



Actual Wellpath Report

Michael Kuhn 4H AWP Proj: 29132'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

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	3/7/2022 at 6:17:33 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	0.00	0.00	1709435.51	407853.89	39°36'54.7779"N	80°31'53.1042"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 4H)	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	154.36°

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WELLPATH DATA (333 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	110.190	0.00	0.00	0.00	0.00	1709435.51	407853.89	39°36'54.7779"N	80°31'53.1042"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	110.190	28.00	0.00	0.00	0.00	1709435.51	407853.89	39°36'54.7779"N	80°31'53.1042"W	0.00	0.000	0.00	0.00	0.00
115.00	0.270	110.190	115.00	0.15	-0.07	0.19	1709435.70	407853.82	39°36'54.7772"N	80°31'53.1017"W	0.20	110.190	0.31	0.31	0.00
215.00	0.280	105.290	215.00	0.48	-0.22	0.65	1709436.16	407853.67	39°36'54.7758"N	80°31'53.0959"W	0.68	108.442	0.03	0.01	-4.90
315.00	0.280	105.540	315.00	0.80	-0.35	1.12	1709436.63	407853.54	39°36'54.7746"N	80°31'53.0898"W	1.17	107.181	0.00	0.00	0.25
415.00	0.290	118.740	415.00	1.16	-0.53	1.58	1709437.09	407853.36	39°36'54.7728"N	80°31'53.0840"W	1.67	108.685	0.07	0.01	13.20
515.00	0.280	114.820	514.99	1.56	-0.76	2.02	1709437.53	407853.13	39°36'54.7706"N	80°31'53.0783"W	2.16	110.551	0.02	-0.01	-3.92
615.00	0.310	121.570	614.99	1.97	-1.00	2.47	1709437.98	407852.89	39°36'54.7682"N	80°31'53.0724"W	2.67	112.052	0.05	0.03	6.75
715.00	0.300	116.850	714.99	2.41	-1.26	2.94	1709438.45	407852.63	39°36'54.7657"N	80°31'53.0665"W	3.20	113.246	0.03	-0.01	-4.72
815.00	0.350	118.400	814.99	2.86	-1.53	3.44	1709438.95	407852.36	39°36'54.7632"N	80°31'53.0600"W	3.76	113.914	0.05	0.05	1.55
915.00	0.360	138.710	914.99	3.41	-1.91	3.92	1709439.43	407851.98	39°36'54.7595"N	80°31'53.0539"W	4.36	115.962	0.13	0.01	20.31
1015.00	0.210	139.590	1014.99	3.89	-2.28	4.24	1709439.75	407851.61	39°36'54.7558"N	80°31'53.0497"W	4.82	118.282	0.15	-0.15	0.88
1115.00	0.240	138.270	1114.99	4.27	-2.58	4.50	1709440.01	407851.31	39°36'54.7529"N	80°31'53.0463"W	5.19	119.808	0.03	0.03	-1.32
1215.00	0.340	159.370	1214.99	4.77	-3.01	4.74	1709440.25	407850.88	39°36'54.7486"N	80°31'53.0431"W	5.62	122.412	0.14	0.10	21.10
1306.00	0.530	157.040	1305.98	5.46	-3.65	5.00	1709440.51	407850.24	39°36'54.7423"N	80°31'53.0397"W	6.19	126.128	0.21	0.21	-2.56
1345.00	0.240	256.230	1344.98	5.62	-3.84	4.99	1709440.50	407850.05	39°36'54.7405"N	80°31'53.0398"W	6.30	127.540	1.58	-0.74	254.33
1388.00	0.850	299.960	1387.98	5.34	-3.70	4.63	1709440.14	407850.19	39°36'54.7418"N	80°31'53.0445"W	5.93	128.626	1.62	1.42	101.70
1432.00	2.050	300.900	1431.97	4.41	-3.13	3.67	1709439.18	407850.76	39°36'54.7473"N	80°31'53.0568"W	4.83	130.466	2.73	2.73	2.14
