



# Actual Wellpath Report

Michael Kuhn 12H AWP Proj: 23396'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

## REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Manajohj
Scale	0.999941	Report Generated	3/14/2022 at 10:17:48 PM
Convergence at slot	0.66° West	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	-29.30	87.61	1709523.11	407824.59	39°36'54.4982"N	80°31'51.9806"W
Facility Reference Pt			1709435.51	407853.89	39°36'54.7779"N	80°31'53.1042"W
Field Reference Pt			1688243.35	385255.46	39°33'8.9436"N	80°36'20.3370"W

## WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 294 (RKB) to Facility Vertical Datum	1536.00ft
Horizontal Reference Pt	Slot	Patterson 294 (RKB) to Mean Sea Level	1536.00ft
Vertical Reference Pt	Patterson 294 (RKB)	Patterson 294 (RKB) to Ground Level at Slot (Slot 12H)	28.00ft
MD Reference Pt	Patterson 294 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	141.62°



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WELLPATH DATA (265 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]
0.00†	0.000	149.120	0.00	0.00	0.00	0.00	1709523.11	407824.59	39°36'54.4982"N	80°31'51.9806"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	149.120	28.00	0.00	0.00	0.00	1709523.11	407824.59	39°36'54.4982"N	80°31'51.9806"W	0.00	0.000	0.00	0.00	0.00
115.00	0.020	149.120	115.00	0.02	-0.01	0.01	1709523.12	407824.58	39°36'54.4981"N	80°31'51.9805"W	0.02	149.120	0.02	0.02	0.00
215.00	0.050	265.500	215.00	0.01	-0.03	-0.03	1709523.08	407824.56	39°36'54.4979"N	80°31'51.9809"W	0.04	220.395	0.06	0.03	116.38
315.00	0.100	282.570	315.00	-0.08	-0.02	-0.16	1709522.95	407824.57	39°36'54.4981"N	80°31'51.9825"W	0.16	264.171	0.05	0.05	17.07
415.00	0.080	290.710	415.00	-0.21	0.03	-0.31	1709522.80	407824.62	39°36'54.4985"N	80°31'51.9845"W	0.31	275.195	0.02	-0.02	8.14
515.00	0.080	316.900	515.00	-0.34	0.10	-0.42	1709522.69	407824.69	39°36'54.4992"N	80°31'51.9859"W	0.43	283.876	0.04	0.00	26.19
615.00	0.100	301.040	615.00	-0.49	0.20	-0.54	1709522.57	407824.79	39°36'54.5001"N	80°31'51.9875"W	0.58	290.225	0.03	0.02	-15.86
715.00	0.100	307.890	715.00	-0.66	0.30	-0.69	1709522.43	407824.89	39°36'54.5011"N	80°31'51.9894"W	0.75	293.513	0.01	0.00	6.85
815.00	0.070	286.440	815.00	-0.79	0.37	-0.81	1709522.30	407824.96	39°36'54.5018"N	80°31'51.9910"W	0.89	294.422	0.04	-0.03	-21.45
915.00	0.100	337.080	915.00	-0.93	0.47	-0.91	1709522.21	407825.06	39°36'54.5027"N	80°31'51.9922"W	1.02	297.273	0.08	0.03	50.64
1015.00	0.090	259.590	1015.00	-1.05	0.53	-1.02	1709522.09	407825.12	39°36'54.5034"N	80°31'51.9936"W	1.15	297.665	0.12	-0.01	-77.49
1115.00	0.200	322.980	1115.00	-1.26	0.66	-1.20	1709521.91	407825.25	39°36'54.5046"N	80°31'51.9960"W	1.37	298.763	0.18	0.11	63.39
1215.00	0.320	304.960	1215.00	-1.70	0.96	-1.53	1709521.58	407825.55	39°36'54.5075"N	80°31'51.9993"W	1.81	301.991	0.14	0.12	-18.02
1303.00	0.470	315.520	1303.00	-2.30	1.36	-1.99	1709521.12	407825.95	39°36'54.5114"N	80°31'52.0061"W	2.41	304.306	0.19	0.17	12.00
1388.00	0.570	332.560	1387.99	-3.06	1.98	-2.43	1709520.68	407826.57	39°36'54.5175"N	80°31'52.0118"W	3.13	309.215	0.22	0.12	20.05
1431.00	0.710	354.030	1430.99	-3.49	2.43	-2.55	1709520.56	407827.02	39°36'54.5220"N	80°31'52.0135"W	3.53	313.647	0.64	0.33	49.93
1474.00	1.070	326.000	1473.98	-4.02	3.10	-2.56	1709520.55	407827.69	39°36'54.5286"N	80°31'52.0137"W	4.02	320.484	0.90	0.84	21.47
1517.00	1.400	14.260	1516.97	-4.64	4.01	-2.40	1709520.71	407828.60	39°36'54.5376"N	80°31'52.0119"W	4.68	329.049	0.94	0.77	25.58
1561.00	1.700	24.090	1560.96	-5.26	5.13	-2.01	1709521.10	407829.72	39°36'54.5487"N	80°31'52.0069"W	5.51	338.630	0.91	0.68	22.34
1604.00	2.520	28.900	1603.93	-5.92	6.54	-1.29	1709521.82	407831.13	39°36'54.5627"N	80°31'51.9980"W	6.66	348.846	1.95	1.91	11.19
1647.00	3.090	31.810	1646.88	-6.68	8.35	-0.22	1709522.89	407832.94	39°36'54.5807"N	80°31'51.9846"W	8.35	358.483	1.37	1.33	6.77
1690.00	3.610	39.110	1689.80	-7.37	10.38	1.24	1709524.35	407834.97	39°36'54.6010"N	80°31'51.9662"W	10.46	6.830	1.56	1.21	16.98
1733.00	4.440	44.260	1732.70	-7.87	12.63	3.26	1709526.37	407837.22	39°36'54.6234"N	80°31'51.9408"W	13.04	14.474	2.10	1.93	11.98
1776.00	4.740	46.610	1775.56	-8.24	15.04	5.71	1709528.82	407839.63	39°36'54.6475"N	80°31'51.9098"W	16.09	20.797	0.82	0.70	5.47
1819.00	5.220	51.760	1818.40	-8.39	17.47	8.54	1709531.65	407842.06	39°36'54.6719"N	80°31'51.8740"W	19.45	26.049	1.52	1.12	11.98
1906.00	5.540	52.060	1905.01	-8.35	22.50	14.96	1709538.07	407847.09	39°36'54.7223"N	80°31'51.7927"W	27.02	33.616	0.37	0.37	0.34
1992.00	5.770	52.040	1990.60	-8.29	27.71	21.64	1709544.75	407852.30	39°36'54.7746"N	80°31'51.7081"W	35.16	37.987	0.27	0.27	-0.02
2078.00	6.760	55.630	2076.08	-7.90	33.23	29.23	1709552.34	407857.82	39°36'54.8299"N	80°31'51.6120"W	44.26	41.334	1.24	1.15	4.17
2165.00	6.320	51.140	2162.52	-7.58	39.13	37.18	1709560.29	407863.71	39°36'54.8891"N	80°31'51.5112"W	53.98	43.542	0.78	-0.51	-5.16

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Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

