	21.10	172.31	1667693.07	14316791.26	39°25'30.977"N	80°54'12.274"W	173.60	83.018	0.75	0.71	-0.77	
1909.50	16.690	77.850	1886.75	-43.61	25.78	199.77	1667720.52	14316795.94	39°25'31.023"N	80°54'11.924"W	201.42	82.645	1.69	-0.79	-5.09	
2003.50	17.550	73.290	1976.58	-46.20	32.70	226.54	1667747.28	14316802.86	39°25'31.091"N	80°54'11.583"W	228.89	81.786	1.70	0.91	-4.85	
2097.50	19.390	74.680	2065.74	-48.21	40.90	255.16	1667775.89	14316811.06	39°25'31.172"N	80°54'11.218"W	258.42	80.893	2.01	1.96	1.46	
2191.50	20.420	81.740	2154.14	-52.74	47.39	286.44	1667807.16	14316817.54	39°25'31.235"N	80°54'10.819"W	290.34	80.606	2.79	1.10	7.53	
2286.50	21.200	80.730	2242.94	-59.23	52.54	319.80	1667840.50	14316822.68	39°25'31.286"N	80°54'10.394"W	324.09	80.671	0.90	0.82	-1.06	
2381.50	20.870	79.830	2331.61	-65.24	58.29	353.41	1667874.09	14316828.44	39°25'31.342"N	80°54'09.966"W	358.18	80.634	0.49	-0.35	-0.95	
2475.50	19.620	76.920	2419.80	-69.92	64.82	385.26	1667905.94	14316834.96	39°25'31.407"N	80°54'09.560"W	390.68	80.449	1.71	-1.33	-3.10	
2533.50	19.300	74.840	2474.49	-71.85	69.53	404.00	1667924.67	14316839.67	39°25'31.453"N	80°54'09.321"W	409.94	80.235	1.32	-0.55	-3.59	



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'  
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04/05/2019

REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #10
Operator	ANTERO RESOURCES CORPORATION	Well	San Juan Unit 4H
Area	Tyler County, WV	Wellbore	San Juan Unit 4H AWB
Field	Tyler		
Facility	Vera Pad		