1475.00	2.840	301.820	1474.93	2.87	-2.18	2.11	1709437.62	407851.71	39°36'54.7566"N	80°31'53.0769"W	3.03	135.920	1.84	1.84	2.14
1518.00	3.320	295.840	1517.86	1.00	-1.07	0.08	1709435.59	407852.82	39°36'54.7673"N	80°31'53.1030"W	1.07	175.643	1.34	1.12	-13.91
1561.00	3.380	296.860	1560.79	-0.98	0.04	-2.17	1709433.34	407853.93	39°36'54.7780"N	80°31'53.1319"W	2.17	271.149	0.20	0.14	2.37
1604.00	3.330	297.600	1603.72	-2.98	1.19	-4.41	1709431.10	407855.08	39°36'54.7892"N	80°31'53.1607"W	4.57	285.168	0.15	-0.12	1.72
1647.00	2.420	304.140	1646.66	-4.77	2.28	-6.27	1709429.24	407856.17	39°36'54.7997"N	80°31'53.1846"W	6.67	290.020	2.25	-2.12	15.21
1690.00	1.290	324.070	1689.64	-6.03	3.18	-7.30	1709428.21	407857.07	39°36'54.8085"N	80°31'53.1979"W	7.97	293.565	2.99	-2.63	46.35
1733.00	0.310	234.960	1732.64	-6.49	3.51	-7.68	1709427.83	407857.40	39°36'54.8117"N	80°31'53.2028"W	8.44	294.558	3.07	-2.28	-207.23
1776.00	1.230	173.710	1775.63	-6.03	2.98	-7.72	1709427.79	407856.87	39°36'54.8065"N	80°31'53.2033"W	8.28	291.121	2.59	2.14	-142.44
1819.00	2.360	170.700	1818.61	-4.75	1.65	-7.53	1709427.98	407855.54	39°36'54.7933"N	80°31'53.2007"W	7.71	282.369	2.64	2.63	-7.00
1862.00	3.840	163.420	1861.55	-2.48	-0.60	-6.98	1709428.53	407853.29	39°36'54.7711"N	80°31'53.1933"W	7.00	265.067	3.55	3.44	-16.93
1905.00	4.880	163.230	1904.42	0.75	2.73	-6.04	1709429.47	407850.16	39°36'54.7403"N	80°31'53.1808"W	7.10	238.273	2.42	2.42	-0.44
1948.00	5.510	161.160	1947.24	4.61	2.44	-4.84	1709430.67	407846.45	39°36'54.7038"N	80°31'53.1650"W	8.88	213.074	1.53	1.47	-4.81

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Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH DATA (333 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]
1992.00	5.740	161.910	1991.03	8.89	-11.53	-3.48	1709432.03	407842.36	39°36'54.6635"N	80°31'53.1469"W	12.04	196.791	0.55	0.52	1.70
2035.00	5.880	161.830	2033.81	13.20	-15.67	-2.12	1709433.39	407838.22	39°36'54.6228"N	80°31'53.1290"W	15.81	187.723	0.33	0.33	-0.19
2078.00	6.400	164.720	2076.56	17.75	-20.07	-0.81	1709434.70	407833.82	39°36'54.5794"N	80°31'53.1115"W	20.09	182.300	1.41	1.21	6.72
2121.00	6.930	164.520	2119.27	22.66	-24.88	0.52	1709436.03	407829.01	39°36'54.5320"N	80°31'53.0939"W	24.89	178.807	1.23	1.23	-0.47
2164.00	7.180	164.190	2161.95	27.86	-29.97	1.94	1709437.45	407823.92	39°36'54.4819"N	80°31'53.0750"W	30.03	176.291	0.59	0.58	-0.77
2207.00	7.660	166.230	2204.59	33.31	-35.34	3.36	1709438.87	407818.55	39°36'54.4290"N	80°31'53.0561"W	35.50	174.574	1.27	1.12	4.74
2251.00	8.580	170.310	2248.15	39.34	-41.42	4.61	1709440.12	407812.47	39°36'54.3690"N	80°31'53.0392"W	41.68	173.653	2.47	2.09	9.27
2294.00	9.410	176.720	2290.62	45.67	-48.09	5.35	1709440.86	407805.80	39°36'54.3032"N	80°31'53.0288"W	48.39	173.654	3.02	1.93	14.91
2337.00	9.700	181.810	2333.02	52.14	-55.22	5.44	1709440.94	407798.67	39°36'54.2327"N	80°31'53.0266"W	55.49	174.379	2.08	0.67	11.84