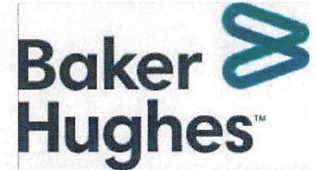
WELLPATH DATA (265 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
2251.00	5.730	45.990	2248.04	-8.05	45.08	43.96	1709567.07	407869.67	39°36'54.9487"N	80°31'51.4255"W	62.96	44.279	0.93	-0.69	-5.99
2337.00	5.890	46.760	2333.60	-8.84	51.08	50.26	1709573.37	407875.67	39°36'55.0088"N	80°31'51.3459"W	71.66	44.534	0.21	0.19	0.90
2423.00	4.500	47.440	2419.24	-9.46	56.39	55.96	1709579.07	407880.98	39°36'55.0618"N	80°31'51.2738"W	79.44	44.781	1.62	-1.62	0.79
2510.00	3.510	44.710	2506.03	-10.03	60.59	60.35	1709583.45	407885.18	39°36'55.1039"N	80°31'51.2184"W	85.52	44.885	1.16	-1.14	-3.14
2596.00	4.190	39.520	2591.84	-11.00	64.89	64.20	1709587.30	407889.47	39°36'55.1467"N	80°31'51.1698"W	91.28	44.695	0.89	0.79	-6.03
2682.00	4.700	42.960	2677.58	-12.19	69.89	68.60	1709591.71	407894.47	39°36'55.1967"N	80°31'51.1143"W	97.93	44.467	0.67	0.59	4.00
2769.00	5.250	52.480	2764.25	-12.67	74.92	74.19	1709597.29	407899.51	39°36'55.2470"N	80°31'51.0437"W	105.43	44.718	1.14	0.63	10.94
2796.00	5.290	54.260	2791.14	-12.59	76.40	76.18	1709599.28	407900.98	39°36'55.2619"N	80°31'51.0185"W	107.89	44.916	0.62	0.15	6.59
2855.00	5.490	53.140	2849.88	-12.39	79.68	80.64	1709603.75	407904.27	39°36'55.2948"N	80°31'50.9619"W	113.37	45.343	0.38	0.34	-1.90
2898.00	5.380	51.920	2892.68	-12.33	82.16	83.87	1709606.98	407906.74	39°36'55.3197"N	80°31'50.9209"W	117.41	45.592	0.37	-0.26	-2.84
2941.00	6.210	53.300	2935.46	-12.25	84.79	87.33	1709610.43	407909.38	39°36'55.3461"N	80°31'50.8772"W	121.72	45.843	1.96	1.93	3.21
2984.00	7.510	54.660	2978.15	-12.03	87.81	91.48	1709614.59	407912.39	39°36'55.3764"N	80°31'50.8246"W	126.80	46.174	3.05	3.02	3.16
3028.00	8.490	54.850	3021.72	-11.70	91.34	96.48	1709619.59	407915.92	39°36'55.4118"N	80°31'50.7612"W	132.86	46.569	2.23	2.23	0.43
3071.00	8.830	53.210	3064.23	-11.43	95.14	101.72	1709624.83	407919.73	39°36'55.4500"N	80°31'50.6948"W	139.28	46.914	0.98	0.79	-3.81
3114.00	9.240	51.740	3106.70	-11.33	99.26	107.08	1709630.18	407923.84	39°36'55.4913"N	80°31'50.6270"W	146.01	47.170	1.09	0.95	-3.42
3200.00	11.490	50.720	3191.29	-11.45	108.96	119.13	1709642.23	407933.54	39°36'55.5885"N	80°31'50.4744"W	161.44	47.553	2.62	2.62	-1.19
3286.00	12.490	50.230	3275.41	-11.81	120.33	132.91	1709656.01	407944.91	39°36'55.7025"N	80°31'50.3000"W	179.29	47.843	1.17	1.16	-0.57
3372.00	13.780	50.750	3359.16	-12.19	132.76	147.99	1709671.09	407957.34	39°36'55.8270"N	80°31'50.1092"W	198.81	48.105	1.51	1.50	0.60
3459.00	15.980	51.940	3443.24	-12.28	146.70	165.44	1709688.54	407971.28	39°36'55.9668"N	80°31'49.8882"W	221.12	48.436	2.55	2.53	1.37
3545.00	17.320	51.830	3525.63	-12.17	161.91	184.83	1709707.93	407986.49	39°36'56.1193"N	80°31'49.6427"W	245.72	48.782	1.56	1.56	-0.13
3631.00	19.620	50.320	3607.20	-12.45	179.04	206.01	1709729.11	408003.62	39°36'56.2910"N	80°31'49.3746"W	272.94	49.006	2.73	2.67	-1.76
3716.00	21.790	47.030	3686.71	-14.03	198.91	228.54	1709751.63	408023.49	39°36'56.4899"N	80°31'49.0897"W	302.98	48.965	2.90	2.55	-3.87
3802.00	21.770	46.360	3766.57	-16.77	220.80	251.76	1709774.85	408045.37	39°36'56.7088"N	80°31'48.7962"W	334.86	48.749	0.29	-0.02	-0.78
3888.00	22.090	46.790	3846.34	-19.60	242.87	275.09	1709798.18	408067.45	39°36'56.9296"N	80°31'48.5014"W	366.96	48.559	0.42	0.37	0.50
3974.00	22.590	47.520	3925.89	-22.14	265.10	299.05	1709822.15	408089.68	39°36'57.1520"N	80°31'48.1984"W	399.64	48.444	0.66	0.58	0.85
4061.00	22.810	47.160	4006.15	-24.65	287.85	323.74	1709846.83	408112.43	39°36'57.3796"N	80°31'47.8862"W	433.21	48.359	0.30	0.25	-0.41
4147.00	23.210	46.240	4085.31	-27.53	310.91	348.21	1709871.30	408135.48	39°36'57.6103"N	80°31'47.5770"W	466.81	48.239	0.63	0.47	-1.07
4233.00	23.400	45.350	4164.29	-30.99	334.63	372.60	1709895.68	408159.20	39°36'57.8475"N	80°31'47.2689"W	500.81	48.073	0.47	0.22	-1.03
4320.00	23.170	48.720	4244.21	-33.74	358.07	397.75	1709920.84	408182.63	39°36'58.0819"N	80°31'46.9509"W	535.18	48.006	1.55	-0.26	3.87
4406.00	23.140	49.780	4323.28	-35.14	380.44	423.37	1709946.45	408204.71	39°36'58.3029"N	80°31'46.6269"W	568.99	48.080	0.49	-0.03	1.23

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4492.00	23.340	48.650	4402.30	-36.56	402.31	449.06	1709972.14	408226.87	39°36'58.5249"N	80°31'46.3018"W	602.91	48.143	0.57	0.23	-1.31
4578.00	23.660	47.860	4481.17	-38.58	425.14	474.64	1709997.72	408249.70	39°36'58.7535"N	80°31'45.9783"W	637.20	48.149	0.52	0.37	-0.92
4663.00	23.670	47.750	4559.02	-40.85	448.05	499.92	1710023.00	408272.62	39°36'58.9828"N	80°31'45.6587"W	671.32	48.132	0.05	0.01	-0.13
4749.00	22.900	48.150	4638.02	-43.02	470.83	525.16	1710048.24	408295.39	39°36'59.2107"N	80°31'45.3395"W	705.32	48.123	0.91	-0.90	0.47
4836.00	22.620	49.130	4718.24	-44.78	493.07	550.42	1710073.50	408317.63	39°36'59.4333"N	80°31'45.0200"W	738.97	48.146	0.54	-0.32	1.13
4922.00	22.250	50.130	4797.73	-45.92	514.33	575.43	1710098.50	408338.88	39°36'59.6463"N	80°31'44.7036"W	771.78	48.209	0.62	-0.43	1.16
4998.00	21.930	49.900	4868.16	-46.72	532.69	597.33	1710120.40	408357.25	39°36'59.8302"N	80°31'44.4265"W	800.35	48.274	0.44	-0.42	-0.30
5085.00	22.030	48.380	4948.83	-48.13	553.99	621.95	1710145.02	408378.55	39°37'0.0435"N	80°31'44.1150"W	832.91	48.307	0.66	0.11	-1.75
5172.00	21.870	48.870	5029.53	-49.83	575.49	646.35	1710169.42	408400.04	39°37'0.2587"N	80°31'43.8063"W	865.42	48.319	0.28	-0.18	0.56
5258.00	22.490	48.050	5109.16	-51.62	597.02	670.65	1710193.72	408421.57	39°37'0.4743"N	80°31'43.4990"W	897.89	48.324	0.81	0.72	-0.95
5346.00	23.320	48.250	5190.22	-53.69	619.87	696.16	1710219.23	408444.42	39°37'0.7030"N	80°31'43.1763"W	932.14	48.318	0.95	0.94	0.23
5432.00	23.460	46.820	5269.16	-56.13	642.92	721.35	1710244.41	408467.47	39°37'0.9336"N	80°31'42.8579"W	966.28	48.290	0.68	0.16	-1.66
5518.00	22.850	47.690	5348.23	-58.70	665.87	746.18	1710269.24	408490.42	39°37'1.1633"N	80°31'42.5440"W	1000.09	48.255	0.81	-0.71	1.01
5604.00	22.140	51.350	5427.69	-59.92	687.24	771.18	1710294.25	408511.78	39°37'1.3772"N	80°31'42.2276"W	1032.97	48.294	1.83	-0.83	4.26
5691.00	22.320	49.190	5508.22	-60.70	708.27	796.49	1710319.55	408532.82	39°37'1.5880"N	80°31'41.9073"W	1065.86	48.355	0.96	0.21	-2.48
5777.00	22.140	48.440	5587.83	-62.29	729.70	820.98	1710344.04	408554.24	39°37'1.8025"N	80°31'41.5976"W	1098.39	48.369	0.39	-0.21	-0.87
5863.00	22.290	49.220	5667.45	-63.87	751.10	845.45	1710368.51	408575.64	39°37'2.0167"N	80°31'41.2880"W	1130.90	48.382	0.38	0.17	0.91
5949.00	23.040	51.510	5746.81	-64.59	772.23	870.98	1710394.03	408596.77	39°37'2.2284"N	80°31'40.9650"W	1164.02	48.439	1.35	0.87	2.66
6036.00	23.690	48.960	5826.67	-65.43	794.30	897.49	1710420.54	408618.84	39°37'2.4496"N	80°31'40.6295"W	1198.50	48.490	1.38	0.75	-2.93
6122.00	23.470	50.490	5905.49	-66.57	816.54	923.73	1710446.78	408641.08	39°37'2.6723"N	80°31'40.2974"W	1232.89	48.525	0.76	-0.26	1.78
6208.00	22.950	48.060	5984.54	-67.95	838.64	949.42	1710472.47	408663.18	39°37'2.8936"N	80°31'39.9724"W	1266.77	48.545	1.27	-0.60	-2.83
6295.00	23.300	45.340	6064.55	-70.89	862.07	974.27	1710497.32	408686.61	39°37'3.1280"N	80°31'39.6583"W	1300.91	48.496	1.29	0.40	-3.13
6381.00	23.000	44.300	6143.62	-74.89	886.05	998.11	1710521.15	408710.59	39°37'3.3677"N	80°31'39.3572"W	1334.66	48.403	0.59	-0.35	-1.21
6467.00	23.290	44.430	6222.70	-79.16	910.22	1021.74	1710544.79	408734.75	39°37'3.6092"N	80°31'39.0588"W	1368.38	48.304	0.34	0.34	0.15
6553.00	22.860	45.820	6301.82	-82.97	934.00	1045.62	1710568.67	408758.53	39°37'3.8469"N	80°31'38.7571"W	1402.03	48.227	0.81	-0.50	1.62
6640.00	22.120	46.280	6382.20	-86.21	957.10	1069.58	1710592.63	408781.63	39°37'4.0779"N	80°31'38.4544"W	1435.29	48.177	0.87	-0.85	0.53
6726.00	21.930	45.750	6461.93	-89.35	979.50	1092.79	1710615.83	408804.03	39°37'4.3018"N	80°31'38.1611"W	1467.51	48.129	0.32	-0.22	-0.62
6812.00	21.990	44.090	6541.69	-93.11	1002.27	1115.49	1710638.53	408826.80	39°37'4.5294"N	80°31'37.8743"W	1499.62	48.060	0.73	0.07	-1.93
6899.00	22.350	44.500	6622.26	-97.29	1025.76	1138.42	1710661.46	408850.29	39°37'4.7642"N	80°31'37.5848"W	1532.38	47.980	0.45	0.41	0.47
6985.00	22.770	48.870	6701.68	-100.12	1048.38	1162.42	1710685.46	408872.90	39°37'4.9904"N	80°31'37.2815"W	1565.35	47.953	2.01	0.49	5.08

