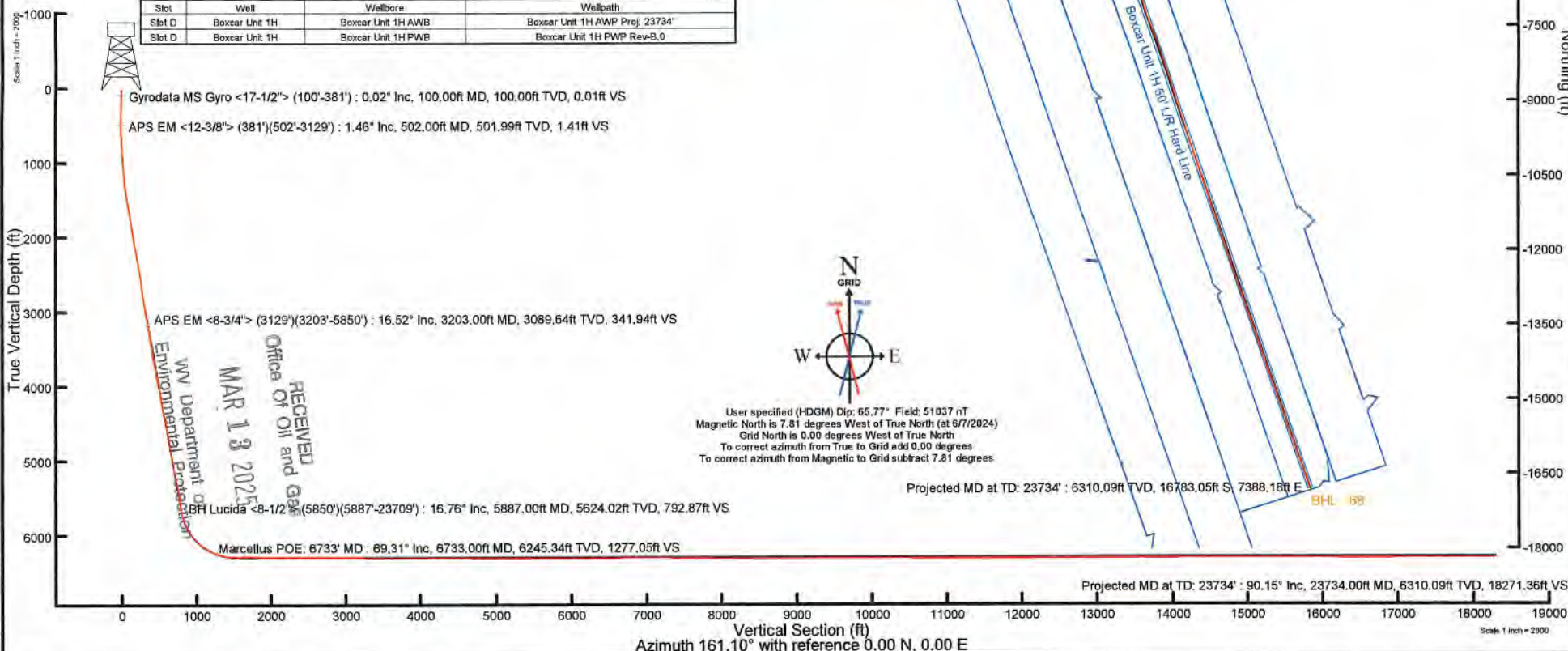






Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'

Page 1 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999600	Report Generated	6/21/2024 at 5:26:50 PM
Convergence at slot	0.00°	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-8.97	12.02	1638189.59	14265624.62	39°17'5.2056"N	81°00'28.3345"W
Facility Reference Pt			1638177.57	14265633.59	39°17'5.2943"N	81°00'28.4874"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM

Calculation method	Minimum curvature	H&P 317 (RKB) to Facility Vertical Datum	1050.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1050.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot D)	25.50ft
MD Reference Pt	H&P 317 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.10°

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Page 2 of 13



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WELLPATH DATA (260 stations) † = interpolated, ‡ = extrapolated station																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	188.990	0.00	0.00	0.00	0.00	1638189.59	14265624.62	39°17'5.2056"N	81°00'28.3345"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	188.990	25.50	0.00	0.00	0.00	1638189.59	14265624.62	39°17'5.2056"N	81°00'28.3345"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.020	188.990	100.00	0.01	-0.01	0.00	1638189.59	14265624.61	39°17'5.2055"N	81°00'28.3345"W	0.01	188.990	0.03	0.03	0.00	Gyrodata MS Gyro <17-1/2"> (100'-381')
200.00	0.130	227.030	200.00	0.07	-0.11	-0.09	1638189.50	14265624.51	39°17'5.2046"N	81°00'28.3356"W	0.14	219.254	0.11	0.11	38.04	
300.00	0.070	206.660	300.00	0.18	-0.24	-0.20	1638189.39	14265624.38	39°17'5.2033"N	81°00'28.3370"W	0.31	219.628	0.07	-0.06	-20.37	
381.00	0.110	231.980	381.00	0.22	-0.33	-0.28	1638189.31	14265624.29	39°17'5.2024"N	81°00'28.3381"W	0.43	220.357	0.07	0.05	31.26	
502.00	1.460	119.160	501.99	1.41	-1.15	0.97	1638190.56	14265623.47	39°17'5.1942"N	81°00'28.3221"W	1.51	139.866	1.24	1.12	-93.24	APS EM <12-3/8"> (381')(502'-3129')
591.00	2.860	111.970	590.92	3.70	-2.54	4.02	1638193.61	14265622.08	39°17'5.1806"N	81°00'28.2833"W	4.76	122.243	1.60	1.57	-8.08	
680.00	4.830	105.640	679.72	7.28	-4.38	9.69	1638199.28	14265620.24	39°17'5.1624"N	81°00'28.2113"W	10.63	114.315	2.26	2.21	-7.11	
767.00	6.210	99.280	766.31	11.58	-6.12	17.86	1638207.44	14265618.50	39°17'5.1451"N	81°00'28.1073"W	18.88	108.926	1.73	1.59	-7.31	
856.00	8.760	93.540	854.55	16.44	-7.32	29.38	1638218.96	14265617.30	39°17'5.1333"N	81°00'27.9609"W	30.28	103.990	2.98	2.87	-6.45	
946.00	9.820	93.310	943.37	21.96	-8.19	43.88	1638233.45	14265616.44	39°17'5.1248"N	81°00'27.7764"W	44.64	100.567	1.18	1.18	-0.26	
1035.00	11.200	95.030	1030.87	28.33	-9.38	60.07	1638249.64	14265615.24	39°17'5.1130"N	81°00'27.5706"W	60.80	98.877	1.59	1.55	1.93	
1129.00	12.630	94.130	1122.84	36.06	-10.92	79.41	1638268.97	14265613.70	39°17'5.0977"N	81°00'27.3245"W	80.16	97.831	1.53	1.52	-0.96	
1224.00	13.950	91.920	1215.30	44.19	-12.05	101.22	1638290.77	14265612.57	39°17'5.0866"N	81°00'27.0472"W	101.93	96.791	1.49	1.39	-2.33	
1318.00	15.930	95.150	1306.12	53.48	-13.59	125.39	1638314.93	14265611.03	39°17'5.0714"N	81°00'26.7398"W	126.13	96.186	2.28	2.11	3.44	
1413.00	17.510	98.410	1397.10	65.35	-16.85	152.52	1638342.05	14265607.77	39°17'5.0392"N	81°00'26.3948"W	153.45	96.305	1.93	1.66	3.43	
1507.00	18.770	101.200	1486.43	79.42	-21.86	181.34	1638370.86	14265602.77	39°17'4.9897"N	81°00'26.0282"W	182.66	96.873	1.63	1.34	2.97	
1602.00	18.950	102.050	1576.33	95.02	-28.05	211.42	1638400.93	14265596.58	39°17'4.9286"N	81°00'25.6457"W	213.27	97.557	0.35	0.19	0.89	
1696.00	19.230	100.300	1665.16	110.42	-34.00	241.58	1638431.07	14265590.63	39°17'4.8698"N	81°00'25.2621"W	243.96	98.012	0.68	0.30	-1.86	
1791.00	19.400	99.320	1754.81	125.51	-39.35	272.54	1638462.02	14265585.28	39°17'4.8169"N	81°00'24.8684"W	275.37	98.217	0.39	0.18	-1.03	
1885.00	19.480	97.450	1843.45	139.85	-43.92	303.49	1638492.96	14265580.72	39°17'4.7718"N	81°00'24.4748"W	306.65	98.234	0.67	0.09	-1.99	
1980.00	20.090	94.480	1932.85	153.36	-47.24	335.46	1638524.92	14265577.40	39°17'4.7390"N	81°00'24.0682"W	338.77	98.016	1.24	0.64	-3.13	
2074.00	20.320	99.010	2021.07	167.41	-51.06	367.68	1638557.12	14265573.58	39°17'4.7012"N	81°00'23.6584"W	371.21	97.906	1.68	0.24	4.82	
2169.00	19.850	103.640	2110.30	183.80	-57.45	399.65	1638589.08	14265567.20	39°17'4.6381"N	81°00'23.2519"W	403.76	98.180	1.74	-0.49	4.87	
2263.00	19.890	102.730	2198.70	200.77	-64.74	430.75	1638620.17	14265559.91	39°17'4.5661"N	81°00'22.8563"W	435.59	98.547	0.33	0.04	-0.97	
2358.00	19.790	101.770	2288.06	217.45	-71.58	462.26	1638651.67	14265553.07	39°17'4.4985"N	81°00'22.4556"W	467.77	98.802	0.36	-0.11	-1.01	
2452.00	19.800	100.720	2376.51	233.44	-77.78	493.48	1638682.87	14265546.87	39°17'4.4372"N	81°00'22.0585"W	499.58	98.957	0.38	0.01	-1.12	
2547.00	19.320	99.190	2466.03	248.79	-83.29	524.81	1638714.18	14265541.37	39°17'4.3828"N	81°00'21.6602"W	531.37	99.018	0.74	-0.51	-1.61	
2642.00	18.940	97.860	2555.78	263.13	-87.91	555.59	1638744.96	14265536.75	39°17'4.3372"N	81°00'21.2686"W	562.50	98.991	0.81	-0.40	-1.40	