2380.00	9.710	187.090	2375.41	58.40	-62.44	4.87	1709440.38	407791.45	39°36'54.1613"N	80°31'53.0328"W	62.63	175.538	2.07	0.02	12.28
2423.00	9.910	193.500	2417.78	64.32	-69.64	3.56	1709439.07	407784.26	39°36'54.0901"N	80°31'53.0485"W	69.73	177.072	2.58	0.47	14.91
2466.00	10.350	199.300	2460.11	69.93	-76.88	1.42	1709436.93	407777.01	39°36'54.0182"N	80°31'53.0748"W	76.90	178.941	2.58	1.02	13.49
2509.00	10.740	204.170	2502.39	75.25	-84.18	-1.50	1709434.01	407769.71	39°36'53.9457"N	80°31'53.1110"W	84.20	181.018	2.26	0.91	11.33
2552.00	11.550	209.280	2544.58	80.31	-91.59	-5.24	1709430.27	407762.30	39°36'53.8721"N	80°31'53.1577"W	91.74	183.276	2.97	1.88	11.88
2596.00	12.390	212.880	2587.62	85.30	-99.40	-9.96	1709425.55	407754.50	39°36'53.7944"N	80°31'53.2169"W	99.90	185.722	2.55	1.91	8.18
2682.00	12.820	219.910	2671.55	94.07	-114.47	-21.09	1709414.42	407739.43	39°36'53.6442"N	80°31'53.3569"W	116.40	190.439	1.85	0.50	8.17
2768.00	13.520	224.570	2755.29	101.42	-128.95	-34.27	1709401.24	407724.95	39°36'53.4996"N	80°31'53.5231"W	133.43	194.882	1.48	0.81	5.42
2829.00	13.020	229.010	2814.66	105.66	-138.54	-44.46	1709391.05	407715.36	39°36'53.4037"N	80°31'53.6519"W	145.50	197.792	1.86	-0.82	7.28
2940.00	11.660	231.020	2923.10	111.56	-153.79	-62.62	1709372.90	407700.10	39°36'53.2509"N	80°31'53.8817"W	166.05	202.153	1.28	-1.23	1.81
2983.00	11.640	230.540	2965.21	113.59	-159.29	-69.34	1709366.17	407694.61	39°36'53.1959"N	80°31'53.9668"W	173.72	203.526	0.23	-0.05	-1.12
3027.00	12.260	233.870	3008.26	115.51	-164.86	-76.54	1709358.97	407689.04	39°36'53.1399"N	80°31'54.0580"W	181.76	204.905	2.11	1.41	7.57
3070.00	14.100	242.780	3050.13	116.48	-169.95	-84.89	1709350.62	407683.95	39°36'53.0887"N	80°31'54.1639"W	189.97	206.542	6.36	4.28	20.72
3113.00	14.920	244.540	3091.76	116.61	-174.73	-94.55	1709340.97	407679.18	39°36'53.0404"N	80°31'54.2866"W	198.67	208.419	2.17	1.91	4.09
3156.00	15.800	247.390	3133.22	116.28	-179.36	-104.95	1709330.57	407674.55	39°36'52.9935"N	80°31'54.4188"W	207.80	210.334	2.70	2.05	6.63
3199.00	16.590	248.750	3174.51	115.50	-183.83	-116.07	1709319.44	407670.07	39°36'52.9480"N	80°31'54.5603"W	217.41	212.269	2.04	1.84	3.16
3242.00	17.300	247.670	3215.65	114.66	-188.49	-127.71	1709307.81	407665.42	39°36'52.9007"N	80°31'54.7083"W	227.68	214.120	1.81	1.65	-2.51
3285.00	18.380	251.040	3256.58	113.51	-193.12	-140.04	1709295.48	407660.78	39°36'52.8535"N	80°31'54.8651"W	238.55	215.947	3.47	2.51	7.84
3328.00	19.290	251.030	3297.28	111.89	-197.63	-153.17	1709282.35	407656.27	39°36'52.8074"N	80°31'55.0322"W	250.03	217.776	2.12	2.12	-0.02
3371.00	20.100	250.750	3337.76	110.24	-202.37	-166.86	1709268.66	407651.53	39°36'52.7590"N	80°31'55.2064"W	262.29	219.506	1.90	1.88	-0.65
3414.00	21.170	253.320	3378.00	108.24	-207.04	-181.27	1709254.25	407646.86	39°36'52.7112"N	80°31'55.3899"W	275.18	221.204	3.26	2.49	5.98