WELLPATH DATA (197 stations)																
MD ft	Inclination °	Azimuth °	TVD ft	Vert Sect ft	North ft	East ft	Grid East ft	Grid North ft	Latitude	Longitude	Closure Dist ft	Closure Dir °	DLS ft/100ft	Build Rate ft/100ft	Turn Rate °/100ft	Comments
2671.50	19.520	71.840	2604.65	-74.40	82.68	447.92	1667968.57	14316852.82	39°25'31.582"N	80°54'08.761"W	455.49	79.542	0.74	0.16	-2.17	WFT EM <8.3/4"> (2524)/(2662'-7138')
2765.50	18.900	78.100	2693.42	-76.98	90.72	477.74	1667998.38	14316860.85	39°25'31.662"N	80°54'08.381"W	486.28	79.248	2.29	-0.66	6.66	
2859.50	19.560	79.760	2782.18	-81.72	96.65	508.12	1668028.75	14316866.78	39°25'31.720"N	80°54'07.994"W	517.23	79.230	0.91	0.70	1.77	
2954.50	18.660	85.380	2871.95	-88.37	100.70	538.92	1668059.54	14316870.83	39°25'31.760"N	80°54'07.601"W	548.25	79.416	2.15	-0.95	5.92	
3049.50	20.460	87.200	2961.46	-97.24	102.74	570.66	1668091.26	14316872.87	39°25'31.779"N	80°54'07.197"W	579.83	79.794	2.00	1.89	1.92	
3144.50	22.510	88.050	3049.86	-107.70	104.17	605.42	1668126.01	14316874.30	39°25'31.793"N	80°54'06.754"W	614.32	80.237	2.18	2.16	0.89	
3238.50	23.680	86.650	3136.32	-118.60	105.89	642.25	1668162.82	14316876.01	39°25'31.810"N	80°54'06.284"W	650.92	80.638	1.37	1.24	-1.49	
3333.50	25.920	83.490	3222.56	-128.82	109.35	681.93	1668202.49	14316879.48	39°25'31.844"N	80°54'05.779"W	690.64	80.890	2.74	2.36	-3.33	
3430.50	28.190	82.610	3308.94	-138.66	114.71	725.72	1668246.26	14316884.83	39°25'31.896"N	80°54'05.220"W	734.73	81.018	2.38	2.34	-0.91	
3524.50	30.030	81.230	3391.07	-147.98	121.15	770.99	1668291.51	14316891.27	39°25'31.959"N	80°54'04.643"W	780.45	81.070	2.08	1.96	-1.47	
3619.50	31.700	81.160	3472.61	-157.32	128.61	819.15	1668339.65	14316898.73	39°25'32.032"N	80°54'04.030"W	829.19	81.077	1.76	1.76	-0.07	
3713.50	32.750	77.620	3552.14	-165.36	137.86	868.40	1668388.88	14316907.97	39°25'32.123"N	80°54'03.402"W	879.27	80.980	2.30	1.12	-3.77	
3808.50	31.240	76.290	3632.70	-171.34	149.21	917.43	1668437.89	14316919.31	39°25'32.235"N	80°54'02.777"W	929.48	80.763	1.75	-1.59	-1.40	
3903.50	31.690	76.760	3713.73	-176.86	160.76	965.65	1668486.09	14316930.86	39°25'32.349"N	80°54'02.162"W	978.94	80.548	0.54	0.47	0.49	
4092.50	33.810	79.760	3872.88	-192.14	180.62	1065.62	1668586.02	14316950.71	39°25'32.451"N	80°54'01.539"W	1028.85	80.425	1.66	0.89	2.62	