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Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'
Page 3 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

WELLPATH DATA (260 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
2736.00	19.100	92.620	2644.66	275.64	-90.69	586.07	1638775.42	14265533.96	39°17'4.3097"N	81°00'20.8810"W	593.05	98.797	1.82	0.17	-5.57	
2831.00	18.120	96.990	2734.69	287.80	-93.20	616.26	1638805.60	14265531.45	39°17'4.2849"N	81°00'20.4971"W	623.27	98.600	1.79	-1.03	4.60	
2925.00	17.330	99.970	2824.23	300.94	-97.41	644.56	1638833.89	14265527.25	39°17'4.2434"N	81°00'20.1372"W	651.88	98.594	1.28	-0.84	3.17	
3020.00	17.770	96.140	2914.81	313.91	-101.41	672.91	1638862.23	14265523.25	39°17'4.2038"N	81°00'19.7766"W	680.51	98.570	1.30	0.46	-4.03	
3114.00	17.250	105.630	3004.47	327.88	-106.70	700.60	1638889.91	14265517.97	39°17'4.1516"N	81°00'19.4245"W	708.68	98.659	3.08	-0.55	10.10	
3129.00	17.120	105.670	3018.80	330.39	-107.89	704.87	1638894.17	14265516.77	39°17'4.1398"N	81°00'19.3702"W	713.08	98.703	0.87	-0.87	0.27	
3203.00	16.520	101.770	3089.64	341.94	-112.98	725.65	1638914.95	14265511.68	39°17'4.0895"N	81°00'19.1058"W	734.40	98.850	1.73	-0.81	-5.27	APS EM <8-3/4"> (3129')(3203'-5850')
3297.00	17.400	101.310	3179.55	355.83	-118.46	752.52	1638941.81	14265506.20	39°17'4.0353"N	81°00'18.7641"W	761.79	98.946	0.95	0.94	-0.49	
3392.00	19.930	101.400	3269.55	371.15	-124.45	782.33	1638971.60	14265500.22	39°17'3.9762"N	81°00'18.3851"W	792.16	99.039	2.66	2.66	0.09	
3487.00	20.560	98.740	3358.68	387.06	-130.19	814.89	1639003.95	14265494.49	39°17'3.9195"N	81°00'17.9735"W	825.02	99.079	1.17	0.66	-2.80	
3581.00	19.430	94.530	3447.02	400.93	-133.93	846.59	1639035.84	14265490.75	39°17'3.8825"N	81°00'17.5678"W	857.12	98.990	1.95	-1.20	-4.48	
3676.00	20.020	96.560	3536.44	414.21	-137.03	878.50	1639067.73	14265487.64	39°17'3.8518"N	81°00'17.1620"W	889.12	98.866	0.95	0.62	2.14	
3770.00	19.730	102.180	3624.85	429.32	-142.22	909.99	1639099.22	14265482.46	39°17'3.8006"N	81°00'16.7614"W	921.04	98.883	2.06	-0.31	5.98	
3865.00	19.610	105.500	3714.31	446.60	-149.86	941.03	1639130.24	14265474.82	39°17'3.7250"N	81°00'16.3667"W	952.89	99.049	1.18	-0.13	3.49	
3959.00	18.830	103.680	3803.07	463.68	-157.67	970.97	1639160.17	14265467.02	39°17'3.6479"N	81°00'15.9859"W	983.69	99.223	1.05	-0.83	-1.94	
4054.00	19.180	104.840	3892.89	480.61	-165.29	1000.95	1639190.14	14265459.40	39°17'3.5726"N	81°00'15.6047"W	1014.51	99.377	0.54	0.37	1.22	
4148.00	20.370	105.000	3981.35	498.31	-173.48	1031.68	1639220.86	14265451.21	39°17'3.4917"N	81°00'15.2138"W	1046.17	99.545	1.27	1.27	0.17	
4243.00	19.450	101.190	4070.67	515.46	-180.83	1063.17	1639252.33	14265443.86	39°17'3.4191"N	81°00'14.8134"W	1078.44	99.653	1.67	-0.97	-4.01	
4337.00	19.250	102.220	4159.36	531.31	-187.15	1093.67	1639282.82	14265437.55	39°17'3.3566"N	81°00'14.4255"W	1109.57	99.710	0.42	-0.21	1.10	
4432.00	19.850	101.550	4248.89	547.58	-193.69	1124.78	1639313.92	14265431.01	39°17'3.2920"N	81°00'14.0299"W	1141.33	99.771	0.67	0.63	-0.71	
4526.00	19.700	103.200	4337.34	564.09	-200.50	1155.84	1639344.96	14265424.20	39°17'3.2246"N	81°00'13.6349"W	1173.10	99.841	0.61	-0.16	1.76	
4621.00	19.880	102.650	4426.73	581.05	-207.70	1187.19	1639376.30	14265417.01	39°17'3.1536"N	81°00'13.2362"W	1205.22	99.923	0.27	0.19	-0.58	
4715.00	20.100	103.520	4515.07	598.07	-214.97	1218.49	1639407.59	14265409.73	39°17'3.0816"N	81°00'12.8381"W	1237.31	100.006	0.39	0.23	0.93	
4809.00	20.700	105.090	4603.18	616.02	-223.07	1250.23	1639439.32	14265401.63	39°17'3.0016"N	81°00'12.4344"W	1269.98	100.117	0.86	0.64	1.67	
4904.00	19.090	100.740	4692.51	633.09	-230.34	1281.71	1639470.79	14265394.37	39°17'2.9298"N	81°00'12.0341"W	1302.24	100.188	2.30	-1.69	-4.58	
4998.00	18.120	100.350	4781.59	647.84	-235.83	1311.19	1639500.26	14265388.88	39°17'2.8755"N	81°00'11.6591"W	1332.23	100.196	1.04	-1.03	-0.41	
5092.00	18.450	101.910	4870.85	662.60	-241.53	1340.13	1639529.18	14265383.19	39°17'2.8192"N	81°00'11.2912"W	1361.72	100.217	0.63	0.35	1.66	
5187.00	19.610	100.700	4960.66	678.17	-247.59	1370.50	1639559.54	14265377.13	39°17'2.7593"N	81°00'10.9049"W	1392.69	100.240	1.29	1.22	-1.27	
5281.00	19.410	101.010	5049.26	693.75	-253.50	1401.33	1639590.36	14265371.22	39°17'2.7009"N	81°00'10.5128"W	1424.08	100.254	0.24	-0.21	0.33	
5375.00	19.570	103.590	5137.87	710.00	-260.18	1431.97	1639620.98	14265364.54	39°17'2.6349"N	81°00'10.1232"W	1455.41	100.298	0.93	0.17	2.74	