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3501.00	23.230	255.530	3458.55	102.44	-215.84	-212.94	1709222.59	407638.07	39°36'52.6207"N	80°31'55.7932"W	303.20	224.613	2.55	2.37	2.54
3587.00	23.370	254.040	3537.54	96.29	-224.76	-245.76	1709189.77	407629.14	39°36'52.5287"N	80°31'56.2113"W	333.04	227.555	0.70	0.16	-1.73
3673.00	23.230	253.900	3616.52	90.61	-234.16	-278.45	1709157.07	407619.75	39°36'52.4322"N	80°31'56.6276"W	363.82	229.939	0.18	-0.16	-0.16
3759.00	22.930	249.690	3695.65	86.24	-244.68	-310.46	1709125.07	407609.23	39°36'52.3246"N	80°31'57.0350"W	395.29	231.758	1.95	-0.35	-4.90
3845.00	22.810	251.330	3774.89	82.66	-255.83	-341.97	1709093.56	407598.08	39°36'52.2108"N	80°31'57.4359"W	427.07	233.200	0.75	-0.14	1.91
3931.00	22.520	249.640	3854.25	79.12	-266.89	-373.20	1709062.33	407587.01	39°36'52.0979"N	80°31'57.8334"W	458.81	234.430	0.83	-0.34	-1.97
4017.00	22.270	248.700	3933.76	76.38	-278.54	-403.82	1709031.71	407575.36	39°36'51.9793"N	80°31'58.2229"W	490.57	235.403	0.51	-0.29	-1.09
4104.00	22.350	246.750	4014.25	74.44	-291.06	-434.38	1709001.16	407562.85	39°36'51.8521"N	80°31'58.6115"W	522.88	236.176	0.86	0.09	-2.24
4190.00	22.570	247.410	4093.72	72.88	-303.86	-464.64	1708970.90	407550.05	39°36'51.7222"N	80°31'58.9963"W	555.18	236.817	0.39	0.26	0.77
4276.00	22.870	247.460	4173.05	71.10	-316.60	-495.32	1708940.22	407537.31	39°36'51.5928"N	80°31'59.3863"W	587.86	237.414	0.35	0.35	0.06
4362.00	23.130	248.250	4252.21	69.05	-329.27	-526.44	1708909.10	407524.64	39°36'51.4641"N	80°31'59.7821"W	620.93	237.976	0.47	0.30	0.92
4449.00	22.860	249.890	4332.30	66.26	-341.41	-558.18	1708877.36	407512.50	39°36'51.3405"N	80°32'0.1859"W	654.31	238.548	0.80	-0.31	1.89
4535.00	22.210	252.650	4411.74	62.30	-352.00	-589.38	1708846.16	407501.91	39°36'51.2323"N	80°32'0.5830"W	686.49	239.153	1.44	-0.76	3.21
4621.00	21.800	253.430	4491.47	57.44	-361.40	-620.20	1708815.35	407492.51	39°36'51.1359"N	80°32'0.9754"W	717.82	239.770	0.59	-0.48	0.91
4707.00	21.700	253.310	4571.35	52.45	-370.52	-650.74	1708784.81	407483.39	39°36'51.0423"N	80°32'1.3642"W	748.83	240.343	0.13	-0.12	-0.14
4792.00	21.500	255.010	4650.38	47.13	-379.06	-680.84	1708754.72	407474.85	39°36'50.9544"N	80°32'1.7475"W	779.25	240.893	0.77	-0.24	2.00
4878.00	21.000	257.720	4730.54	40.66	-386.42	-711.12	1708724.44	407467.50	39°36'50.8783"N	80°32'2.1333"W	809.32	241.481	1.28	-0.58	3.15
4964.00	20.460	260.720	4810.97	32.86	-392.12	-741.01	1708694.55	407461.79	39°36'50.8186"N	80°32'2.5144"W	838.36	242.114	1.39	-0.63	3.49
5041.00	20.440	262.120	4883.12	24.97	-396.13	-767.61	1708667.95	407457.78	39°36'50.7759"N	80°32'2.8537"W	863.80	242.704	0.64	-0.03	1.82
5127.00	20.930	261.630	4963.57	15.83	-400.43	-797.68	1708637.88	407453.49	39°36'50.7300"N	80°32'3.2373"W	892.55	243.344	0.60	0.57	-0.57
5214.00	21.380	256.210	5044.72	7.96	-406.47	-828.46	1708607.10	407447.44	39°36'50.6668"N	80°32'3.6296"W	922.80	243.866	2.31	0.52	-6.23