4186.50	32.380	78.240	3951.63	-200.06	190.40	1116.00	1668636.38	14316960.49	39°25'32.640"N	80°54'00.246"W	1080.82	80.360	1.38	1.35	0.57	
4281.50	32.830	79.330	4031.65	-207.76	200.35	1166.22	1668686.58	14316970.44	39°25'32.738"N	80°53'59.606"W	1132.13	80.318	1.76	-1.52	-1.62	
4376.50	32.530	79.160	4111.62	-215.87	209.92	1216.61	1668736.95	14316980.01	39°25'32.832"N	80°53'58.964"W	1183.30	80.252	0.78	0.47	1.15	
4470.50	31.220	77.190	4191.44	-222.83	220.08	1265.19	1668785.51	14316990.16	39°25'32.932"N	80°53'58.344"W	1234.59	80.210	0.33	-0.32	-0.18	
4565.50	32.310	78.890	4272.21	-229.71	230.43	1314.11	1668834.41	14317000.50	39°25'33.033"N	80°53'57.721"W	1284.19	80.132	1.78	-1.39	-2.10	
4659.50	33.250	78.840	4351.24	-237.43	240.26	1364.05	1668884.33	14317010.33	39°25'33.130"N	80°53'57.084"W	1334.16	80.054	1.48	1.15	1.79	
4753.50	32.100	77.080	4430.37	-244.35	250.83	1413.68	1668933.94	14317020.90	39°25'33.234"N	80°53'56.452"W	1385.05	80.011	1.00	1.00	-0.05	
4848.50	31.680	78.150	4511.03	-250.87	261.60	1462.69	1668982.93	14317031.66	39°25'33.340"N	80°53'55.827"W	1435.76	79.939	1.59	-1.22	-1.87	
4942.50	32.840	77.870	4590.52	-257.74	272.02	1511.77	1669031.99	14317042.08	39°25'33.442"N	80°53'55.201"W	1485.90	79.860	0.74	-0.44	1.13	
5037.50	32.530	77.080	4670.47	-264.29	283.15	1561.85	1669082.05	14317053.20	39°25'33.552"N	80°53'54.563"W	1536.05	79.800	1.24	1.23	-0.30	
5132.50	32.550	75.010	4750.56	-269.55	295.47	1611.44	1669131.62	14317065.52	39°25'33.673"N	80°53'53.931"W	1587.31	79.725	0.56	-0.33	-0.83	
5226.50	32.690	77.500	4829.74	-274.95	307.50	1660.65	1669180.81	14317077.55	39°25'33.791"N	80°53'53.304"W	1638.30	79.610	1.17	0.02	-2.18	
5320.50	31.600	76.660	4909.33	-280.99	318.68	1709.40	1669229.54	14317088.72	39°25'33.901"N	80°53'52.682"W	1688.88	79.509	1.44	0.15	2.65	
5415.50	32.150	79.040	4990.01	-287.73	329.23	1758.43	1669278.55	14317099.26	39°25'34.005"N	80°53'52.057"W	1738.85	79.440	1.25	-1.16	-0.89	
											1788.99	79.395	1.44	0.58	2.51	



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'

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04/05/2019

REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #10
Operator	ANTERO RESOURCES CORPORATION	Well	San Juan Unit 4H
Area	Tyler County, WV	Wellbore	San Juan Unit 4H AWB
Field	Tyler		
Facility	Vera Pad		