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Page 4 of 13



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Slot	Slot D		

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5469.00	20.410	102.360	5226.21	726.96	-267.39	1463.28	1639652.28	14265357.33	39°17'2.5636"N	81°00'9.7249"W	1487.51	100.356	1.00	0.89	-1.31	
5564.00	19.250	103.680	5315.58	743.99	-274.64	1494.68	1639683.67	14265350.09	39°17'2.4920"N	81°00'9.3256"W	1519.70	100.412	1.31	-1.22	1.39	
5658.00	17.210	100.910	5404.85	759.25	-280.94	1523.39	1639712.37	14265343.79	39°17'2.4298"N	81°00'8.9605"W	1549.08	100.449	2.36	-2.17	-2.95	
5753.00	16.610	100.330	5495.75	772.86	-286.03	1550.55	1639739.52	14265338.70	39°17'2.3794"N	81°00'8.6151"W	1576.71	100.452	0.66	-0.63	-0.61	
5850.00	16.970	103.330	5588.61	787.18	-291.78	1577.97	1639766.92	14265332.95	39°17'2.3226"N	81°00'8.2664"W	1604.72	100.476	0.97	0.37	3.09	
5887.00	16.760	102.850	5624.02	792.87	-294.22	1588.42	1639777.37	14265330.52	39°17'2.2986"N	81°00'8.1335"W	1615.44	100.494	0.68	-0.57	-1.30	BH Lucida <8-1/2"> (5850')/(5887'-23709')
5982.00	19.130	110.270	5714.41	809.92	-302.66	1616.39	1639805.33	14265322.08	39°17'2.2151"N	81°00'7.7778"W	1644.48	100.605	3.46	2.49	7.81	
6076.00	23.420	126.070	5802.05	834.97	-319.01	1645.97	1639834.90	14265305.73	39°17'2.0535"N	81°00'7.4016"W	1676.60	100.969	7.58	4.56	16.81	
6170.00	29.440	134.970	5886.22	871.06	-346.37	1677.46	1639866.37	14265278.38	39°17'1.7831"N	81°00'7.0011"W	1712.85	101.667	7.65	6.40	9.47	
6264.00	36.110	139.360	5965.22	917.59	-383.77	1711.88	1639900.79	14265241.01	39°17'1.4135"N	81°00'6.5633"W	1754.37	102.636	7.53	7.10	4.67	
6333.00†	40.939	142.668	6019.19	957.95	-417.19	1738.86	1639927.75	14265207.59	39°17'1.0831"N	81°00'6.2203"W	1788.20	103.492	7.61	7.00	4.79	Sycamore: 6333' MD
6359.00	42.780	143.750	6038.56	974.46	-431.09	1749.24	1639938.13	14265193.70	39°17'0.9458"N	81°00'6.0882"W	1801.58	103.844	7.61	7.08	4.16	
6454.00	49.640	147.300	6104.27	1040.49	-487.64	1787.93	1639976.80	14265137.18	39°17'0.3868"N	81°00'5.5962"W	1853.23	105.256	7.71	7.22	3.74	
6467.00†	50.491	147.890	6112.62	1050.18	-496.06	1793.27	1639982.14	14265128.76	39°17'0.3037"N	81°00'5.5283"W	1860.61	105.463	7.41	6.54	4.54	Middlesex: 6467' MD
6548.00	55.850	151.270	6161.16	1113.68	-551.96	1826.02	1640014.87	14265072.88	39°16'59.7511"N	81°00'5.1118"W	1907.62	106.819	7.41	6.62	4.17	
6642.00	63.280	155.670	6208.76	1193.94	-624.45	1862.07	1640050.91	14265000.42	39°16'59.0346"N	81°00'4.6532"W	1963.99	108.539	8.87	7.90	4.68	
6650.00†	63.807	156.008	6212.33	1201.08	-630.99	1865.00	1640053.85	14264993.89	39°16'58.9700"N	81°00'4.6160"W	1968.85	108.692	7.59	6.58	4.23	Burkett: 6650' MD
6707.00†	67.581	158.336	6235.79	1252.89	-678.86	1885.14	1640073.97	14264946.03	39°16'58.4969"N	81°00'4.3599"W	2003.65	109.805	7.59	6.62	4.08	Tully: 6707' MD
6733.00†	69.313	159.355	6245.34	1277.05	-701.41	1893.86	1640082.69	14264923.49	39°16'58.2740"N	81°00'4.2490"W	2019.58	110.323	7.59	6.66	3.92	Marcellus POE: 6733' MD
6737.00	69.580	159.510	6246.74	1280.79	-704.92	1895.18	1640084.01	14264919.99	39°16'58.2393"N	81°00'4.2322"W	2022.03	110.403	7.59	6.68	3.87	
6831.00	77.970	161.960	6272.99	1370.96	-790.05	1924.89	1640113.71	14264834.89	39°16'57.3979"N	81°00'3.8544"W	2080.72	112.315	9.27	8.93	2.61	
6926.00	87.540	161.780	6284.95	1465.08	-879.51	1954.18	1640142.99	14264745.47	39°16'56.5138"N	81°00'3.4818"W	2142.98	114.231	10.08	10.07	-0.19	
7020.00	90.090	161.570	6286.90	1559.05	-968.71	1983.73	1640172.52	14264656.29	39°16'55.6321"N	81°00'3.1061"W	2207.62	116.028	2.72	2.71	-0.22	
7114.00	90.310	161.840	6286.57	1653.04	-1057.96	2013.24	1640202.02	14264567.08	39°16'54.7500"N	81°00'2.7308"W	2274.29	117.722	0.37	0.23	0.29	
7209.00	89.820	161.110	6286.46	1748.04	-1148.04	2043.42	1640232.19	14264477.04	39°16'53.8597"N	81°00'2.3470"W	2343.83	119.328	0.93	-0.52	-0.77	
7304.00	89.600	161.300	6286.94	1843.04	-1237.97	2074.03	1640262.78	14264387.15	39°16'52.9708"N	81°00'1.9577"W	2415.40	120.833	0.31	-0.23	0.20	
7398.00	89.540	161.400	6287.65	1937.04	-1327.03	2104.08	1640292.83	14264298.12	39°16'52.0905"N	81°00'1.5755"W	2487.61	122.239	0.12	-0.06	0.11	
7492.00	89.690	161.110	6288.28	2031.03	-1416.05	2134.29	1640323.02	14264209.14	39°16'51.2108"N	81°00'1.1913"W	2561.33	123.563	0.35	0.16	-0.31	
7587.00	89.630	161.370	6288.84	2126.03	-1506.00	2164.84	1640353.56	14264119.23	39°16'50.3217"N	81°00'0.8028"W	2637.15	124.825	0.28	-0.06	0.27	
7681.00	89.880	161.420	6289.25	2220.03	-1595.08	2194.83	1640383.54	14264030.18	39°16'49.4412"N	81°00'0.4214"W	2713.22	126.008	0.27	0.27	0.05	

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Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'