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# Actual Wellpath Report

Michael Kuhn 12H AWP Proj: 23396'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	EQT PRODUCTION COMPANY		Well	Michael Kuhn 12H (L-003942)
Field	Wetzel		API/Legal	
Facility	Big 467 Pad		Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H			

## WELLPATH DATA (265 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]
7071.00	22.920	52.190	6780.94	-100.75	1069.59	1188.19	1710711.22	408894.11	39°37'5.2030"N	80°31'36.9553"W	1598.69	48.007	1.51	0.17	3.86
7157.00	24.080	50.250	6859.81	-101.00	1091.08	1214.91	1710737.94	408915.60	39°37'5.4183"N	80°31'36.6170"W	1632.92	48.074	1.62	1.35	-2.26
7243.00	24.140	49.220	6938.30	-102.16	1113.78	1241.71	1710764.74	408938.30	39°37'5.6457"N	80°31'36.2778"W	1668.04	48.109	0.49	0.07	-1.20
7329.00	23.610	43.700	7016.95	-105.27	1137.72	1266.93	1710789.96	408962.24	39°37'5.8852"N	80°31'35.9591"W	1702.80	48.076	2.67	-0.62	-6.42
7362.00	23.440	43.910	7047.21	-107.06	1147.23	1276.05	1710799.08	408971.75	39°37'5.9801"N	80°31'35.8440"W	1715.93	48.043	0.57	-0.52	0.64
7447.00	23.190	42.530	7125.27	-111.97	1171.74	1299.08	1710822.11	408996.26	39°37'6.2250"N	80°31'35.5532"W	1749.46	47.950	0.71	-0.29	-1.62
7542.00	22.010	67.170	7213.17	-110.15	1192.48	1328.20	1710851.23	409017.00	39°37'6.4332"N	80°31'35.1842"W	1784.97	48.082	9.98	-1.24	25.94
7636.00	27.240	91.690	7298.82	-91.52	1198.70	1366.06	1710889.09	409023.21	39°37'6.4990"N	80°31'34.7013"W	1817.42	48.734	12.10	5.56	26.09
7731.00	32.680	107.490	7381.22	-56.21	1190.33	1412.36	1710935.39	409014.85	39°37'6.4215"N	80°31'34.1085"W	1847.07	49.876	10.05	5.73	16.63
7827.00	40.010	118.280	7458.57	-6.30	1167.87	1464.39	1710987.41	408992.38	39°37'6.2054"N	80°31'33.4405"W	1873.05	51.427	10.11	7.64	11.24
7921.00	44.670	127.880	7528.11	53.63	1133.21	1517.16	1711040.18	408957.73	39°37'5.8688"N	80°31'32.7611"W	1893.66	53.243	8.47	4.96	10.21
8016.00	49.860	137.810	7592.64	122.44	1085.70	1568.01	1711091.02	408910.22	39°37'5.4051"N	80°31'32.1044"W	1907.20	55.301	9.41	5.46	10.45
8112.00	58.670	141.000	7648.66	200.22	1026.52	1618.56	1711141.57	408851.05	39°37'4.8259"N	80°31'31.4498"W	1916.64	57.616	9.56	9.18	3.32
8207.00	66.440	140.300	7692.41	284.45	961.39	1671.99	1711195.00	408785.92	39°37'4.1883"N	80°31'30.7577"W	1928.69	60.101	8.20	8.18	-0.74
8302.00	74.870	143.930	7723.86	373.99	890.68	1726.92	1711249.92	408715.21	39°37'3.4957"N	80°31'30.0455"W	1943.08	62.717	9.58	8.87	3.82
8397.00	80.100	142.390	7744.44	466.66	816.49	1782.51	1711305.51	408641.03	39°37'2.7688"N	80°31'29.3244"W	1960.61	65.390	5.73	5.51	-1.62
8492.00	84.270	146.620	7757.36	560.62	739.89	1837.12	1711360.12	408564.43	39°37'2.0179"N	80°31'28.6154"W	1980.52	68.063	6.22	4.39	4.45
8587.00	89.630	148.320	7762.42	654.95	659.94	1888.11	1711411.11	408484.49	39°37'1.2335"N	80°31'27.9523"W	2000.12	70.734	5.92	5.64	1.79
8682.00	89.510	148.450	7763.13	749.28	579.04	1937.91	1711460.90	408403.59	39°37'0.4397"N	80°31'27.3042"W	2022.57	73.364	0.19	-0.13	0.14
8777.00	89.820	148.200	7763.68	843.63	498.19	1987.79	1711510.78	408322.75	39°36'59.6463"N	80°31'26.6550"W	2049.27	75.930	0.42	0.33	-0.26
8872.00	89.510	148.750	7764.24	937.95	417.21	2037.46	1711560.45	408241.78	39°36'58.8516"N	80°31'26.0086"W	2079.74	78.427	0.66	-0.33	0.58
8967.00	88.920	147.100	7765.54	1032.36	336.72	2087.91	1711610.89	408161.29	39°36'58.0619"N	80°31'25.3524"W	2114.88	80.839	1.84	-0.62	-1.74
9062.00	89.780	148.190	7766.62	1126.83	256.48	2138.74	1711661.72	408081.06	39°36'57.2746"N	80°31'24.6911"W	2154.07	83.162	1.46	0.91	1.15
9158.00	89.880	148.630	7766.90	1222.16	174.71	2189.03	1711712.01	407999.29	39°36'56.4721"N	80°31'24.0367"W	2195.99	85.437	0.47	0.10	0.46
9253.00	89.320	148.330	7767.57	1316.47	93.73	2238.69	1711761.67	407918.31	39°36'55.6774"N	80°31'23.3903"W	2240.66	87.603	0.67	-0.59	-0.32
9349.00	89.690	148.760	7768.40	1411.77	11.84	2288.79	1711811.76	407836.43	39°36'54.8738"N	80°31'22.7384"W	2288.82	89.704	0.59	0.39	0.45
9444.00	89.050	147.650	7769.44	1506.14	-68.90	2338.84	1711861.80	407755.69	39°36'54.0815"N	80°31'22.0871"W	2339.85	91.687	1.35	-0.67	-1.17
9539.00	90.030	148.000	7770.20	1600.58	-149.31	2389.42	1711912.39	407675.29	39°36'53.2926"N	80°31'21.4291"W	2394.08	93.576	1.10	1.03	0.37
9634.00	89.080	148.090	7770.94	1694.97	-229.91	2439.70	1711962.66	407594.70	39°36'52.5017"N	80°31'20.7750"W	2450.51	95.383	1.00	-1.00	0.09
9729.00	89.750	148.020	7771.91	1789.37	-310.52	2489.96	1712012.92	407514.09	39°36'51.7108"N	80°31'20.1211"W	2509.25	97.109	0.71	0.71	-0.07