WELLPATH DATA (197 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
5510.50	33.620	78.800	5069.78	-295.60	339.14	1809.05	1669329.15	14311709.17	39°25'34.102"N	80°53'51.412"W	1840.56	79.382	1.55	1.55	-0.25	
5604.50	33.360	77.750	5148.18	-302.94	349.68	1859.83	1669379.92	14317119.71	39°25'34.206"N	80°53'50.765"W	1892.42	79.352	0.68	-0.28	-1.12	
5699.50	32.660	76.740	5227.84	-309.35	361.10	1910.31	1669430.37	14317131.13	39°25'34.318"N	80°53'50.122"W	1944.14	79.296	0.94	-0.74	-1.06	
5793.50	34.690	75.880	5306.05	-314.94	373.45	1960.94	1669480.99	14317143.47	39°25'34.440"N	80°53'49.476"W	1996.19	79.218	2.22	2.16	-0.91	
5888.50	34.770	80.560	5384.15	-322.54	384.49	2013.89	1669533.91	14317154.50	39°25'34.548"N	80°53'48.801"W	2050.27	79.191	2.81	0.08	4.93	
5982.50	34.650	81.430	5461.43	-332.62	392.87	2066.76	1669586.76	14317162.88	39°25'34.630"N	80°53'48.127"W	2103.77	79.237	0.54	-0.13	0.93	
6077.50	32.860	77.720	5540.42	-341.31	402.37	2118.66	1669638.63	14317172.38	39°25'34.724"N	80°53'47.466"W	2156.53	79.246	2.87	-1.88	-3.91	
6171.50	31.870	77.100	5619.81	-347.68	413.34	2167.76	1669687.72	14317183.34	39°25'34.832"N	80°53'46.840"W	2206.82	79.205	1.11	-1.05	-0.66	
6266.50	31.370	78.030	5700.71	-354.12	424.07	2216.40	1669736.34	14317194.06	39°25'34.937"N	80°53'46.220"W	2256.60	79.168	0.74	-0.53	0.98	
6361.50	32.130	77.260	5781.49	-360.64	434.77	2265.23	1669785.15	14317204.76	39°25'35.042"N	80°53'45.598"W	2306.58	79.135	0.91	0.80	-0.81	
6455.50	31.780	74.600	5861.25	-365.67	446.85	2313.48	1669833.38	14317216.84	39°25'35.161"N	80°53'44.983"W	2356.24	79.088	1.54	-0.37	-2.83	
6487.50	31.630	72.730	5888.48	-366.70	451.58	2329.62	1669884.79	14317227.57	39°25'35.208"N	80°53'44.777"W	2372.98	79.030	3.11	-0.47	-5.84	
6518.50	31.410	68.540	5914.91	-366.84	456.95	2344.90	1669936.03	14317238.93	39°25'35.261"N	80°53'44.582"W	2389.01	78.973	7.10	-0.71	-13.52	
6549.50	30.930	63.680	5941.44	-365.72	463.44	2359.56	1669987.94	14317249.36	39°25'35.325"N	80°53'44.395"W	2404.64	78.888	8.26	-1.55	-15.68	
6581.50	31.280	58.870	5968.84	-363.17	471.38	2374.04	1669993.92	14317260.63	39°25'35.403"N	80°53'44.210"W	2420.39	78.770	7.84	1.09	-15.03	
6613.50	32.280	55.060	5996.04	-359.32	480.57	2388.16	1669908.03	14317270.55	39°25'35.494"N	80°53'44.030"W	2436.03	78.622	7.00	3.13	-11.91	
6644.50	33.650	51.500	6022.05	-354.42	490.66	2401.67	1669921.54	14317280.63	39°25'35.593"N	80°53'43.858"W	2451.28	78.453	7.65	4.42	-11.48	
6675.50	34.720	47.480	6047.70	-348.28	501.98	2414.90	1669934.76	14317291.94	39°25'35.705"N	80°53'43.689"W	2466.52	78.257	8.06	3.45	-12.97	
6707.50	35.140	42.310	6073.94	-340.47	514.95	2427.82	1669947.68	14317304.91	39°25'35.833"N	80°53'43.524"W	2481.83	78.025	9.34	1.31	-16.16	
6738.50	35.390	37.270	6099.26	-331.43	528.69	2439.26	1669959.11	14317318.89	39°25'35.969"N	80°53'43.378"W	2495.90	77.771	9.42	0.81	-16.26	
6770.50	35.520	32.150	6125.33	-320.67	543.94	2449.83	1669969.67	14317332.48	39°25'36.119"N	80°53'43.244"W	2509.48	77.482	9.29	0.41	-16.00	
6801.50	35.180	26.850	6150.62	-309.00	559.54	2458.65	1669978.49	14317345.42	39°25'36.273"N	80°53'43.131"W	2521.52	77.179	9.95	-1.10	-17.10	
6832.50	34.180	23.590	6176.12	-296.56	575.48	2466.17	1669986.01	14317358.10	39°25'36.431"N	80°53'43.035"W	2532.43	76.865	6.80	-3.23	-10.52	
6864.50	33.490	20.310	6202.70	-283.28	592.00	2472.83	1669992.67	14317361.93	39°25'36.594"N	80°53'42.950"W	2542.71	76.537	6.10	-2.16	-10.25	
6895.50	33.450	17.520	6228.56	-269.96	608.17	2478.37	1669998.21	14317378.10	39°25'36.754"N	80°53'42.879"W	2551.90	76.213	4.96	-0.13	-9.00	
6927.50	35.290	15.050	6254.97	-255.37	625.51	2483.43	1670003.26	14317395.43	39°25'36.925"N	80°53'42.814"W	2560.99	75.863	7.21	5.75	-7.72	
6958.50	37.660	13.260	6279.90	-240.09	643.38	2487.93	1670007.76	14317413.29	39°25'37.101"N	80°53'42.757"W	2569.77	75.501	8.38	7.65	-5.77	
6990.50	39.920	11.610	6304.84	-223.14	662.96	2492.24	1670012.07	14317432.86	39°25'37.295"N	80°53'42.701"W	2578.91	75.104	7.77	7.06	-5.16	
7021.50	42.020	9.350	6328.25	-205.60	682.94	2495.93	1670015.75	14317452.83	39°25'37.492"N	80°53'42.654"W	2587.67	74.697	8.29	6.77	-7.29	
7053.50	44.200	7.380	6351.61	-186.33	704.57	2499.10	1670018.93	14317474.46	39°25'37.706"N	80°53'42.613"W	2596.52	74.255	8.01	6.81	-6.16	



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'  
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04/05/2019

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	San Juan Unit 4H
Field	Tyler	Wellbore	San Juan Unit 4H AWB
Facility	Vera Pad		