Page 5 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWP
Slot	Slot D		

WELLPATH DATA (260 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
7776.00	89.850	160.990	6289.47	2315.03	-1685.02	2225.44	1640414.14	14263940.28	39°16'48.5523"N	81°00'0.0322"W	2791.39	127.132	0.45	-0.03	-0.45	
7870.00	89.750	161.240	6289.80	2409.03	-1773.96	2255.87	1640444.55	14263851.38	39°16'47.6733"N	80°59'59.6453"W	2869.82	128.181	0.29	-0.11	0.27	
7964.00	89.630	161.660	6290.31	2503.03	-1863.07	2285.77	1640474.44	14263762.30	39°16'46.7925"N	80°59'59.2650"W	2948.86	129.183	0.46	-0.13	0.45	
8059.00	89.510	161.190	6291.02	2598.02	-1953.12	2316.03	1640504.69	14263672.28	39°16'45.9025"N	80°59'58.8802"W	3029.63	130.141	0.51	-0.13	-0.49	
8153.00	89.970	161.280	6291.45	2692.02	-2042.12	2346.27	1640534.92	14263583.32	39°16'45.0228"N	80°59'58.4957"W	3110.50	131.035	0.50	0.49	0.10	
8248.00	89.850	160.500	6291.60	2787.02	-2131.89	2377.37	1640566.00	14263493.59	39°16'44.1356"N	80°59'58.1002"W	3193.25	131.884	0.83	-0.13	-0.82	
8342.00	89.750	160.970	6291.92	2881.02	-2220.62	2408.38	1640597.01	14263404.89	39°16'43.2585"N	80°59'57.7058"W	3275.89	132.677	0.51	-0.11	0.50	
8436.00	89.970	161.340	6292.15	2975.01	-2309.58	2438.75	1640627.36	14263315.97	39°16'42.3793"N	80°59'57.3197"W	3358.82	133.442	0.46	0.23	0.39	
8531.00	89.630	160.360	6292.49	3070.01	-2399.32	2469.91	1640658.51	14263226.26	39°16'41.4923"N	80°59'56.9234"W	3443.43	134.169	1.09	-0.36	-1.03	
8626.00	89.600	161.250	6293.12	3165.01	-2489.04	2501.14	1640689.73	14263136.58	39°16'40.6056"N	80°59'56.5263"W	3528.60	134.861	0.94	-0.03	0.94	
8720.00	89.690	160.800	6293.71	3259.01	-2577.93	2531.71	1640720.28	14263047.73	39°16'39.7270"N	80°59'56.1376"W	3613.21	135.518	0.49	0.10	-0.48	
8815.00	89.720	161.670	6294.20	3354.00	-2667.88	2562.27	1640750.83	14262957.81	39°16'38.8380"N	80°59'55.7490"W	3699.02	136.157	0.92	0.03	0.92	
8909.00	89.660	161.460	6294.70	3448.00	-2757.05	2591.99	1640780.54	14262868.68	39°16'37.9566"N	80°59'55.3710"W	3784.15	136.767	0.23	-0.06	-0.22	
9004.00	89.750	161.010	6295.19	3543.00	-2847.00	2622.55	1640811.09	14262778.76	39°16'37.0675"N	80°59'54.9825"W	3870.81	137.350	0.48	0.09	-0.47	
9098.00	89.570	161.030	6295.75	3636.99	-2935.89	2653.12	1640841.65	14262689.91	39°16'36.1890"N	80°59'54.5937"W	3957.08	137.896	0.19	-0.19	0.02	
9193.00	89.600	160.900	6296.44	3731.99	-3025.69	2684.11	1640872.62	14262600.14	39°16'35.3014"N	80°59'54.1997"W	4044.66	138.424	0.14	0.03	-0.14	
9287.00	89.780	160.940	6296.95	3825.99	-3114.53	2714.83	1640903.33	14262511.35	39°16'34.4234"N	80°59'53.8090"W	4131.66	138.922	0.20	0.19	0.04	
9381.00	89.880	161.030	6297.23	3919.99	-3203.40	2745.46	1640933.95	14262422.51	39°16'33.5450"N	80°59'53.4196"W	4218.92	139.402	0.14	0.11	0.10	
9476.00	89.660	160.980	6297.61	4014.99	-3293.22	2776.38	1640964.85	14262332.72	39°16'32.6572"N	80°59'53.0265"W	4307.39	139.867	0.24	-0.23	-0.05	
9570.00	89.630	160.010	6298.19	4108.98	-3381.83	2807.77	1640996.23	14262244.15	39°16'31.7814"N	80°59'52.6274"W	4395.49	140.299	1.03	-0.03	-1.03	
9664.00	89.880	160.270	6298.59	4202.97	-3470.23	2839.70	1641028.15	14262155.78	39°16'30.9076"N	80°59'52.2214"W	4484.02	140.706	0.38	0.27	0.28	
9759.00	89.820	160.840	6298.84	4297.96	-3559.82	2871.32	1641059.76	14262066.24	39°16'30.0222"N	80°59'51.8192"W	4573.49	141.111	0.60	-0.06	0.60	
9853.00	89.660	160.890	6299.27	4391.96	-3648.62	2902.14	1641090.56	14261977.47	39°16'29.1445"N	80°59'51.4275"W	4662.06	141.501	0.18	-0.17	0.05	
9948.00	89.820	161.390	6299.70	4486.96	-3738.52	2932.85	1641121.26	14261887.60	39°16'28.2559"N	80°59'51.0370"W	4751.64	141.886	0.55	0.17	0.53	
10042.00	90.000	161.260	6299.85	4580.96	-3827.57	2962.94	1641151.34	14261798.59	39°16'27.3758"N	80°59'50.6543"W	4840.39	142.256	0.24	0.19	-0.14	
10136.00	89.660	161.280	6300.12	4674.96	-3916.59	2993.13	1641181.52	14261709.60	39°16'26.4959"N	80°59'50.2705"W	4929.35	142.612	0.36	-0.36	0.02	
10231.00	89.690	161.430	6300.66	4769.95	-4006.60	3023.50	1641211.87	14261619.63	39°16'25.6062"N	80°59'49.8844"W	5019.40	142.961	0.16	0.03	0.16	
10326.00	89.970	161.050	6300.95	4864.95	-4096.56	3054.05	1641242.41	14261529.71	39°16'24.7172"N	80°59'49.4959"W	5109.70	143.295	0.50	0.29	-0.40	
10420.00	90.000	160.810	6300.97	4958.95	-4185.40	3084.76	1641273.11	14261440.90	39°16'23.8391"N	80°59'49.1054"W	5199.36	143.609	0.26	0.03	-0.26	
10514.00	89.660	161.190	6301.25	5052.95	-4274.28	3115.37	1641303.70	14261352.06	39°16'22.9606"N	80°59'48.7163"W	5289.13	143.913	0.54	-0.36	0.40	

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Environmental Protection



Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'