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# Actual Wellpath Report

Michael Kuhn 12H AWP Proj: 23396'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

WELLPATH DATA (265 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]
9824.00	89.480	148.110	7772.55	1883.77	-391.14	2540.21	1712063.17	407433.48	39°36'50.9197"N	80°31'19.4673"W	2570.15	98.754	0.30	-0.28	0.09
9919.00	89.380	148.470	7773.50	1978.12	-471.95	2590.14	1712113.09	407352.67	39°36'50.1267"N	80°31'18.8176"W	2632.79	100.327	0.39	-0.11	0.38
10014.00	90.220	148.510	7773.83	2072.44	-552.94	2639.79	1712162.74	407271.68	39°36'49.3318"N	80°31'18.1715"W	2697.08	101.830	0.89	0.88	0.04
10109.00	89.690	148.900	7773.90	2166.71	-634.12	2689.14	1712212.09	407190.51	39°36'48.5352"N	80°31'17.5292"W	2762.89	103.268	0.69	-0.56	0.41
10203.00	90.400	148.030	7773.83	2260.04	-714.24	2738.30	1712261.25	407110.40	39°36'47.7489"N	80°31'16.8894"W	2829.92	104.619	1.19	0.76	-0.93
10298.00	90.830	147.160	7772.81	2354.52	-794.44	2789.21	1712312.15	407030.20	39°36'46.9620"N	80°31'16.2273"W	2900.14	105.898	1.02	0.45	-0.92
10393.00	89.600	148.320	7772.45	2448.97	-874.77	2839.92	1712362.85	406949.87	39°36'46.1739"N	80°31'15.5678"W	2971.59	107.120	1.78	-1.29	1.22
10489.00	89.850	147.340	7772.91	2544.41	-956.03	2891.03	1712413.96	406868.62	39°36'45.3766"N	80°31'14.9030"W	3045.00	108.298	1.05	0.26	-1.02
10584.00	90.430	147.800	7772.68	2638.89	-1036.21	2941.97	1712464.90	406788.44	39°36'44.5899"N	80°31'14.2405"W	3119.13	109.403	0.78	0.61	0.48
10679.00	90.090	149.660	7772.25	2733.16	-1117.41	2991.28	1712514.21	406707.25	39°36'43.7930"N	80°31'13.5987"W	3193.18	110.483	1.99	-0.36	1.96
10774.00	90.280	150.950	7771.94	2827.06	-1199.93	3038.34	1712561.27	406624.73	39°36'42.9827"N	80°31'12.9854"W	3266.70	111.550	1.37	0.20	1.36
10869.00	90.550	150.900	7771.25	2920.81	-1282.96	3084.51	1712607.43	406541.71	39°36'42.1674"N	80°31'12.3836"W	3340.68	112.584	0.29	0.28	-0.05
10964.00	89.970	149.970	7770.82	3014.69	-1365.58	3131.38	1712654.30	406459.09	39°36'41.3561"N	80°31'11.7727"W	3416.19	113.562	1.15	-0.61	-0.98
11058.00	90.740	150.740	7770.24	3107.59	-1447.28	3177.87	1712700.79	406377.40	39°36'40.5540"N	80°31'11.1669"W	3491.92	114.486	1.16	0.82	0.82
11154.00	89.260	150.160	7770.24	3202.45	-1530.79	3225.22	1712748.13	406293.90	39°36'39.7340"N	80°31'10.5499"W	3570.06	115.390	1.66	-1.54	-0.60
11249.00	90.550	150.800	7770.40	3296.32	-1613.45	3272.02	1712794.93	406211.24	39°36'38.9223"N	80°31'9.9399"W	3648.20	116.248	1.52	1.36	0.67
11344.00	90.430	152.070	7769.59	3389.92	-1696.88	3317.45	1712840.35	406127.81	39°36'38.1029"N	80°31'9.3474"W	3726.24	117.090	1.34	-0.13	1.34
11439.00	90.650	148.880	7768.69	3483.77	-1779.53	3364.25	1712887.16	406045.17	39°36'37.2913"N	80°31'8.7374"W	3805.91	117.877	3.37	0.23	-3.36
11533.00	90.250	148.210	7767.95	3577.08	-1859.72	3413.30	1712936.21	405964.99	39°36'36.5044"N	80°31'8.0991"W	3887.05	118.583	0.83	-0.43	-0.71
11628.00	90.650	147.680	7767.21	3671.50	-1940.23	3463.72	1712986.62	405884.48	39°36'35.7144"N	80°31'7.4433"W	3970.12	119.256	0.70	0.42	-0.56
11723.00	90.890	148.470	7765.93	3765.89	-2020.85	3513.95	1713036.85	405803.86	39°36'34.9233"N	80°31'6.7899"W	4053.61	119.903	0.87	0.25	0.83
11818.00	90.990	147.880	7764.37	3860.26	-2101.56	3564.04	1713086.94	405723.16	39°36'34.1313"N	80°31'6.1383"W	4137.51	120.526	0.63	0.11	-0.62
11913.00	91.480	148.790	7762.32	3954.58	-2182.40	3613.90	1713136.79	405642.33	39°36'33.3380"N	80°31'5.4896"W	4221.75	121.127	1.09	0.52	0.96
12008.00	89.450	148.370	7761.55	4048.87	-2263.46	3663.42	1713186.31	405561.27	39°36'32.5424"N	80°31'4.8452"W	4306.26	121.710	2.18	-2.14	-0.44
12102.00	90.980	147.600	7761.20	4142.29	-2343.16	3713.25	1713236.14	405481.57	39°36'31.7604"N	80°31'4.1970"W	4390.74	122.253	1.82	1.63	-0.82
12197.00	90.250	149.790	7760.18	4236.55	-2424.32	3762.61	1713285.49	405400.42	39°36'30.9639"N	80°31'3.5547"W	4476.00	122.794	2.43	-0.77	2.31
12292.00	89.720	147.770	7760.20	4330.81	-2505.56	3811.85	1713334.72	405319.19	39°36'30.1665"N	80°31'2.9139"W	4561.58	123.317	2.20	-0.56	-2.13
12387.00	91.110	149.810	7759.52	4425.06	-2586.80	3861.07	1713383.94	405237.95	39°36'29.3692"N	80°31'2.2733"W	4647.51	123.821	2.60	1.46	2.15
12482.00	90.180	149.200	7758.45	4519.15	-2668.65	3909.27	1713432.14	405156.10	39°36'28.5656"N	80°31'1.6456"W	4733.30	124.319	1.17	-0.98	-0.64
12577.00	90.890	149.850	7757.56	4613.24	-2750.52	3957.45	1713480.32	405074.24	39°36'27.7619"N	80°31'1.0182"W	4819.42	124.800	1.01	0.75	0.68

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# Actual Wellpath Report

Michael Kuhn 12H AWP Proj: 23396'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