WELLPATH DATA (197 stations) † = interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude (°)	Longitude (°)	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
7084.50	46.610	5.670	6373.37	-166.56	726.50	2501.60	1670021.43	14317496.38	39°25'37.923"N	80°53'42.581"W	2604.96	73.806	8.71	7.77	-5.52	
7116.50	49.170	3.630	6394.83	-144.96	750.16	2503.52	1670023.34	14317520.03	39°25'38.157"N	80°53'42.556"W	2613.49	73.320	9.29	8.00	-6.37	
7130.00†	50.180	2.680	6403.57	-135.48	760.44	2504.08	1670023.91	14317530.30	39°25'38.258"N	80°53'42.549"W	2617.00	73.108	9.20	7.48	-7.04	Middlesex: 7130' MD
7147.50	51.500	1.490	6414.82	-122.90	774.00	2504.57	1670024.40	14317543.85	39°25'38.392"N	80°53'42.543"W	2621.44	72.827	9.20	7.54	-6.80	
7185.00	54.230	357.780	6437.26	-94.72	803.88	2504.37	1670024.19	14317573.72	39°25'38.688"N	80°53'42.545"W	2630.22	72.204	10.73	7.28	-9.89	BH IAT Curve <-8-1/2"> (7147.5)-(7185-16064)
7249.00	59.500	347.030	6493.62	-9.42	850.89	2499.97	1670019.80	14317620.71	39°25'39.152"N	80°53'42.600"W	2640.81	71.204	10.84	6.21	-10.72	
7289.00	60.196	345.100	6502.16	5.20	890.31	2492.55	1670012.37	14317660.12	39°25'39.542"N	80°53'42.694"W	2646.78	70.344	9.20	3.68	-9.87	
7306.00†	61.490	341.760	6516.78	31.35	929.67	2481.53	1670001.36	14317699.47	39°25'39.931"N	80°53'42.834"W	2648.28	70.028	10.64	4.09	-11.35	Burkett: 7306' MD
7360.00†	62.890	340.117	6527.98	52.57	949.74	2474.60	1669994.43	14317719.52	39°25'40.129"N	80°53'42.922"W	2650.59	69.003	8.41	5.84	-6.85	Tully: 7360' MD
7383.00	64.250	338.580	6538.21	73.17	969.01	2467.33	1669987.17	14317738.79	39°25'40.320"N	80°53'43.014"W	2650.79	68.558	8.41	5.91	-6.68	
7431.00	70.788	338.334	6559.99	125.78	1017.93	2447.89	1669967.74	14317787.69	39°25'40.804"N	80°53'43.261"W	2651.11	67.421	11.51	11.31	-0.94	
7440.00†	75.090	339.170	6571.14	162.09	1051.78	2434.74	1669954.59	14317821.53	39°25'41.139"N	80°53'43.428"W	2652.20	66.636	11.51	11.32	2.27	Marcellus POE: 7440' MD
7478.00	81.630	340.320	6580.82	208.10	1094.95	2418.81	1669938.67	14317864.67	39°25'41.565"N	80°53'43.631"W	2655.10	65.645	14.12	13.91	2.45	
7572.00	87.290	342.630	6585.15	254.84	1139.28	2403.96	1669923.82	14317908.99	39°25'42.004"N	80°53'43.819"W	2660.26	64.643	13.00	12.04	4.91	
7620.00	90.090	342.550	6586.25	302.78	1185.07	2389.60	1669909.47	14317954.76	39°25'42.456"N	80°53'44.002"W	2667.32	63.622	5.84	5.83	-0.17	
7715.00	90.960	341.700	6585.36	397.72	1275.48	2360.45	1669880.33	14318045.13	39°25'43.350"N	80°53'44.372"W	2683.01	61.615	1.30	0.94	-0.89	
7810.00	89.940	339.710	6584.60	492.71	1365.13	2329.06	1669871.90	14318134.75	39°25'44.237"N	80°53'44.770"W	2689.65	59.624	2.36	-1.06	-2.09	
7905.00	89.880	338.990	6584.75	587.70	1454.03	2295.56	1669815.46	14318223.61	39°25'45.116"N	80°53'45.196"W	2717.31	57.649	0.76	-0.06	-0.76	
8000.00	89.720	339.620	6585.08	682.68	1542.90	2261.98	1669781.90	14318312.44	39°25'45.994"N	80°53'45.623"W	2738.08	55.702	0.68	-0.17	0.66	
8096.00	90.180	339.130	6585.16	778.67	1632.74	2228.17	1669748.10	14318402.25	39°25'46.883"N	80°53'46.052"W	2762.35	53.767	0.70	0.48	-0.51	
8191.00	90.740	336.580	6584.40	873.59	1720.72	2192.36	1669712.31	14318490.20	39°25'47.753"N	80°53'46.507"W	2786.99	51.873	2.75	0.59	-2.68	
8286.00	89.480	336.540	6584.22	968.40	1807.88	2154.57	1669674.54	14318577.32	39°25'48.615"N	80°53'47.988"W	2812.58	50.000	1.33	-1.33	-0.04	
8381.00	89.820	338.120	6584.80	1063.28	1895.54	2117.96	1669637.94	14318664.94	39°25'49.481"N	80°53'47.453"W	2842.33	48.172	1.70	0.36	1.66	
8476.00	89.940	339.200	6585.00	1158.25	1984.02	2083.39	1669603.36	14318753.39	39°25'50.356"N	80°53'47.892"W	2876.95	46.399	1.14	0.13	1.14	
8571.00	89.600	338.420	6585.38	1253.22	2072.60	2049.05	1669569.06	14318841.93	39°25'51.232"N	80°53'48.329"W	2914.49	44.673	0.90	-0.36	-0.82	
8665.00	89.660	341.230	6585.99	1347.21	2160.82	2016.64	1669536.66	14318930.12	39°25'52.104"N	80°53'48.740"W	2955.67	43.023	2.99	0.06	2.99	
8760.00	89.970	341.670	6586.29	1442.18	2250.88	1986.41	1669506.44	14319020.15	39°25'52.995"N	80°53'49.124"W	3002.05	41.429	0.57	0.33	0.46	
8854.00	90.030	339.240	6586.29	1536.17	2339.46	1954.97	1669471.01	14319108.69	39°25'53.871"N	80°53'49.524"W	3048.77	39.884	2.59	0.06	-2.59	