Page 6 of 13



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

WELLPATH DATA (260 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
10609.00	89.720	161.390	6301.76	5147.95	-4364.25	3145.84	1641334.17	14261262.12	39°16'22.0713"N	80°59'48.3289"W	5379.87	144.215	0.22	0.06	0.21	
10703.00	89.780	161.510	6302.17	5241.95	-4453.37	3175.74	1641364.06	14261173.04	39°16'21.1905"N	80°59'47.9487"W	5469.72	144.507	0.14	0.06	0.13	
10798.00	89.660	160.200	6302.64	5336.94	-4543.11	3206.90	1641395.20	14261083.33	39°16'20.3035"N	80°59'47.5526"W	5560.94	144.782	1.38	-0.13	-1.38	
10892.00	89.630	160.040	6303.22	5430.93	-4631.51	3238.86	1641427.15	14260994.97	39°16'19.4298"N	80°59'47.1462"W	5651.65	145.034	0.17	-0.03	-0.17	
10987.00	89.910	160.930	6303.60	5525.92	-4721.05	3270.60	1641458.87	14260905.47	39°16'18.5447"N	80°59'46.7427"W	5743.27	145.287	0.98	0.29	0.94	
11082.00	90.060	161.380	6303.63	5620.92	-4810.96	3301.28	1641489.55	14260815.60	39°16'17.6561"N	80°59'46.3526"W	5834.71	145.542	0.50	0.16	0.47	
11176.00	89.780	160.520	6303.76	5714.92	-4899.81	3331.96	1641520.22	14260726.78	39°16'16.7779"N	80°59'45.9625"W	5925.38	145.784	0.96	-0.30	-0.91	
11270.00	89.820	160.640	6304.09	5808.91	-4988.46	3363.22	1641551.46	14260638.17	39°16'15.9017"N	80°59'45.5652"W	6016.31	146.012	0.13	0.04	0.13	
11365.00	89.820	161.080	6304.38	5903.91	-5078.21	3394.37	1641582.59	14260548.45	39°16'15.0146"N	80°59'45.1692"W	6108.18	146.241	0.46	0.00	0.46	
11459.00	89.720	161.000	6304.76	5997.91	-5167.11	3424.91	1641613.12	14260459.59	39°16'14.1360"N	80°59'44.7809"W	6199.11	146.462	0.14	-0.11	-0.09	
11553.00	90.250	161.400	6304.79	6091.91	-5256.09	3455.20	1641643.40	14260370.64	39°16'13.2564"N	80°59'44.3958"W	6290.06	146.680	0.71	0.56	0.43	
11647.00	90.400	161.520	6304.25	6185.91	-5345.21	3485.09	1641673.28	14260281.56	39°16'12.3756"N	80°59'44.0158"W	6381.00	146.896	0.20	0.16	0.13	
11741.00	90.310	161.280	6303.67	6279.90	-5434.30	3515.07	1641703.25	14260192.50	39°16'11.4950"N	80°59'43.6346"W	6472.04	147.104	0.27	-0.10	-0.26	
11836.00	90.060	160.730	6303.36	6374.90	-5524.13	3545.99	1641734.16	14260102.71	39°16'10.6072"N	80°59'43.2415"W	6564.30	147.303	0.64	-0.26	-0.58	
11930.00	90.060	160.770	6303.27	6468.90	-5612.87	3576.98	1641765.13	14260014.01	39°16'9.7301"N	80°59'42.8476"W	6655.76	147.491	0.04	0.00	0.04	
12025.00	91.170	161.450	6302.25	6563.89	-5702.75	3607.74	1641795.88	14259924.17	39°16'8.8417"N	80°59'42.4566"W	6748.12	147.681	1.37	1.17	0.72	
12119.00	91.260	159.750	6300.25	6657.87	-5791.39	3638.95	1641827.08	14259835.56	39°16'7.9656"N	80°59'42.0598"W	6839.75	147.857	1.81	0.10	-1.81	
12213.00	90.180	160.520	6299.07	6751.84	-5879.78	3670.89	1641859.00	14259747.20	39°16'7.0919"N	80°59'41.6537"W	6931.62	148.022	1.41	-1.15	0.82	
12308.00	90.180	160.190	6298.77	6846.83	-5969.25	3702.83	1641890.93	14259657.77	39°16'6.2076"N	80°59'41.2477"W	7024.45	148.188	0.35	0.00	-0.35	
12402.00	89.690	157.920	6298.88	6940.77	-6057.04	3736.43	1641924.52	14259570.02	39°16'5.3399"N	80°59'40.8208"W	7116.78	148.331	2.47	-0.52	-2.41	
12497.00	89.510	160.970	6299.54	7035.71	-6145.98	3769.78	1641957.85	14259481.12	39°16'4.4609"N	80°59'40.3966"W	7210.01	148.476	3.22	-0.19	3.21	
12591.00	90.340	160.670	6299.67	7129.71	-6234.76	3800.66	1641988.72	14259392.37	39°16'3.5834"N	80°59'40.0040"W	7301.86	148.634	0.94	0.88	-0.32	
12686.00	89.850	161.000	6299.51	7224.71	-6324.49	3831.85	1642019.90	14259302.67	39°16'2.6964"N	80°59'39.6076"W	7394.74	148.789	0.62	-0.52	0.35	
12780.00	89.480	161.070	6300.06	7318.71	-6413.39	3862.40	1642050.43	14259213.81	39°16'1.8178"N	80°59'39.2192"W	7486.63	148.942	0.40	-0.39	0.07	
12875.00	89.260	160.870	6301.10	7413.70	-6503.19	3893.37	1642081.40	14259124.04	39°16'0.9302"N	80°59'38.8255"W	7579.56	149.092	0.31	-0.23	-0.21	
12969.00	89.080	160.130	6302.46	7507.69	-6591.79	3924.74	1642112.76	14259035.48	39°16'0.0545"N	80°59'38.4266"W	7671.72	149.230	0.81	-0.19	-0.79	
13064.00	89.570	162.360	6303.58	7602.67	-6681.73	3955.28	1642143.28	14258945.57	39°15'59.1655"N	80°59'38.0384"W	7764.65	149.376	2.40	0.52	2.35	
13158.00	89.320	162.010	6304.49	7696.65	-6771.22	3984.04	1642172.03	14258856.12	39°15'58.2810"N	80°59'37.6729"W	7856.34	149.528	0.46	-0.27	-0.37	
13253.00	89.230	162.130	6305.70	7791.63	-6861.60	4013.29	1642201.26	14258765.78	39°15'57.3877"N	80°59'37.3011"W	7949.09	149.677	0.16	-0.09	0.13	
13347.00	89.080	161.480	6307.08	7885.61	-6950.89	4042.63	1642230.60	14258676.53	39°15'56.5051"N	80°59'36.9281"W	8041.00	149.818	0.71	-0.16	-0.69	

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Boxcar Unit 1H AWP Proj: 23734'

Page 7 of 13



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Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

WELLPATH DATA (260 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	
13441.00	89.080	162.180	6308.59	7979.59	-7040.19	4071.94	1642259.90	14258587.26	39°15'55.6225"N	80°59'36.5555"W	8132.96	149.956	0.74	0.00	0.74		
13535.00	89.290	162.220	6309.93	8073.57	-7129.68	4100.68	1642288.62	14258497.81	39°15'54.7379"N	80°59'36.1903"W	8224.83	150.094	0.23	0.22	0.04		
13630.00	89.540	161.910	6310.90	8168.55	-7220.06	4129.93	1642317.86	14258407.46	39°15'53.8446"N	80°59'35.8185"W	8317.79	150.230	0.42	0.26	-0.33		
13725.00	89.230	161.470	6311.92	8263.54	-7310.24	4159.77	1642347.69	14258317.32	39°15'52.9533"N	80°59'35.4391"W	8410.91	150.359	0.57	-0.33	-0.46		
13819.00	89.750	160.820	6312.75	8357.53	-7399.19	4190.15	1642378.05	14258228.40	39°15'52.0741"N	80°59'35.0530"W	8503.26	150.477	0.89	0.55	-0.69		
14008.00	90.400	156.400	6312.51	8546.31	-7575.13	4259.06	1642446.94	14258052.53	39°15'50.3351"N	80°59'34.1770"W	8690.35	150.653	2.36	0.34	-2.34		
14102.00	90.060	157.420	6312.13	8640.05	-7661.60	4295.93	1642483.79	14257966.10	39°15'49.4804"N	80°59'33.7084"W	8783.80	150.720	1.14	-0.36	1.09		
14196.00	89.720	158.710	6312.31	8733.92	-7748.79	4331.04	1642518.89	14257878.94	39°15'48.6186"N	80°59'33.2621"W	8877.03	150.798	1.42	-0.36	1.37		
14290.00	90.520	162.550	6312.11	8827.90	-7837.45	4362.21	1642550.05	14257790.32	39°15'47.7423"N	80°59'32.8659"W	8969.65	150.900	4.17	0.85	4.09		
14384.00	90.220	162.040	6311.51	8921.87	-7927.00	4390.80	1642578.62	14257700.81	39°15'46.8572"N	80°59'32.5025"W	9061.81	151.018	0.63	-0.32	-0.54		
14479.00	90.220	162.160	6311.14	9016.86	-8017.40	4419.99	1642607.81	14257610.44	39°15'45.9637"N	80°59'32.1314"W	9155.06	151.132	0.13	0.00	0.13		
14573.00	90.250	162.010	6310.76	9110.84	-8106.84	4448.91	1642636.71	14257521.04	39°15'45.0796"N	80°59'31.7639"W	9247.36	151.243	0.16	0.03	-0.16		
14667.00	90.490	161.490	6310.15	9204.84	-8196.11	4478.35	1642666.14	14257431.80	39°15'44.1973"N	80°59'31.3898"W	9339.80	151.348	0.61	0.26	-0.55		
14762.00	90.220	162.060	6309.56	9299.83	-8286.34	4508.06	1642695.83	14257341.61	39°15'43.3054"N	80°59'31.0121"W	9433.24	151.452	0.66	-0.28	0.60		
14856.00	89.970	161.600	6309.40	9393.82	-8375.66	4537.37	1642725.13	14257252.33	39°15'42.4227"N	80°59'30.6396"W	9525.72	151.554	0.56	-0.27	-0.49		
14951.00	89.850	161.740	6309.55	9488.81	-8465.84	4567.25	1642755.00	14257162.19	39°15'41.5313"N	80°59'30.2598"W	9619.26	151.654	0.19	-0.13	0.15		
15045.00	90.000	161.800	6309.68	9582.81	-8555.12	4596.65	1642784.39	14257072.94	39°15'40.6488"N	80°59'29.8861"W	9711.81	151.751	0.17	0.16	0.06		
15139.00	89.910	161.790	6309.75	9676.80	-8644.41	4626.02	1642813.75	14256983.68	39°15'39.7663"N	80°59'29.5128"W	9804.38	151.847	0.10	-0.10	-0.01		
15234.00	89.940	161.810	6309.88	9771.79	-8734.66	4655.69	1642843.41	14256893.47	39°15'38.8742"N	80°59'29.1357"W	9897.97	151.942	0.04	0.03	0.02		
15328.00	89.820	161.900	6310.07	9865.78	-8823.98	4684.96	1642872.67	14256804.18	39°15'37.9913"N	80°59'28.7637"W	9990.58	152.035	0.16	-0.13	0.10		
15422.00	89.630	161.550	6310.52	9959.78	-8913.24	4714.44	1642902.13	14256714.96	39°15'37.1091"N	80°59'28.3891"W	10083.25	152.125	0.42	-0.20	-0.37		
15516.00	89.820	161.880	6310.97	10053.77	-9002.49	4743.93	1642931.61	14256625.74	39°15'36.2269"N	80°59'28.0142"W	10175.94	152.213	0.41	0.20	0.35		
15610.00	89.780	161.960	6311.30	10147.76	-9091.85	4773.10	1642960.77	14256536.42	39°15'35.3437"N	80°59'27.6435"W	10268.61	152.301	0.10	-0.04	0.09		
15704.00	89.660	161.830	6311.76	10241.75	-9181.20	4802.31	1642989.97	14256447.11	39°15'34.4606"N	80°59'27.2722"W	10361.30	152.388	0.19	-0.13	-0.14		
15799.00	89.630	161.910	6312.35	10336.74	-9271.48	4831.88	1643019.52	14256356.87	39°15'33.5683"N	80°59'26.8965"W	10455.02	152.474	0.09	-0.03	0.08		
15893.00	89.660	161.900	6312.93	10430.73	-9360.83	4861.07	1643048.71	14256267.55	39°15'32.6851"N	80°59'26.5255"W	10547.75	152.557	0.03	0.03	-0.01		
15988.00	89.630	161.690	6313.52	10525.72	-9451.07	4890.75	1643078.37	14256177.35	39°15'31.7932"N	80°59'26.1483"W	10641.53	152.639	0.22	-0.03	-0.22		
16082.00	89.780	162.070	6314.01	10619.71	-9540.41	4919.98	1643107.60	14256088.05	39°15'30.9101"N	80°59'25.7768"W	10734.32	152.720	0.43	0.16	0.40		
16176.00	89.780	161.770	6314.37	10713.70	-9629.77	4949.16	1643136.76	14255998.72	39°15'30.0269"N	80°59'25.4060"W	10827.12	152.799	0.32	0.00	-0.32		
16270.00	89.820	161.930	6314.69	10807.69	-9719.09	4978.44	1643166.03	14255909.44	39°15'29.1440"N	80°59'25.0339"W	10919.96	152.877	0.18	0.04	0.17		