## WELLPATH DATA (265 stations)

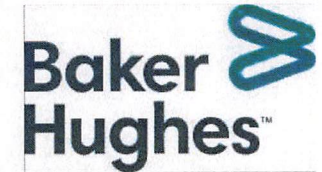
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
12672.00	91.450	150.650	7755.62	4707.15	-2832.98	4004.58	1713527.45	404991.78	39°36'26.9523"N	80°31'0.4042"W	4905.35	125.277	1.03	0.59	0.84
12767.00	90.090	148.290	7754.34	4801.24	-2914.80	4052.83	1713575.69	404909.97	39°36'26.1491"N	80°30'59.7759"W	4992.14	125.724	2.87	-1.43	-2.48
12862.00	91.450	151.140	7753.07	4895.27	-2996.81	4100.73	1713623.59	404827.96	39°36'25.3440"N	80°30'59.1521"W	5079.06	126.159	3.32	1.43	3.00
12956.00	89.350	147.120	7752.41	4988.44	-3077.47	4148.95	1713671.80	404747.30	39°36'24.5522"N	80°30'58.5245"W	5165.72	126.566	4.82	-2.23	-4.28
13051.00	91.540	151.440	7751.67	5082.56	-3159.12	4197.46	1713720.31	404665.67	39°36'23.7508"N	80°30'57.8929"W	5253.45	126.966	5.10	2.31	4.55
13146.00	90.180	149.240	7750.25	5176.44	-3241.65	4244.46	1713767.31	404583.14	39°36'22.9404"N	80°30'57.2805"W	5340.77	127.370	2.72	-1.43	-2.32
13241.00	90.400	148.220	7749.76	5270.71	-3322.85	4293.77	1713816.62	404501.94	39°36'22.1435"N	80°30'56.6388"W	5429.35	127.735	1.10	0.23	-1.07
13336.00	90.710	148.470	7748.84	5365.05	-3403.71	4343.63	1713866.47	404421.09	39°36'21.3499"N	80°30'55.9902"W	5518.37	128.083	0.42	0.33	0.26
13431.00	91.630	149.330	7746.90	5459.26	-3485.04	4392.69	1713915.53	404339.76	39°36'20.5517"N	80°30'55.3517"W	5607.25	128.428	1.33	0.97	0.91
13526.00	91.480	149.260	7744.33	5553.38	-3566.69	4441.18	1713964.02	404258.12	39°36'19.7502"N	80°30'54.7204"W	5696.08	128.768	0.17	-0.16	-0.07
13620.00	92.000	149.550	7741.47	5646.47	-3647.57	4489.00	1714011.83	404177.25	39°36'18.9563"N	80°30'54.0978"W	5784.10	129.096	0.63	0.55	0.31
13715.00	91.020	149.220	7738.97	5740.56	-3729.30	4537.36	1714060.19	404095.52	39°36'18.1540"N	80°30'53.4682"W	5873.27	129.417	1.09	-1.03	-0.35
13810.00	91.320	150.170	7737.03	5834.60	-3811.30	4585.29	1714108.12	404013.53	39°36'17.3490"N	80°30'52.8441"W	5962.45	129.733	1.05	0.32	1.00
13904.00	90.770	149.220	7735.31	5927.65	-3892.44	4632.71	1714155.54	403932.39	39°36'16.5524"N	80°30'52.2265"W	6050.87	130.037	1.17	-0.59	-1.01
13999.00	90.580	149.090	7734.20	6021.83	-3973.99	4681.42	1714204.24	403850.84	39°36'15.7518"N	80°30'51.5926"W	6140.71	130.327	0.24	-0.20	-0.14
14094.00	91.110	148.370	7732.79	6116.08	-4055.18	4730.72	1714253.54	403769.66	39°36'14.9550"N	80°30'50.9510"W	6230.91	130.603	0.94	0.56	-0.76
14189.00	90.650	149.700	7731.34	6210.28	-4136.63	4779.60	1714302.41	403688.21	39°36'14.1555"N	80°30'50.3149"W	6321.10	130.875	1.48	-0.48	1.40
14284.00	90.680	149.100	7730.23	6304.39	-4218.40	4827.95	1714350.77	403606.45	39°36'13.3528"N	80°30'49.6854"W	6411.24	131.145	0.63	0.03	-0.63
14379.00	89.880	148.670	7729.77	6398.63	-4299.73	4877.04	1714399.85	403525.13	39°36'12.5546"N	80°30'49.0465"W	6501.78	131.400	0.96	-0.84	-0.45
14474.00	90.800	149.190	7729.21	6492.85	-4381.10	4926.07	1714448.88	403443.76	39°36'11.7559"N	80°30'48.4085"W	6592.43	131.649	1.11	0.97	0.55
14569.00	90.460	148.930	7728.16	6587.05	-4462.57	4974.91	1714497.71	403362.29	39°36'10.9561"N	80°30'47.7728"W	6683.13	131.893	0.45	-0.36	-0.27
14664.00	90.680	149.130	7727.22	6681.25	-4544.03	5023.79	1714546.59	403280.84	39°36'10.1566"N	80°30'47.1366"W	6773.97	132.129	0.31	0.23	0.21
14759.00	91.020	148.740	7725.81	6775.47	-4625.39	5072.81	1714595.61	403199.48	39°36'9.3580"N	80°30'46.4987"W	6864.96	132.359	0.54	0.36	-0.41
14854.00	91.080	149.630	7724.07	6869.62	-4706.97	5121.46	1714644.26	403117.91	39°36'8.5572"N	80°30'45.8654"W	6955.93	132.585	0.94	0.06	0.94
14948.00	91.140	152.590	7722.24	6962.31	-4789.24	5166.86	1714689.66	403035.64	39°36'7.7492"N	80°30'45.2736"W	7045.09	132.828	3.15	0.06	3.15
15044.00	91.380	147.920	7720.13	7057.17	-4872.55	5214.47	1714737.26	402952.34	39°36'6.9312"N	80°30'44.6534"W	7136.70	133.059	4.87	0.25	-4.86
15139.00	91.910	150.930	7717.40	7151.24	-4954.30	5262.77	1714785.56	402870.60	39°36'6.1287"N	80°30'44.0247"W	7227.85	133.271	3.22	0.56	3.17
15234.00	90.980	148.880	7715.01	7245.21	-5036.46	5310.39	1714833.17	402788.44	39°36'5.3220"N	80°30'43.4045"W	7318.89	133.483	2.37	-0.98	-2.16
15329.00	90.770	148.670	7713.56	7339.46	-5117.69	5359.63	1714882.41	402707.21	39°36'4.5248"N	80°30'42.7638"W	7410.56	133.677	0.31	-0.22	-0.22
15424.00	90.890	148.050	7712.18	7433.80	-5198.56	5409.46	1714932.24	402626.35	39°36'3.7311"N	80°30'42.1156"W	7502.48	133.861	0.66	0.13	-0.65

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# Actual Wellpath Report

Michael Kuhn 12H AWP Proj: 23396'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

WELLPATH DATA (265 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]	
15519.00	91.570	147.490	7710.14	7528.23	-5278.90	5460.11	1714982.89	402546.01	39°36'2.9428"N	80°30'41.4570"W	7594.71	134.033	0.93	0.72	-0.59	
15614.00	91.350	149.270	7707.72	7622.53	-5359.77	5509.90	1715032.67	402465.15	39°36'2.1491"N	80°30'40.8094"W	7686.75	134.209	1.89	-0.23	1.87	
15708.00	91.380	149.170	7705.48	7715.68	-5440.51	5557.99	1715080.76	402384.42	39°36'1.3566"N	80°30'40.1834"W	7777.55	134.388	0.11	0.03	-0.11	
15803.00	91.820	148.580	7702.83	7809.88	-5521.80	5607.08	1715129.84	402303.13	39°36'0.5587"N	80°30'39.5447"W	7869.53	134.561	0.77	0.46	-0.62	
15898.00	91.850	149.160	7699.79	7904.07	-5603.07	5656.16	1715178.93	402221.86	39°35'59.7609"N	80°30'38.9059"W	7961.57	134.730	0.61	0.03	0.61	
15993.00	91.820	149.730	7696.75	7998.14	-5684.84	5704.43	1715227.19	402140.10	39°35'58.9582"N	80°30'38.2776"W	8053.44	134.901	0.60	-0.03	0.60	
16088.00	90.710	148.090	7694.65	8092.34	-5766.17	5753.48	1715276.23	402058.77	39°35'58.1599"N	80°30'37.6394"W	8145.63	135.063	2.08	-1.17	-1.73	
16183.00	90.680	149.100	7693.50	8186.63	-5847.25	5802.97	1715325.73	401977.70	39°35'57.3642"N	80°30'36.9955"W	8238.01	135.218	1.06	-0.03	1.06	
16278.00	91.790	149.290	7691.45	8280.78	-5928.82	5851.61	1715374.37	401896.13	39°35'56.5634"N	80°30'36.3624"W	8330.21	135.376	1.19	1.17	0.20	
16373.00	90.980	149.210	7689.15	8374.91	-6010.44	5900.17	1715422.92	401814.52	39°35'55.7622"N	80°30'35.7304"W	8422.44	135.530	0.86	-0.85	-0.08	
16468.00	91.630	148.400	7686.99	8469.14	-6091.68	5949.36	1715472.11	401733.28	39°35'54.9648"N	80°30'35.0904"W	8514.90	135.677	1.09	0.68	-0.85	
16563.00	91.720	149.470	7684.21	8563.33	-6173.02	5998.36	1715521.11	401651.94	39°35'54.1664"N	80°30'34.4528"W	8607.36	135.822	1.13	0.09	1.13	
16658.00	90.280	148.750	7682.55	8657.50	-6254.53	6047.13	1715569.87	401570.44	39°35'53.3663"N	80°30'33.8182"W	8699.82	135.966	1.69	-1.52	-0.76	
16753.00	90.400	149.250	7681.99	8751.71	-6335.96	6096.05	1715618.79	401489.02	39°35'52.5670"N	80°30'33.1815"W	8792.40	136.106	0.54	0.13	0.53	
16848.00	90.430	149.600	7681.30	8845.83	-6417.75	6144.38	1715667.11	401407.23	39°35'51.7641"N	80°30'32.5525"W	8884.87	136.247	0.37	0.03	0.37	
16943.00	90.030	149.000	7680.92	8939.97	-6499.44	6192.88	1715715.61	401325.55	39°35'50.9622"N	80°30'31.9212"W	8977.44	136.384	0.76	-0.42	-0.63	
17038.00	91.020	149.750	7680.05	9034.10	-6581.18	6241.27	1715764.00	401243.81	39°35'50.1597"N	80°30'31.2914"W	9070.03	136.519	1.31	1.04	0.79	
17133.00	90.890	149.040	7678.47	9128.21	-6662.93	6289.63	1715812.35	401162.06	39°35'49.3571"N	80°30'30.6619"W	9162.65	136.651	0.76	-0.14	-0.75	
17228.00	91.080	149.530	7676.83	9222.35	-6744.60	6338.14	1715860.87	401080.41	39°35'48.5555"N	80°30'30.0305"W	9255.36	136.779	0.55	0.20	0.52	
17322.00	90.090	148.930	7675.87	9315.51	-6825.36	6386.23	1715908.95	400999.65	39°35'47.7627"N	80°30'29.4047"W	9347.16	136.904	1.23	-1.05	-0.64	
17417.00	91.080	149.510	7674.90	9409.67	-6906.97	6434.84	1715957.56	400918.04	39°35'46.9615"N	80°30'28.7720"W	9439.99	137.027	1.21	1.04	0.61	
17512.00	90.180	148.970	7673.86	9503.83	-6988.60	6483.43	1716006.14	400836.42	39°35'46.1602"N	80°30'28.1397"W	9532.86	137.147	1.10	-0.95	-0.57	
17608.00	90.430	149.590	7673.35	9598.97	-7071.13	6532.47	1716055.18	400753.90	39°35'45.3501"N	80°30'27.5015"W	9626.73	137.268	0.70	0.26	0.65	
17703.00	90.460	149.790	7672.61	9693.02	-7153.14	6580.41	1716103.12	400671.89	39°35'44.5449"N	80°30'26.8773"W	9719.52	137.388	0.21	0.03	0.21	
17798.00	89.970	148.540	7672.25	9787.20	-7234.71	6629.10	1716151.81	400590.33	39°35'43.7442"N	80°30'26.2437"W	9812.54	137.501	1.41	-0.52	-1.32	
17893.00	89.320	149.290	7672.84	9881.43	-7316.06	6678.15	1716200.85	400508.98	39°35'42.9456"N	80°30'25.6055"W	9905.68	137.610	1.04	-0.68	0.79	
17988.00	89.450	148.970	7673.86	9975.61	-7397.60	6726.89	1716249.59	400427.44	39°35'42.1452"N	80°30'24.9713"W	9998.78	137.719	0.36	0.14	-0.34	
18083.00	90.090	149.930	7674.24	10069.72	-7479.41	6775.18	1716297.87	400345.64	39°35'41.3421"N	80°30'24.3428"W	10091.81	137.828	1.21	0.67	1.01	
18179.00	89.750	149.420	7674.38	10164.77	-7562.27	6823.65	1716346.34	400262.78	39°35'40.5285"N	80°30'23.7118"W	10185.78	137.939	0.64	-0.35	-0.53	
18273.00	90.150	150.150	7674.46	10257.82	-7643.50	6870.95	1716393.64	400181.56	39°35'39.7310"N	80°30'23.0959"W	10277.80	138.047	0.89	0.43	0.78	