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	San Juan Unit 4H
Field	Tyler	Wellbore	San Juan Unit 4H AWB
Facility	Vera Pad		

## WELLPATH DATA (197 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
8948.00	89.570	336.280	6586.62	1630.08	2426.46	1919.40	1669439.45	14319195.65	39°25'54.73"N	80°53'49.976"W	3093.83	38.345	3.19	-0.49	-3.15	
9043.00	89.200	336.110	6587.64	1724.85	2513.37	1881.05	1669401.13	14319282.53	39°25'55.590"N	80°53'50.463"W	3139.33	36.812	0.43	-0.39	-0.18	
9137.00	88.770	341.130	6589.31	1818.77	2600.86	1846.80	1669366.89	14319369.98	39°25'56.455"N	80°53'50.898"W	3189.85	35.378	5.36	-0.46	5.34	
9232.00	89.510	345.050	6590.73	1913.62	2691.72	1819.18	1669339.28	14319460.81	39°25'57.354"N	80°53'51.249"W	3248.81	34.052	4.20	0.78	4.13	
9327.00	89.380	344.620	6591.65	2008.29	2783.41	1794.33	1669314.44	14319552.46	39°25'58.260"N	80°53'51.564"W	3311.64	32.808	0.47	-0.14	-0.45	
9421.00	90.250	345.070	6591.96	2101.98	2874.14	1769.75	1669289.87	14319643.15	39°25'59.157"N	80°53'51.876"W	3375.31	31.623	1.04	0.93	0.48	
9516.00	90.120	344.610	6591.65	2196.66	2965.83	1744.91	1669265.04	14319734.81	39°26'00.064"N	80°53'52.528"W	3441.06	30.470	0.50	-0.14	-0.48	
9611.00	89.880	342.960	6591.65	2291.46	3057.05	1718.38	1669238.52	14319825.99	39°26'00.966"N	80°53'52.909"W	3506.91	29.341	1.76	-0.25	-1.74	
9706.00	90.250	340.310	6591.54	2386.42	3147.20	1688.45	1669208.60	14319916.11	39°26'01.857"N	80°53'52.909"W	3571.52	28.213	2.82	0.39	-2.79	
9801.00	90.250	338.140	6591.13	2481.40	3236.02	1654.76	1669174.92	14320004.89	39°26'02.735"N	80°53'53.337"W	3634.56	27.083	2.28	0.00	-2.28	
9895.00	90.310	337.970	6590.67	2575.34	3323.21	1619.63	1669139.81	14320092.04	39°26'03.597"N	80°53'53.783"W	3696.88	25.983	0.19	0.06	-0.18	
9990.00	92.000	339.660	6588.75	2670.28	3411.76	1585.31	1669105.50	14320180.56	39°26'04.473"N	80°53'54.219"W	3762.09	24.922	2.52	1.78	1.78	
10085.00	90.550	334.870	6586.64	2765.11	3499.33	1548.61	1669068.82	14320268.10	39°26'05.339"N	80°53'54.686"W	3826.69	23.872	5.27	-1.53	-5.04	
10180.00	90.520	337.530	6585.75	2859.87	3586.24	1510.28	1669030.50	14320354.97	39°26'06.198"N	80°53'55.173"W	3891.28	22.838	2.80	-0.03	2.80	
10275.00	90.580	339.130	6584.84	2954.82	3674.52	1475.20	1668995.44	14320443.21	39°26'07.071"N	80°53'55.619"W	3958.59	21.874	1.69	0.06	1.68	
10370.00	90.370	342.530	6584.05	3049.80	3764.24	1444.01	1668964.26	14320532.89	39°26'07.958"N	80°53'56.015"W	4031.71	20.988	3.59	-0.22	3.58	
10466.00	90.740	344.880	6583.12	3145.60	3856.37	1417.08	1668937.34	14320624.99	39°26'08.869"N	80°53'56.357"W	4108.49	20.177	2.48	0.39	2.45	
10560.00	90.800	345.500	6581.86	3239.22	3947.24	1393.06	1668913.33	14320715.82	39°26'09.767"N	80°53'56.662"W	4185.84	19.439	0.66	0.06	0.66	
10655.00	90.800	342.260	6580.53	3334.00	4038.48	1366.69	1668886.97	14320807.03	39°26'10.669"N	80°53'56.997"W	4263.47	18.697	3.41	0.00	-3.41	
10750.00	90.520	340.090	6579.44	3428.97	4128.39	1336.04	1668866.33	14320896.90	39°26'11.558"N	80°53'57.386"W	4339.19	17.933	2.30	-0.29	-2.28	
10844.00	90.000	340.820	6579.01	3522.97	4216.97	1304.59	1668824.89	14320985.45	39°26'12.434"N	80°53'57.786"W	4414.16	17.190	0.95	-0.55	0.78	
10939.00	89.750	340.380	6579.22	3617.97	4306.58	1273.03	1668793.35	14321075.02	39°26'13.320"N	80°53'58.186"W	4490.79	16.468	0.53	-0.26	-0.46	
11034.00	89.010	341.340	6580.25	3712.95	4396.32	1241.89	1668762.22	14321164.72	39°26'14.208"N	80°53'58.582"W	4568.36	15.774	1.28	-0.78	1.01	
11129.00	89.050	342.110	6581.85	3807.90	4486.51	1212.10	1668732.44	14321254.88	39°26'15.099"N	80°53'58.961"W	4647.36	15.118	0.81	0.04	0.81	
11225.00	89.630	342.170	6582.96	3903.83	4577.88	1182.66	1668703.02	14321346.21	39°26'16.003"N	80°53'59.334"W	4728.18	14.485	0.61	0.60	0.06	
11320.00	88.650	341.320	6584.39	3998.78	4668.09	1152.91	1668673.27	14321436.38	39°26'16.895"N	80°53'59.712"W	4808.35	13.873	1.37	-1.03	-0.89	
11415.00	88.680	340.210	6586.60	4093.75	4757.76	1121.62	1668642.00	14321526.02	39°26'17.781"N	80°54'00.110"W	4888.18	13.285	1.17	0.03	-1.17	
11509.00	88.950	339.260	6588.54	4187.73	4845.92	1089.07	1668609.46	14321614.14	39°26'18.653"N	80°54'00.524"W	4966.79	12.666	1.05	0.29	-1.01	
11604.00	89.170	337.360	6590.10	4282.66	4934.18	1053.96	1668574.37	14321702.36	39°26'19.525"N	80°54'00.970"W	5045.49	12.057	2.01	0.23	-2.00	
11699.00	89.170	338.060	6591.48	4377.57	5022.07	1017.94	1668538.36	14321790.22	39°26'20.395"N	80°54'01.428"W	5124.19	11.458	0.74	0.00	0.74	