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Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'
Page 8 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

WELLPATH DATA (260 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
16365.00	89.690	161.880	6315.10	10902.68	-9809.39	5007.94	1643195.52	14255819.17	39°15'28.2515"N	80°59'24.6589"W	11013.79	152.955	0.15	-0.14	-0.05	
16459.00	89.910	161.790	6315.43	10996.67	-9898.70	5037.25	1643224.81	14255729.89	39°15'27.3687"N	80°59'24.2865"W	11106.67	153.029	0.25	0.23	-0.10	
16553.00	89.880	161.700	6315.60	11090.67	-9987.97	5066.69	1643254.25	14255640.66	39°15'26.4863"N	80°59'23.9123"W	11199.60	153.102	0.10	-0.03	-0.10	
16648.00	89.940	161.960	6315.75	11185.66	-10078.24	5096.32	1643283.86	14255550.44	39°15'25.5942"N	80°59'23.5358"W	11293.51	153.175	0.28	0.06	0.27	
16742.00	90.000	161.880	6315.80	11279.85	-10167.59	5125.49	1643313.02	14255461.11	39°15'24.7109"N	80°59'23.1651"W	11386.42	153.247	0.11	0.06	-0.09	
16836.00	90.090	161.760	6315.73	11373.64	-10256.90	5154.82	1643342.34	14255371.84	39°15'23.8282"N	80°59'22.7924"W	11479.38	153.317	0.16	0.10	-0.13	
16930.00	90.220	161.880	6315.47	11467.63	-10346.21	5184.15	1643371.65	14255282.57	39°15'22.9455"N	80°59'22.4197"W	11572.36	153.386	0.19	0.14	0.13	
17024.00	89.910	161.810	6315.36	11561.62	-10435.53	5213.44	1643400.93	14255193.29	39°15'22.0626"N	80°59'22.0475"W	11665.34	153.454	0.34	-0.33	-0.07	
17119.00	89.940	161.780	6315.49	11656.62	-10525.77	5243.12	1643430.60	14255103.08	39°15'21.1706"N	80°59'21.6703"W	11759.35	153.521	0.04	0.03	-0.03	
17213.00	89.910	161.780	6315.61	11750.61	-10615.06	5272.51	1643459.98	14255013.83	39°15'20.2881"N	80°59'21.2968"W	11852.38	153.586	0.03	-0.03	0.00	
17307.00	89.850	161.750	6315.81	11844.60	-10704.34	5301.92	1643489.38	14254924.58	39°15'19.4057"N	80°59'20.9230"W	11945.43	153.651	0.07	-0.06	-0.03	
17402.00	89.780	161.710	6316.12	11939.60	-10794.55	5331.70	1643519.15	14254834.41	39°15'18.5140"N	80°59'20.5446"W	12039.49	153.714	0.08	-0.07	-0.04	
17497.00	89.780	161.810	6316.48	12034.59	-10884.78	5361.44	1643548.87	14254744.22	39°15'17.6222"N	80°59'20.1667"W	12133.56	153.777	0.11	0.00	0.11	
17591.00	90.150	161.640	6316.54	12128.59	-10974.04	5390.91	1643578.34	14254655.00	39°15'16.7399"N	80°59'19.7921"W	12226.67	153.838	0.43	0.39	-0.18	
17685.00	89.910	162.000	6316.49	12222.58	-11063.34	5420.24	1643607.65	14254565.72	39°15'15.8572"N	80°59'19.4195"W	12319.76	153.898	0.46	-0.26	0.38	
17780.00	89.820	161.860	6316.71	12317.57	-11153.66	5449.71	1643637.11	14254475.45	39°15'14.9645"N	80°59'19.0450"W	12413.84	153.960	0.18	-0.09	-0.15	
17874.00	89.660	161.880	6317.14	12411.56	-11242.99	5478.96	1643666.35	14254386.15	39°15'14.0816"N	80°59'18.6733"W	12506.95	154.019	0.17	-0.17	0.02	
17969.00	90.370	161.680	6317.11	12506.55	-11333.23	5508.66	1643696.04	14254295.95	39°15'13.1896"N	80°59'18.2959"W	12601.09	154.077	0.78	0.75	-0.21	
18063.00	90.340	161.750	6316.53	12600.54	-11422.48	5538.15	1643725.52	14254206.73	39°15'12.3075"N	80°59'17.9211"W	12694.26	154.134	0.08	-0.03	0.07	
18157.00	90.150	161.810	6316.13	12694.54	-11511.76	5567.54	1643754.90	14254117.48	39°15'11.4249"N	80°59'17.5477"W	12787.43	154.190	0.21	-0.20	0.06	
18252.00	90.000	160.920	6316.01	12789.53	-11601.78	5597.90	1643785.24	14254027.50	39°15'10.5352"N	80°59'17.1620"W	12881.69	154.243	0.95	-0.16	-0.94	
18346.00	90.280	162.130	6315.78	12883.53	-11690.94	5627.69	1643815.01	14253938.38	39°15'9.6540"N	80°59'16.7835"W	12974.93	154.295	1.32	0.30	1.29	
18441.00	90.060	161.860	6315.49	12978.52	-11781.28	5657.05	1643844.37	14253848.07	39°15'8.7609"N	80°59'16.4103"W	13069.08	154.351	0.37	-0.23	-0.28	
18535.00	90.220	162.000	6315.26	13072.51	-11870.65	5686.21	1643873.51	14253758.74	39°15'7.8777"N	80°59'16.0399"W	13162.26	154.405	0.23	0.17	0.15	
18630.00	90.180	161.730	6314.93	13167.50	-11960.93	5715.78	1643903.07	14253668.50	39°15'6.9853"N	80°59'15.6641"W	13256.47	154.458	0.29	-0.04	-0.28	
18724.00	90.180	161.560	6314.64	13261.49	-12050.14	5745.38	1643932.66	14253579.32	39°15'6.1035"N	80°59'15.2880"W	13349.73	154.509	0.18	0.00	-0.18	
18818.00	90.280	161.600	6314.26	13355.49	-12139.33	5775.08	1643962.35	14253490.17	39°15'5.2220"N	80°59'14.9106"W	13443.02	154.558	0.11	0.11	0.04	
18913.00	90.090	160.960	6313.95	13450.49	-12229.30	5805.57	1643992.82	14253400.23	39°15'4.3326"N	80°59'14.5232"W	13537.37	154.605	0.70	-0.20	-0.67	
19007.00	90.340	161.760	6313.60	13544.49	-12318.37	5835.61	1644022.86	14253311.20	39°15'3.4523"N	80°59'14.1415"W	13630.72	154.652	0.89	0.27	0.85	
19101.00	89.750	160.580	6313.53	13638.48	-12407.34	5865.95	1644053.18	14253222.27	39°15'2.5729"N	80°59'13.7580"W	13724.12	154.696	1.40	-0.63	-1.26	



Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'

Page 9 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWP
Slot	Slot D		

WELLPATH DATA (260 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
19196.00	90.090	161.010	6313.66	13733.48	-12497.05	5897.20	1644084.42	14253132.59	39°15'1.6861"N	80°59'13.3589"W	13818.58	154.738	0.58	0.36	0.45	
19290.00	89.750	160.510	6313.79	13827.48	-12585.80	5928.18	1644115.38	14253043.88	39°15'0.8089"N	80°59'12.9653"W	13912.07	154.779	0.64	-0.36	-0.53	
19385.00	90.000	160.890	6314.00	13922.48	-12675.46	5959.58	1644146.77	14252954.26	39°14'59.9227"N	80°59'12.5664"W	14006.56	154.819	0.48	0.26	0.40	
19480.00	90.250	160.710	6313.79	14017.47	-12765.17	5990.82	1644178.00	14252864.58	39°14'59.0359"N	80°59'12.1694"W	14101.05	154.859	0.32	0.26	-0.19	
19574.00	90.430	160.560	6313.23	14111.47	-12853.85	6021.99	1644209.16	14252775.93	39°14'58.1594"N	80°59'11.7734"W	14194.57	154.897	0.25	0.19	-0.16	
19668.00	89.940	160.860	6312.93	14205.47	-12942.58	6053.04	1644240.20	14252687.25	39°14'57.2824"N	80°59'11.3788"W	14288.09	154.935	0.61	-0.52	0.32	
19762.00	90.680	161.440	6312.42	14299.46	-13031.53	6083.41	1644270.55	14252598.33	39°14'56.4032"N	80°59'10.9930"W	14381.54	154.976	1.00	0.79	0.62	
19856.00	90.280	160.960	6311.63	14393.46	-13120.51	6113.70	1644300.83	14252509.38	39°14'55.5236"N	80°59'10.6081"W	14474.99	155.016	0.66	-0.43	-0.51	
19951.00	90.090	160.770	6311.33	14488.46	-13210.26	6144.84	1644331.96	14252419.67	39°14'54.6365"N	80°59'10.2124"W	14569.49	155.054	0.28	-0.20	-0.20	
20045.00	90.150	160.610	6311.13	14582.46	-13298.98	6175.92	1644363.03	14252330.99	39°14'53.7597"N	80°59'9.8175"W	14663.04	155.090	0.18	0.06	-0.17	
20139.00	90.180	160.430	6310.86	14676.45	-13387.60	6207.27	1644394.37	14252242.41	39°14'52.8837"N	80°59'9.4192"W	14756.62	155.125	0.19	0.03	-0.19	
20234.00	90.430	160.840	6310.35	14771.45	-13477.22	6238.77	1644425.85	14252152.82	39°14'51.9978"N	80°59'9.0190"W	14851.18	155.160	0.51	0.26	0.43	
20328.00	90.180	160.500	6309.85	14865.44	-13565.92	6269.89	1644456.95	14252064.15	39°14'51.1211"N	80°59'8.6237"W	14944.75	155.195	0.45	-0.27	-0.36	
20423.00	89.850	160.570	6309.83	14960.44	-13655.49	6301.54	1644488.60	14251974.62	39°14'50.2358"N	80°59'8.2215"W	15039.34	155.228	0.36	-0.35	0.07	
20517.00	89.910	161.060	6310.02	15054.44	-13744.27	6332.43	1644519.48	14251885.88	39°14'49.3582"N	80°59'7.8290"W	15132.90	155.263	0.53	0.06	0.52	
20611.00	89.780	160.780	6310.28	15148.43	-13833.10	6363.16	1644550.19	14251797.08	39°14'48.4802"N	80°59'7.4386"W	15226.44	155.298	0.33	-0.14	-0.30	
20706.00	89.690	160.810	6310.72	15243.43	-13922.82	6394.41	1644581.43	14251707.40	39°14'47.5934"N	80°59'7.0416"W	15321.01	155.332	0.10	-0.09	0.03	
20800.00	89.690	160.610	6311.23	15337.43	-14011.54	6425.46	1644612.47	14251618.72	39°14'46.7165"N	80°59'6.6471"W	15414.59	155.365	0.21	0.00	-0.21	
20895.00	89.720	160.850	6311.72	15432.43	-14101.21	6456.81	1644643.81	14251529.08	39°14'45.8301"N	80°59'6.2488"W	15509.18	155.397	0.25	0.03	0.25	
20989.00	89.970	161.030	6311.97	15526.42	-14190.06	6487.51	1644674.49	14251440.27	39°14'44.9519"N	80°59'5.8588"W	15602.74	155.431	0.33	0.27	0.19	
21083.00	90.220	161.450	6311.81	15620.42	-14279.06	6517.74	1644704.71	14251351.30	39°14'44.0721"N	80°59'5.4748"W	15696.26	155.465	0.52	0.27	0.45	
21178.00	90.280	161.100	6311.40	15715.42	-14369.04	6548.24	1644735.20	14251261.36	39°14'43.1828"N	80°59'5.0873"W	15790.78	155.500	0.37	0.06	-0.37	
21272.00	89.690	160.980	6311.42	15809.42	-14457.94	6578.78	1644765.72	14251172.50	39°14'42.3041"N	80°59'4.6993"W	15884.34	155.533	0.64	-0.63	-0.13	
21367.00	89.820	160.710	6311.83	15904.42	-14547.67	6609.95	1644796.88	14251082.79	39°14'41.4171"N	80°59'4.3033"W	15978.93	155.565	0.32	0.14	-0.28	
21461.00	89.690	160.580	6312.23	15998.42	-14636.36	6641.10	1644828.02	14250994.14	39°14'40.5405"N	80°59'3.9075"W	16072.56	155.594	0.20	-0.14	-0.14	
21556.00	89.630	161.050	6312.80	16093.41	-14726.08	6672.32	1644859.23	14250904.46	39°14'39.6536"N	80°59'3.5109"W	16167.17	155.625	0.50	-0.06	0.49	
21650.00	89.660	160.700	6313.38	16187.41	-14814.89	6703.12	1644890.01	14250815.68	39°14'38.7758"N	80°59'3.1197"W	16260.78	155.655	0.37	0.03	-0.37	
21745.00	89.820	160.800	6313.81	16282.41	-14904.58	6734.44	1644921.32	14250726.03	39°14'37.8893"N	80°59'2.7218"W	16355.40	155.685	0.20	0.17	0.11	
21840.00	89.780	160.890	6314.14	16377.41	-14994.32	6765.61	1644952.48	14250636.33	39°14'37.0023"N	80°59'2.3258"W	16450.02	155.715	0.10	-0.04	0.09	
21934.00	89.690	161.040	6314.58	16471.40	-15083.18	6796.27	1644983.13	14250547.50	39°14'36.1239"N	80°59'1.9363"W	16543.63	155.744	0.19	-0.10	0.16	

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Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'