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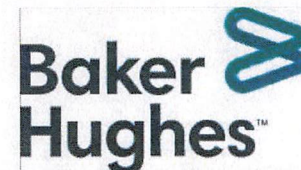




# Actual Wellpath Report

Michael Kuhn 12H AWP Proj: 23396'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

## WELLPATH DATA (265 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]
18368.00	90.030	149.000	7674.31	10351.90	-7725.42	6919.06	1716441.75	400099.64	39°35'38.9268"N	80°30'22.4697"W	10370.90	138.152	1.22	-0.13	-1.21
18463.00	89.880	149.150	7674.38	10446.10	-7806.91	6967.88	1716490.56	400018.15	39°35'38.1268"N	80°30'21.8344"W	10464.19	138.250	0.22	-0.16	0.16
18558.00	90.150	148.510	7674.36	10540.35	-7888.20	7017.05	1716539.73	399936.87	39°35'37.3290"N	80°30'21.1948"W	10557.59	138.345	0.73	0.28	-0.67
18653.00	90.550	148.660	7673.78	10634.64	-7969.27	7066.57	1716589.24	399855.81	39°35'36.5332"N	80°30'20.5507"W	10651.09	138.436	0.45	0.42	0.16
18749.00	90.060	147.660	7673.27	10730.02	-8050.82	7117.21	1716639.88	399774.26	39°35'35.7329"N	80°30'19.8922"W	10745.72	138.522	1.16	-0.51	-1.04
18843.00	90.250	148.340	7673.01	10823.43	-8130.54	7167.02	1716689.69	399694.55	39°35'34.9506"N	80°30'19.2445"W	10838.44	138.604	0.75	0.20	0.72
18938.00	89.320	148.080	7673.37	10917.80	-8211.29	7217.07	1716739.74	399613.81	39°35'34.1582"N	80°30'18.5937"W	10932.12	138.687	1.02	-0.98	-0.27
19033.00	91.790	148.600	7672.45	11012.14	-8292.14	7266.93	1716789.59	399532.96	39°35'33.3646"N	80°30'17.9454"W	11025.78	138.770	2.66	2.60	0.55
19128.00	89.050	147.850	7671.75	11106.50	-8372.89	7316.94	1716839.61	399452.21	39°35'32.5721"N	80°30'17.2949"W	11119.48	138.850	2.99	-2.88	-0.79
19223.00	88.980	148.260	7673.39	11200.88	-8453.49	7367.20	1716889.86	399371.62	39°35'31.7812"N	80°30'16.6415"W	11213.26	138.928	0.44	-0.07	0.43
19318.00	88.680	147.960	7675.33	11295.25	-8534.13	7417.38	1716940.03	399290.98	39°35'30.9897"N	80°30'15.9891"W	11307.03	139.005	0.45	-0.32	-0.32
19413.00	88.950	148.090	7677.29	11389.64	-8614.70	7467.68	1716990.33	399210.41	39°35'30.1991"N	80°30'15.3352"W	11400.85	139.080	0.32	0.28	0.14
19508.00	89.750	147.600	7678.37	11484.07	-8695.12	7518.23	1717040.88	399130.00	39°35'29.4099"N	80°30'14.6779"W	11494.74	139.152	0.99	0.84	-0.52
19603.00	89.510	147.980	7678.98	11578.52	-8775.50	7568.87	1717091.51	399049.62	39°35'28.6211"N	80°30'14.0197"W	11588.67	139.222	0.47	-0.25	0.40
19698.00	89.200	147.770	7680.05	11672.95	-8855.95	7619.38	1717142.03	398969.18	39°35'27.8317"N	80°30'13.3630"W	11682.59	139.292	0.39	-0.33	-0.22
19793.00	89.720	148.230	7680.95	11767.36	-8936.51	7669.72	1717192.36	398888.62	39°35'27.0411"N	80°30'12.7085"W	11776.50	139.362	0.73	0.55	0.48
19887.00	88.920	147.400	7682.06	11860.80	-9016.06	7719.79	1717242.42	398809.08	39°35'26.2604"N	80°30'12.0577"W	11869.48	139.429	1.23	-0.85	-0.88
19982.00	88.460	147.090	7684.24	11955.32	-9095.93	7771.17	1717293.81	398729.21	39°35'25.4768"N	80°30'11.3900"W	11963.58	139.491	0.58	-0.48	-0.33
20078.00	89.080	146.980	7686.30	12050.87	-9176.46	7823.40	1717346.03	398648.69	39°35'24.6867"N	80°30'10.7115"W	12058.73	139.551	0.66	0.65	-0.11
20173.00	88.860	148.910	7688.00	12145.27	-9256.96	7873.81	1717396.43	398568.20	39°35'23.8968"N	80°30'10.0562"W	12152.70	139.616	2.04	-0.23	2.03
20268.00	88.610	147.690	7690.10	12239.60	-9337.76	7923.71	1717446.34	398487.40	39°35'23.1037"N	80°30'9.4072"W	12246.59	139.683	1.31	-0.26	-1.28
20363.00	88.460	147.810	7692.53	12334.02	-9418.08	7974.39	1717497.01	398407.08	39°35'22.3155"W	80°30'8.7485"W	12340.63	139.745	0.20	-0.16	0.13
20458.00	88.340	150.230	7695.18	12428.19	-9499.49	8023.27	1717545.89	398325.68	39°35'21.5164"N	80°30'8.1126"W	12434.35	139.816	2.55	-0.13	2.55
20553.00	88.770	150.480	7697.58	12522.06	-9582.03	8070.24	1717592.86	398243.15	39°35'20.7059"N	80°30'7.5009"W	12527.73	139.895	0.52	0.45	0.26
20648.00	88.610	150.100	7699.75	12615.95	-9664.52	8117.31	1717639.92	398160.66	39°35'19.8958"N	80°30'6.8880"W	12621.16	139.973	0.43	-0.17	-0.40
20743.00	88.400	150.660	7702.23	12709.81	-9747.08	8164.25	1717686.86	398078.11	39°35'19.0851"N	80°30'6.2767"W	12714.58	140.050	0.63	-0.22	0.59
20838.00	87.780	150.010	7705.40	12803.66	-9829.58	8211.24	1717733.85	397995.61	39°35'18.2750"N	80°30'5.6648"W	12808.01	140.126	0.95	-0.65	-0.68
20932.00	87.480	149.950	7709.28	12896.58	-9910.90	8258.23	1717780.83	397914.30	39°35'17.4765"N	80°30'5.0531"W	12900.55	140.197	0.33	-0.32	-0.06
21027.00	87.810	150.150	7713.19	12990.47	-9993.14	8305.62	1717828.22	397832.06	39°35'16.6689"N	80°30'4.4361"W	12994.08	140.269	0.41	0.35	0.21
21122.00	87.750	148.900	7716.87	13084.50	-10074.96	8353.76	1717876.36	397750.25	39°35'15.8657"N	80°30'3.8096"W	13087.78	140.336	1.32	-0.06	-1.32