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	San Juan Unit 4H
Field	Tyler	Wellbore	San Juan Unit 4H AWB
Facility	Vera Pad		

## WELLPATH DATA (197 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (IUS ft)	Grid North (IUS ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
11794.00	89.140	339.950	6592.88	4472.53	5110.75	983.90	1668504.34	14321878.86	39°26'21.271"N	80°54'01.860"W	5204.59	10.897	1.99	-0.03	1.99	
11889.00	90.280	342.700	6593.36	4567.50	5200.73	953.49	1668473.93	14321988.82	39°26'22.161"N	80°54'02.247"W	5287.42	10.389	3.13	1.20	2.89	
11984.00	90.520	342.020	6592.70	4662.43	5291.26	924.70	1668445.16	14322059.31	39°26'23.056"N	80°54'02.612"W	5371.46	9.913	0.76	0.25	-0.72	
12079.00	90.370	337.420	6591.96	4757.40	5380.35	891.78	1668412.25	14322148.36	39°26'23.937"N	80°54'03.031"W	5453.75	9.411	4.84	-0.16	-4.84	
12174.00	90.180	336.770	6591.50	4852.26	5467.86	854.81	1668375.29	14322235.83	39°26'24.802"N	80°54'03.501"W	5534.27	8.885	0.71	-0.20	-0.68	
12269.00	90.620	336.690	6590.84	4947.09	5555.13	817.28	1668337.78	14322323.07	39°26'25.665"N	80°54'03.978"W	5614.92	8.369	0.47	0.46	-0.08	
12364.00	90.770	337.100	6589.69	5041.93	5642.50	780.00	1668300.52	14322410.40	39°26'26.529"N	80°54'04.452"W	5696.16	7.871	0.46	0.16	0.43	
12459.00	90.650	335.230	6588.51	5136.69	5729.39	741.62	1668262.15	14322498.26	39°26'27.388"N	80°54'04.940"W	5777.18	7.375	1.97	-0.13	-1.97	
12554.00	90.460	340.380	6587.59	5231.57	5817.31	705.74	1668226.29	14322585.15	39°26'28.258"N	80°54'05.396"W	5859.97	6.917	5.42	-0.20	5.42	
12650.00	90.710	341.130	6586.61	5327.56	5907.94	674.10	1668194.66	14322675.74	39°26'29.154"N	80°54'05.798"W	5946.28	6.509	0.82	0.26	0.78	
12745.00	90.680	344.170	6585.46	5422.45	5998.60	645.78	1668166.35	14322766.36	39°26'30.050"N	80°54'06.157"W	6033.26	6.145	3.20	-0.03	3.20	
12839.00	90.920	342.380	6584.14	5516.30	6088.61	618.73	1668139.31	14322856.34	39°26'30.940"N	80°54'06.501"W	6119.97	5.803	1.92	0.26	-1.90	
12934.00	90.800	340.500	6582.72	5611.26	6178.66	588.50	1668109.09	14322946.35	39°26'31.830"N	80°54'06.885"W	6206.62	5.441	1.98	-0.13	-1.98	
13029.00	90.680	341.000	6581.49	5706.25	6268.34	557.18	1668077.78	14323035.99	39°26'32.717"N	80°54'07.283"W	6293.05	5.080	0.54	-0.13	0.53	
13124.00	90.980	338.950	6580.36	5801.24	6357.59	524.65	1668045.27	14323125.20	39°26'33.599"N	80°54'07.696"W	6379.20	4.718	2.16	0.00	-2.16	
13219.00	90.950	339.320	6579.01	5896.21	6446.35	490.82	1668011.45	14323213.93	39°26'34.477"N	80°54'08.126"W	6465.01	4.354	0.48	0.28	0.39	
13313.00	90.980	341.070	6577.43	5990.19	6534.77	458.98	1667979.62	14323302.32	39°26'35.351"N	80°54'08.531"W	6550.87	4.018	1.86	0.03	1.86	
13409.00	91.050	341.890	6575.73	6086.15	6625.78	428.49	1667949.15	14323393.29	39°26'36.251"N	80°54'08.918"W	6639.62	3.700	0.86	0.07	0.85	
13504.00	90.950	339.040	6574.07	6181.13	6715.29	396.73	1667917.40	14323482.77	39°26'37.136"N	80°54'09.322"W	6727.00	3.381	3.00	-0.11	-3.00	
13598.00	91.510	338.150	6572.05	6275.07	6802.79	362.43	1667883.12	14323570.23	39°26'38.001"N	80°54'09.758"W	6812.44	3.050	1.12	0.60	-0.95	
13694.00	91.320	337.920	6569.68	6370.97	6891.79	326.54	1667847.23	14323659.19	39°26'38.881"N	80°54'10.214"W	6899.52	2.713	0.31	-0.20	-0.24	
13789.00	90.920	339.150	6567.82	6465.92	6980.18	291.78	1667812.49	14323747.55	39°26'39.755"N	80°54'10.656"W	6986.28	2.398	1.36	-0.42	1.29	
13883.00	91.320	339.890	6565.99	6559.89	7068.23	258.90	1667779.62	14323835.56	39°26'40.626"N	80°54'11.074"W	7072.97	2.098	0.89	0.43	0.79	
13978.00	91.480	341.640	6563.67	6654.85	7157.89	227.61	1667748.35	14323925.19	39°26'41.512"N	80°54'11.472"W	7161.51	1.821	1.85	0.17	1.84	
14073.00	91.020	341.440	6561.59	6749.80	7247.98	197.54	1667718.29	14324015.24	39°26'42.403"N	80°54'11.854"W	7250.67	1.561	0.53	-0.48	-0.21	
14167.00	91.420	340.100	6559.59	6843.77	7336.71	166.59	1667687.35	14324103.94	39°26'43.280"N	80°54'12.247"W	7338.61	1.301	1.49	0.43	-1.43	
14263.00	91.570	341.030	6557.09	6939.74	7427.21	134.65	1667655.43	14324194.40	39°26'44.175"N	80°54'12.653"W	7428.43	1.039	0.98	0.16	0.97	
14357.00	91.540	342.400	6554.54	7033.67	7516.43	105.17	1667625.96	14324283.58	39°26'45.057"N	80°54'13.027"W	7517.17	0.802	1.46	-0.03	1.46	
14452.00	91.140	342.620	6552.31	7128.56	7607.01	76.63	1667597.43	14324374.13	39°26'45.953"N	80°54'13.390"W	7607.40	0.577	0.48	-0.42	0.23	
14546.00	91.200	340.890	6550.40	7222.50	7696.27	47.21	1667568.02	14324463.35	39°26'46.835"N	80°54'13.764"W	7696.41	0.351	1.84	0.06	-1.84	





# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #10
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Vera Pad	Well	San Juan Unit 4H
				Wellbore	San Juan Unit 4H AWB