Page 10 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

WELLPATH DATA (260 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
22028.00	90.150	161.240	6314.71	16565.40	-15172.13	6826.65	1645013.50	14250458.59	39°14'35.2447"N	80°59'1.5503"W	16637.21	155.775	0.53	0.49	0.21	
22123.00	89.880	160.920	6314.68	16660.40	-15262.00	6857.46	1645044.29	14250368.76	39°14'34.3564"N	80°59'1.1590"W	16731.81	155.805	0.44	-0.28	-0.34	
22217.00	90.220	160.670	6314.60	16754.40	-15350.77	6888.38	1645075.20	14250280.02	39°14'33.4790"N	80°59'0.7662"W	16825.45	155.833	0.45	0.36	-0.27	
22311.00	90.310	160.730	6314.17	16848.40	-15439.48	6919.45	1645106.25	14250191.34	39°14'32.6021"N	80°59'0.3716"W	16919.11	155.860	0.12	0.10	0.06	
22405.00	90.490	161.170	6313.51	16942.40	-15528.33	6950.13	1645136.92	14250102.53	39°14'31.7238"N	80°58'59.9818"W	17012.74	155.888	0.51	0.19	0.47	
22500.00	90.280	160.710	6312.87	17037.39	-15618.12	6981.15	1645167.93	14250012.78	39°14'30.8363"N	80°58'59.5877"W	17107.37	155.916	0.53	-0.22	-0.48	
22594.00	90.280	160.940	6312.41	17131.39	-15706.91	7012.02	1645198.79	14249924.03	39°14'29.9587"N	80°58'59.1955"W	17201.03	155.943	0.24	0.00	0.24	
22689.00	90.280	160.860	6311.95	17226.39	-15796.68	7043.11	1645229.87	14249834.29	39°14'29.0714"N	80°58'58.8007"W	17295.67	155.970	0.08	0.00	-0.08	
22783.00	90.090	160.750	6311.64	17320.39	-15885.45	7074.01	1645260.76	14249745.56	39°14'28.1939"N	80°58'58.4081"W	17389.34	155.996	0.23	-0.20	-0.12	
22878.00	90.120	160.720	6311.47	17415.39	-15975.13	7105.36	1645292.09	14249655.91	39°14'27.3075"N	80°58'58.0099"W	17484.02	156.022	0.04	0.03	-0.03	
22972.00	90.120	160.760	6311.27	17509.38	-16063.87	7136.36	1645323.09	14249567.21	39°14'26.4304"N	80°58'57.6161"W	17577.70	156.047	0.04	0.00	0.04	
23067.00	90.060	160.850	6311.12	17604.38	-16153.59	7167.60	1645354.31	14249477.53	39°14'25.5436"N	80°58'57.2193"W	17672.37	156.072	0.11	-0.06	0.09	
23162.00	90.030	160.650	6311.05	17699.38	-16243.28	7198.92	1645385.62	14249387.87	39°14'24.6570"N	80°58'56.8214"W	17767.06	156.097	0.21	-0.03	-0.21	
23256.00	90.000	160.740	6311.02	17793.38	-16331.99	7230.00	1645416.68	14249299.20	39°14'23.7801"N	80°58'56.4267"W	17860.76	156.122	0.10	-0.03	0.10	
23350.00	90.120	160.680	6310.93	17887.38	-16420.71	7261.05	1645447.72	14249210.51	39°14'22.9032"N	80°58'56.0323"W	17954.46	156.146	0.14	0.13	-0.06	
23445.00	90.060	160.420	6310.78	17982.37	-16510.29	7292.68	1645479.34	14249120.97	39°14'22.0177"N	80°58'55.6304"W	18049.18	156.169	0.28	-0.06	-0.27	
23539.00	90.090	160.750	6310.65	18076.37	-16598.95	7323.93	1645510.57	14249032.35	39°14'21.1414"N	80°58'55.2335"W	18142.90	156.192	0.35	0.03	0.35	
23634.00	90.220	160.700	6310.40	18171.36	-16688.62	7355.29	1645541.92	14248942.71	39°14'20.2550"N	80°58'54.8352"W	18237.61	156.215	0.15	0.14	-0.05	
23709.00	90.150	160.850	6310.16	18246.36	-16759.44	7379.98	1645566.61	14248871.92	39°14'19.5550"N	80°58'54.5215"W	18312.37	156.234	0.22	-0.09	0.20	
23734.00‡	90.150	160.850	6310.09	18271.36	-16783.05	7388.18	1645574.80	14248848.31	39°14'19.3216"N	80°58'54.4173"W	18337.29	156.240	0.00	0.00	0.00	Projected MD at TD: 23734'

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Actual Wellpath Report

Boxcar Unit 1H AWP Proj: 23734'

Page 11 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

HOLE & CASING SECTIONS - Ref Wellbore: Boxcar Unit 1H AWB Ref Wellpath: Boxcar Unit 1H AWP Proj: 23734'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	25.50	125.50	100.00	25.50	125.50	0.00	0.00	-0.03	-0.01
17.5in Open Hole	125.50	398.00	272.50	125.50	398.00	-0.03	-0.01	-0.36	-0.28
13.375in Casing Surface	25.50	378.00	352.50	25.50	378.00	0.00	0.00	-0.33	-0.28
12.375in Open Hole	398.00	3201.00	2803.00	398.00	3087.72	-0.36	-0.28	-112.86	725.10
9.625in Casing Intermediate	25.50	3171.00	3145.50	25.50	3058.98	0.00	0.00	-110.98	716.71
8.75in Open Hole	3201.00	5925.00	2724.00	3087.72	5660.32	-112.86	725.10	-297.03	1599.31
8.5in Open Hole	5925.00	23734.00	17809.00	5660.32	6310.09	-297.03	1599.31	-16783.05	7388.18
5.5in Casing Production	25.50	23714.00	23688.50	25.50	6310.14	0.00	0.00	-16764.16	7381.62

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Boxcar Unit 1H POE Rev-3	6251.00	-716.31	1890.98	1640079.81	14264908.60	39°16'58.1268"N	81°00'4.2856"W	point
Boxcar Unit 1H BHL Rev-3	6290.00	-16799.14	7398.40	1645585.02	14248832.23	39°14'19.1626"N	80°58'54.2875"W	point
Boxcar Unit 1H LP Rev-3	6290.00	-936.85	1966.50	1640155.30	14264688.15	39°16'55.9470"N	81°00'3.3252"W	point
Boxcar Unit 1H 50' L/R Hard Line	6500.00	-8757.73	4644.69	1642832.41	14256870.41	39°15'38.6463"N	80°59'29.2756"W	rectangle
2D Rectangle 16999.7 x 100.								

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Boxcar Unit 1H AWP Proj: 23734'

Page 12 of 13



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Boxcar Unit 1H
Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

WELLPATH COMPOSITION - Ref Wellbore: Boxcar Unit 1H AWB Ref Wellpath: Boxcar Unit 1H AWP Proj: 23734'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	381.00	Gyrodata 2015 - GC+WMR+DPIPE	01_Gyrodata MS Gyro <17-1/2"> (100'-381')	Boxcar Unit 1H AWB	5/28/2024
381.00	3129.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02_APS EM <12-3/8"> (381')(502'-3129')	Boxcar Unit 1H AWB	5/28/2024
3129.00	5850.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03_APS EM <8-3/4"> (3129')(3203'-5850')	Boxcar Unit 1H AWB	6/7/2024
5850.00	23734.00	BH AutoTrak Curve/Express (2019) (HRGM, Short spacing)	04_BH Lucida <8-1/2"> (5850')(5887'-23709')	Boxcar Unit 1H AWB	6/7/2024

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Boxcar Unit 1H AWP Proj: 23734'

Page 13 of 13



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Field	Ritchie	API	47-085-10515-0000
Facility	Olympus Pad	Wellbore	Boxcar Unit 1H AWB
Slot	Slot D		

COMMENTS

Wellpath general comments

API: 47-085-10515-0000

BH Job #: 112220020

Rig: H&P 317

Duration: 6/11/2024-6/16/2024

Gyrodatta MS Gyro <17'-1/2"> (100'-381')

APS EM <12'-3/8"> (381')(502'-3129')

APS EM <8'-3/4"> (3129')(3203'-5850')

BH Lucida <8'-1/2"> (5850')(5887'-23709')

Sycamore: 6333' MD

Middlesex: 6467' MD

Burkett: 6650' MD

Tully: 6707' MD

Marcellus POE: 6733' MD

Projected MD at TD: 23734'

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