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# Actual Wellpath Report

Michael Kuhn 12H AWP Proj: 23396'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

WELLPATH DATA (265 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]
21217.00	87.840	148.720	7720.52	13178.68	-10156.17	8402.92	1717925.52	397669.05	39°35'15.0686"N	80°30'3.1701"W	13181.68	140.397	0.21	0.09	-0.19
21312.00	87.780	148.920	7724.15	13272.86	-10237.38	8452.07	1717974.66	397587.83	39°35'14.2713"N	80°30'2.5308"W	13275.60	140.457	0.22	-0.06	0.21
21406.00	87.600	148.610	7727.94	13366.05	-10317.69	8500.77	1718023.36	397507.53	39°35'13.4830"N	80°30'1.8974"W	13368.54	140.515	0.38	-0.19	-0.33
21502.00	87.380	147.970	7732.14	13461.31	-10399.28	8551.18	1718073.77	397425.94	39°35'12.6823"N	80°30'1.2419"W	13463.57	140.570	0.70	-0.23	-0.67
21597.00	88.460	149.840	7735.59	13555.48	-10480.57	8600.21	1718122.80	397344.66	39°35'11.8843"N	80°30'0.6042"W	13557.51	140.628	2.27	1.14	1.97
21692.00	86.520	149.650	7739.75	13649.43	-10562.55	8648.03	1718170.61	397262.69	39°35'11.0794"N	80°29'59.9818"W	13651.22	140.691	2.05	-2.04	-0.20
21787.00	86.460	146.310	7745.57	13743.65	-10642.94	8698.30	1718220.88	397182.31	39°35'10.2905"N	80°29'59.3284"W	13745.27	140.741	3.51	-0.06	-3.52
21882.00	86.150	150.210	7751.70	13837.80	-10723.54	8748.16	1718270.74	397101.70	39°35'9.4994"N	80°29'58.6801"W	13839.25	140.793	4.11	-0.33	4.11
21978.00	86.460	149.990	7757.88	13932.56	-10806.59	8795.92	1718318.49	397018.66	39°35'8.6839"N	80°29'58.0584"W	13933.79	140.856	0.40	0.32	-0.23
22073.00	85.290	149.360	7764.72	14026.37	-10888.38	8843.76	1718366.33	396936.88	39°35'7.8809"N	80°29'57.4357"W	14027.43	140.916	1.40	-1.23	-0.66
22168.00	86.490	148.420	7771.52	14120.36	-10969.51	8892.71	1718415.28	396855.76	39°35'7.0845"N	80°29'56.7989"W	14121.28	140.969	1.60	1.26	-0.99
22263.00	87.110	150.450	7776.83	14214.33	-11051.17	8940.95	1718463.51	396774.09	39°35'6.2828"N	80°29'56.1714"W	14215.10	141.025	2.23	0.65	2.14
22357.00	86.770	148.100	7781.85	14307.35	-11131.86	8988.90	1718511.46	396693.41	39°35'5.4907"N	80°29'55.5475"W	14307.99	141.079	2.52	-0.36	-2.50
22452.00	87.380	149.060	7786.69	14401.53	-11212.82	9038.36	1718560.91	396612.46	39°35'4.6960"N	80°29'54.9043"W	14402.06	141.129	1.20	0.64	1.01
22547.00	85.840	149.590	7792.31	14495.50	-11294.38	9086.74	1718609.29	396530.90	39°35'3.8952"N	80°29'54.2749"W	14495.93	141.182	1.71	-1.62	0.56
22642.00	85.350	148.710	7799.61	14589.40	-11375.70	9135.31	1718657.86	396449.59	39°35'3.0969"N	80°29'53.6430"W	14589.74	141.234	1.06	-0.52	-0.93
22736.00	84.790	149.190	7807.69	14682.29	-11455.93	9183.61	1718706.16	396369.36	39°35'2.3093"N	80°29'53.0147"W	14682.54	141.283	0.78	-0.60	0.51
22831.00	84.850	149.550	7816.26	14776.04	-11537.34	9231.82	1718754.36	396287.95	39°35'1.5101"N	80°29'52.3875"W	14776.22	141.334	0.38	0.06	0.38
22926.00	84.580	149.200	7825.01	14869.77	-11618.74	9280.01	1718802.55	396206.56	39°35'0.7109"N	80°29'51.7605"W	14869.89	141.385	0.46	-0.28	-0.37
23021.00	85.160	149.120	7833.51	14963.57	-11699.98	9328.51	1718851.05	396125.32	39°34'59.9134"N	80°29'51.1295"W	14963.65	141.434	0.62	0.61	-0.08
23117.00	84.790	149.360	7841.92	15058.36	-11782.16	9377.42	1718899.96	396043.15	39°34'59.1066"N	80°29'50.4933"W	15058.40	141.484	0.46	-0.39	0.25
23212.00	84.950	148.520	7850.41	15152.20	-11863.21	9426.24	1718948.77	395962.10	39°34'58.3110"N	80°29'49.8583"W	15152.22	141.530	0.90	0.17	-0.88
23306.00	84.360	148.000	7859.17	15245.17	-11942.81	9475.47	1718998.00	395882.51	39°34'57.5298"N	80°29'49.2182"W	15245.17	141.571	0.84	-0.63	-0.55
23371.00	85.070	148.570	7865.16	15309.45	-11997.87	9509.50	1719032.02	395827.46	39°34'56.9894"N	80°29'48.7759"W	15309.45	141.600	1.40	1.09	0.88
23396.00‡	85.070	148.570	7867.30	15334.18	-12019.12	9522.49	1719045.01	395806.21	39°34'56.7808"N	80°29'48.6070"W	15334.18	141.611	0.00	0.00	0.00

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Michael Kuhn 12H AWP Proj: 23396'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

HOLE & CASING SECTIONS - Ref Wellbore: Michael Kuhn 12H AWB Ref Wellpath: Michael Kuhn 12H AWP Proj: 23396'									
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]
17.5in Open Hole	28.00	1385.00	1357.00	28.00	1384.99	0.00	0.00	1.95	-2.41
13.375in Casing Surface	28.00	1355.00	1327.00	28.00	1354.99	0.00	0.00	1.71	-2.27
12.25in Open Hole	1385.00	2874.00	1489.00	1384.99	2868.79	1.95	-2.41	80.77	82.08
9.625in Casing Intermediate	28.00	2844.00	2816.00	28.00	2838.93	0.00	0.00	79.05	79.80
8.75in Open Hole	2874.00	7439.00	4565.00	2868.79	7117.92	80.77	82.08	1169.42	1296.95
8.5in Open Hole	7439.00	23396.00	15957.00	7117.92	7867.30	1169.42	1296.95	-12019.12	9522.49
5.5in Casing Production	28.00	23366.00	23338.00	28.00	7864.72	0.00	0.00	-11993.62	9506.90

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Michael Kuhn 12H LP Rev-2	7754.00	751.16	1847.30	1711370.30	408575.71	39°37'2.1305"N	80°31'28.4870"W	point
Michael Kuhn 12H BHL Rev-3	7884.00	-12020.26	9521.53	1719044.06	395805.07	39°34'56.7694"N	80°29'48.6190"W	point
Michael Kuhn Hardline 1	9000.00	-641.72	-1866.49	1707656.74	407182.91	39°36'47.9440"N	80°32'15.7340"W	polygon
2D Polygon: dimensions not calculated								

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Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