## WELLPATH DATA (197 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (IUS ft)	Grid North (IUS ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
14641.00	90.370	340.410	6549.09	7317.48	7785.89	15.73	1667536.56	14324552.94	39°26'47.72"N	80°54'14.164"W	7785.91	0.116	1.01	-0.87	-0.51	
14736.00	89.880	341.830	6548.89	7412.47	7875.78	-15.01	1667505.83	14324642.79	39°26'48.610"N	80°54'14.554"W	7875.79	359.891	1.58	-0.52	1.49	
14831.00	89.720	343.220	6549.22	7507.38	7966.39	-43.53	1667477.31	14324733.36	39°26'49.506"N	80°54'14.917"W	7966.51	359.687	1.47	-0.17	1.46	
14925.00	89.850	343.200	6549.57	7601.25	8056.38	-70.69	1667450.17	14324823.32	39°26'50.386"N	80°54'15.262"W	8056.69	359.497	0.14	0.14	-0.02	
15019.00	89.850	340.060	6549.82	7695.20	8149.58	-100.31	1667420.56	14324912.48	39°26'51.278"N	80°54'15.638"W	8146.20	359.294	3.34	0.00	-3.34	
15114.00	89.750	339.840	6550.15	7790.20	8234.82	-132.88	1667388.01	14325001.69	39°26'52.160"N	80°54'16.052"W	8235.89	359.076	0.25	-0.11	-0.23	
15209.00	89.820	340.760	6550.51	7885.20	8324.26	-164.90	1667356.00	14325091.09	39°26'53.044"N	80°54'16.459"W	8325.89	358.865	0.97	0.07	0.97	
15304.00	89.820	341.010	6550.80	7980.19	8414.02	-196.01	1667324.90	14325180.81	39°26'53.932"N	80°54'16.854"W	8416.30	358.666	0.26	0.00	0.26	
15399.00	90.030	338.560	6550.93	8075.18	8503.16	-228.83	1667292.09	14325269.92	39°26'54.813"N	80°54'17.272"W	8506.24	358.458	2.59	0.22	-2.58	
15494.00	89.970	336.600	6550.93	8170.08	8590.98	-265.06	1667255.87	14325357.70	39°26'55.681"N	80°54'17.732"W	8595.07	358.233	2.06	-0.06	-2.06	
15589.00	89.850	336.660	6551.08	8264.90	8678.18	-302.75	1667218.20	14325444.87	39°26'56.544"N	80°54'18.212"W	8683.46	358.002	0.14	-0.13	0.06	
15684.00	89.940	336.600	6551.25	8359.73	8765.39	-340.43	1667180.54	14325532.04	39°26'57.406"N	80°54'18.691"W	8772.00	357.776	0.11	0.09	-0.06	
15779.00	89.910	338.600	6551.38	8454.63	8853.22	-376.63	1667144.35	14325619.83	39°26'58.274"N	80°54'19.151"W	8861.23	357.564	2.11	-0.03	2.11	
15874.00	89.940	341.600	6551.50	8549.62	8942.53	-408.96	1667112.03	14325709.12	39°26'59.157"N	80°54'19.562"W	8951.88	357.382	3.16	0.03	3.16	
15969.00	90.030	342.370	6551.52	8644.57	9032.88	-438.34	1667082.66	14325799.42	39°27'00.051"N	80°54'19.935"W	9043.51	357.222	0.82	0.09	0.81	
16064.00	89.970	341.300	6551.52	8739.52	9123.14	-467.96	1667053.06	14325889.65	39°27'00.943"N	80°54'20.312"W	9135.13	357.064	1.13	-0.06	-1.13	
16133.00	89.970	341.300	6551.56	8808.51	9188.50	-490.08	1667030.94	14325954.98	39°27'01.589"N	80°54'20.593"W	9201.56	356.947	0.00	0.00	0.00	Projected MD at TD: 16133'

## HOLE & CASING SECTIONS - Ref Wellbore: San Juan Unit 4H AWB Ref Wellpath: San Juan Unit 4H AWP Proj: 16133'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	End N/S (ft)	Start E/W (ft)	End E/W (ft)
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.40	0.00	-0.12
17.5in Open Hole	104.50	739.50	635.00	104.50	739.48	0.40	2.38	-0.12	-2.41
13.375in Casing Surface	24.50	739.50	715.00	24.50	739.48	0.00	2.38	0.00	-2.41
12.25in Open Hole	739.50	2616.90	1877.40	739.48	2553.17	2.38	77.19	-2.41	430.57
9.625in Casing Intermediate	24.50	2616.90	2592.40	24.50	2553.17	0.00	77.19	0.00	430.57

04/05/2019



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	San Juan Unit 4H
Field	Tyler	Wellbore	San Juan Unit 4H AWB
Facility	Vera Pad		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
San Juan Unit 4H BHL - Rev-2	6596.00	9206.62	-501.20	1667019.83	14325973.09	39°27'01.769"N	80°54'20.734"W	point
San Juan Unit 4H LP - Rev-1	6596.00	1165.73	2402.89	1669922.75	14317935.43	39°25'42.265"N	80°53'43.833"W	point

## WELLPATH COMPOSITION - Ref Wellbore: San Juan Unit 4H AWB Ref Wellpath: San Juan Unit 4H AWP Proj: 16133'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
24.50	729.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-720')
729.50	1033.50	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodata MS Gyro <12-1/4">(720')(740'-1024')
1033.50	2533.50	ISCWSA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(1024')(1144'-2524')
2533.50	7147.50	ISCWSA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2524')(2662'-7138')
7147.50	16084.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(7147.5')(7185'-16064')
16064.00	16133.00	Blind Drilling (std)	Projection to bit



# Actual Wellpath Report

San Juan Unit 4H AWP Proj: 16133'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	San Juan Unit 4H
Field	Tyler	Wellbore	San Juan Unit 4H AWB
Facility	Vera Pad		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-095-02383-0000            BHI Job #: 8720819            Rig: Frontier 22            Duration: 08/22/2017-08/24/2017            Gyrodota MS Gyro &lt;17-1/2"&gt; (100'-720')            Gyrodota MS Gyro &lt;12-1/4"&gt; (720')(740'-1024')            WFT EM &lt;12-1/4"&gt; (1024')(1144'-2524')            WFT EM &lt;8-3/4"&gt; (2524')(2662'-7138')            BHI AT Curve &lt;8-1/2"&gt; (7147.5')(7185'-16064')            Middlesex: 7130' MD            Burkett: 7306' MD            Tully: 7360' MD            Marcellus POE: 7440' MD            Projected MD at TD: 16133'</p>