WELLPATH COMPOSITION - Ref Wellbore: Michael Kuhn 12H AWB    Ref Wellpath: Michael Kuhn 12H AWP Proj: 23396'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1303.00	Gyrodatta 2015 - CT+WIR+ALC	01_Gyro Data [CT+WIR+ALC] (115'-1303')	Michael Kuhn 12H AWB	1/21/2022
1303.00	7362.00	OWSG MWD rev2 - Standard	02_SDI MWD [OWSG MWD Rev.2-Standard] (1303')(1388'-7362')	Michael Kuhn 12H AWB	1/21/2022
7362.00	23396.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	03_ATK Curve [OWSG MWD Rev.2+IFR1+MS] <8.5"> (7362')(7447'-23371')	Michael Kuhn 12H AWB	3/2/2022

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## REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 12H (L-003942)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 12H AWB
Slot	Slot 12H		

## COMMENTS

### Wellpath general comments

API: 47-103-03415-0000

BH Job #: 111204425

Rig: Patterson 294

Duration: 03/05/2022 - 03/08/2022

01\_Gyro Data [CT+WIR+ALC] (115'-1303')

02\_SDI MWD [OWSG MWD Rev.2-Standard] (1303')(1388'-7362')

03\_ATK Curve [OWSG MWD Rev.2+IFR1+MS] <8.5"> (7362')(7447'-23371')

Final Survey MD at: 23371'

Projected MD at TD: 23396'

KOP = 1388' MD / 1387.99' TVD

Tie on to SDI MWD = 7362' MD / 7047.21' TVD

Marcellus

Landing Point = 8587' MD / 7762.42' TVD

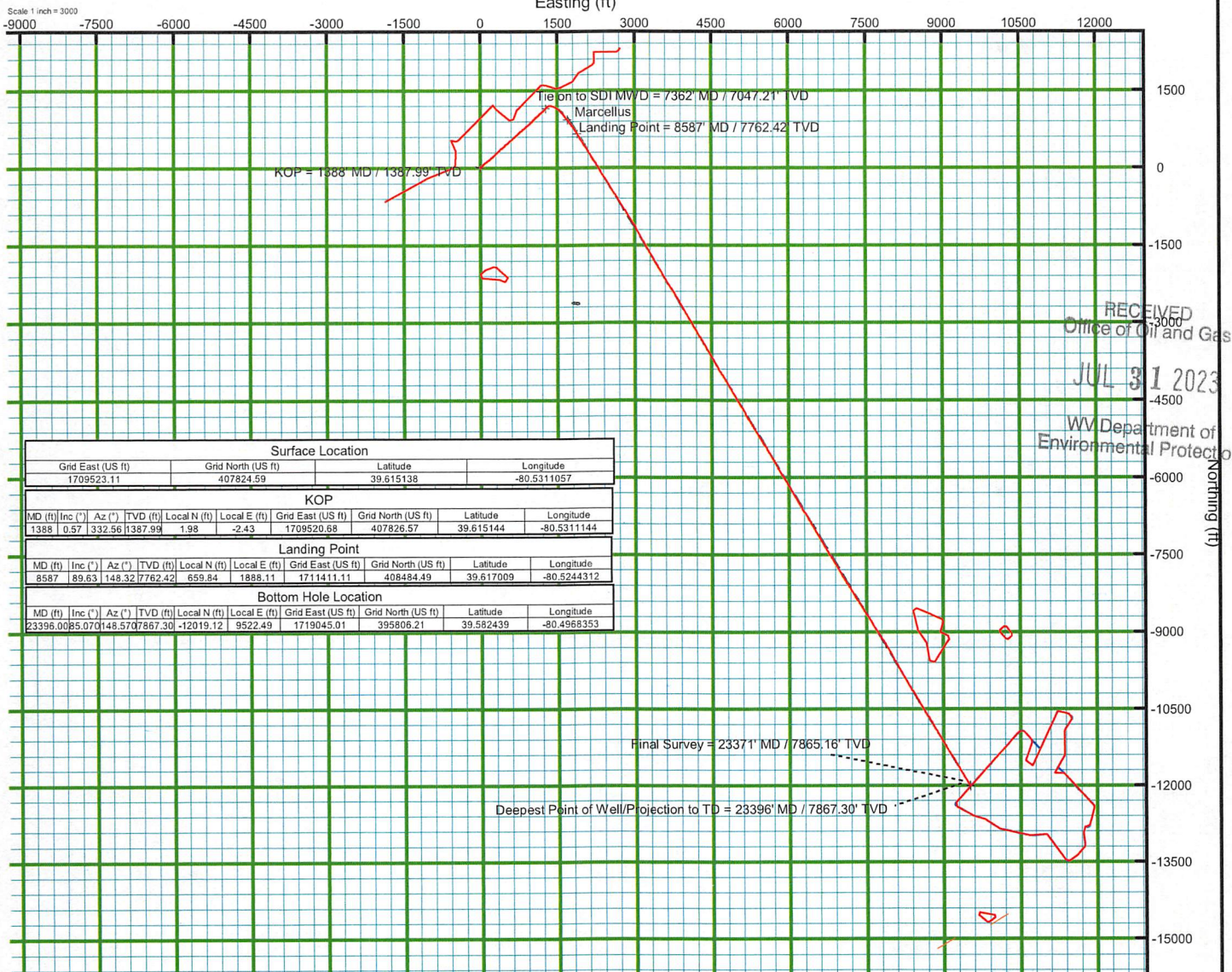
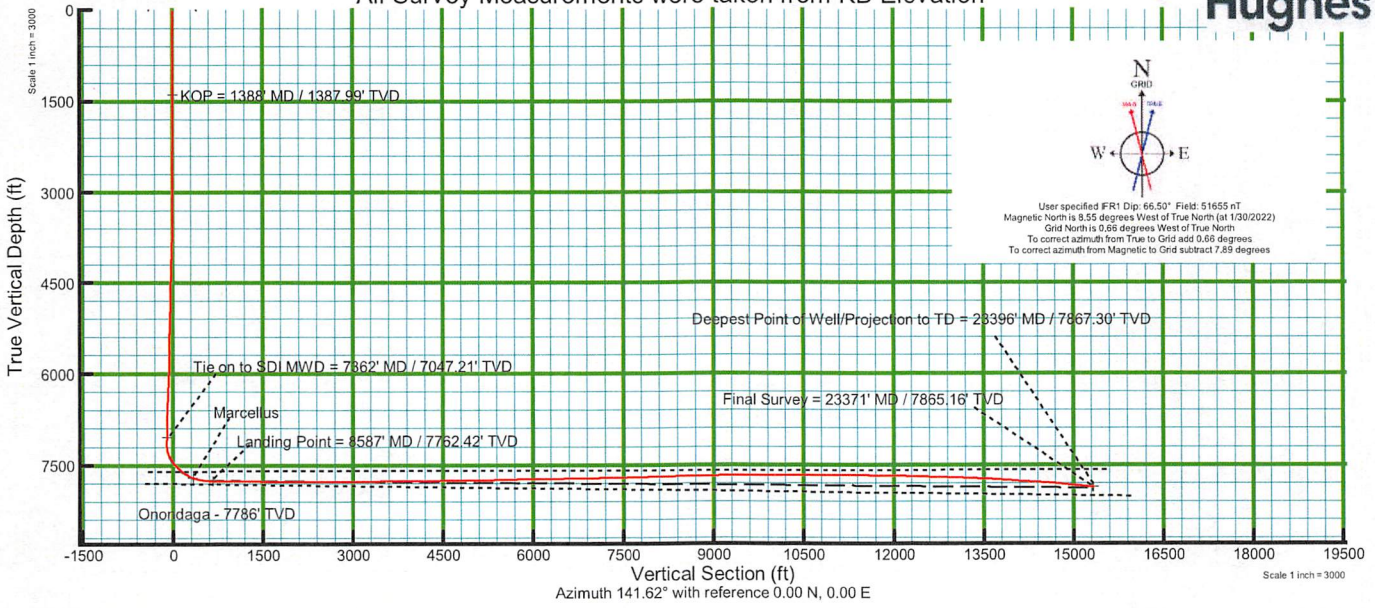
Final Survey = 23371' MD / 7865.16' TVD

Deepest Point of Well/Projection to TD = 23396' MD / 7867.30' TVD

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KB Elevation=1536 FT  
 Ground Elevation=1508 FT  
 All Survey Measurements were taken from KB Elevation



Surface Location									
Grid East (US ft)		Grid North (US ft)		Latitude		Longitude			
1709523.11		407824.59		39.615138		-80.5311057			
KOP									
MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
1388	0.57	332.56	1387.99	1.98	-2.43	1709520.68	407826.57	39.615144	-80.5311144
Landing Point									
MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
8587	89.63	148.32	7762.42	659.84	1888.11	1711411.11	408484.49	39.617009	-80.5244312
Bottom Hole Location									
MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
23396.00	85.07	148.57	7867.30	-12019.12	9522.49	1719045.01	395806.21	39.582439	-80.4968353

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