5300.00	21.010	253.620	5124.90	2.26	-414.55	-858.48	1708577.09	407439.36	39°36'50.5835"N	80°32'4.0120"W	953.33	244.224	1.17	-0.43	-3.01
5386.00	21.280	253.090	5205.11	-2.59	-423.44	-888.20	1708547.37	407430.47	39°36'50.4923"N	80°32'4.3904"W	983.97	244.511	0.38	0.31	-0.62
5472.00	21.700	252.140	5285.13	-7.11	-432.86	-918.26	1708517.30	407421.06	39°36'50.3958"N	80°32'4.7731"W	1015.17	244.761	0.63	0.49	-1.10
5558.00	21.760	251.480	5365.02	-11.24	-442.80	-948.51	1708487.06	407411.12	39°36'50.2941"N	80°32'5.1582"W	1046.78	244.975	0.29	0.07	-0.77
5644.00	21.950	250.240	5444.84	-14.86	-453.29	-978.75	1708456.82	407400.62	39°36'50.1869"N	80°32'5.5430"W	1078.63	245.150	0.58	0.22	-1.44
5730.00	22.280	250.710	5524.52	-18.31	-464.11	-1009.27	1708426.30	407389.80	39°36'50.0765"N	80°32'5.9313"W	1110.87	245.305	0.44	0.38	0.55
5816.00	21.450	252.360	5604.33	-22.30	-474.26	-1039.64	1708395.93	407379.65	39°36'49.9728"N	80°32'6.3179"W	1142.71	245.478	1.20	-0.97	1.92
5902.00	21.110	253.420	5684.47	-26.93	-483.45	-1069.47	1708366.11	407370.47	39°36'49.8786"N	80°32'6.6976"W	1173.66	245.675	0.60	-0.40	1.23
5989.00	21.300	256.030	5765.58	-32.59	-491.73	-1099.82	1708335.76	407362.19	39°36'49.7933"N	80°32'7.0842"W	1204.74	245.910	1.11	0.22	3.00

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH DATA (333 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]
6075.00	21.260	254.190	5845.71	-38.42	-499.75	-1129.98	1708305.60	407354.17	39°36'49.7106"N	80°32'7.4684"W	1235.56	246.142	0.78	-0.05	-2.14
6161.00	21.620	251.490	5925.76	-43.04	-509.03	-1160.01	1708275.57	407344.89	39°36'49.6155"N	80°32'7.8506"W	1266.78	246.307	1.22	0.42	-3.14
6247.00	22.180	250.710	6005.56	-46.81	-519.42	-1190.35	1708245.23	407334.50	39°36'49.5093"N	80°32'8.2368"W	1298.75	246.425	0.73	0.65	-0.91
6334.00	22.500	251.140	6086.03	-50.59	-530.23	-1221.61	1708213.98	407323.69	39°36'49.3990"N	80°32'8.6346"W	1331.71	246.537	0.41	0.37	0.49
6420.00	22.190	249.370	6185.57	-53.95	-541.27	-1252.38	1708183.21	407312.65	39°36'49.2863"N	80°32'9.0261"W	1364.34	246.626	0.86	-0.36	-2.06
6506.00	21.320	249.990	6245.45	-56.90	-552.34	-1282.27	1708153.32	407301.58	39°36'49.1735"N	80°32'9.4063"W	1396.17	246.696	1.05	-1.01	0.72
6592.00	20.660	250.120	6325.74	-59.96	-562.85	-1311.22	1708124.37	407291.07	39°36'49.0664"N	80°32'9.7748"W	1426.92	246.768	0.77	-0.77	0.15
6679.00	20.640	252.500	6407.15	-63.67	-572.68	-1340.28	1708095.31	407281.24	39°36'48.9659"N	80°32'10.1446"W	1457.50	246.864	0.96	-0.02	2.74
6765.00	20.960	250.540	6487.55	-67.47	-582.36	-1369.24	1708066.35	407271.56	39°36'48.8669"N	80°32'10.5132"W	1487.94	246.959	0.89	0.37	-2.28
6852.00	21.130	247.970	6568.75	-70.13	-593.43	-1398.45	1708037.15	407260.50	39°36'48.7542"N	80°32'10.8847"W	1519.15	247.006	1.08	0.20	-2.95
6938.00	21.190	249.800	6648.95	-72.58	-604.61	-1427.41	1708008.19	407249.31	39°36'48.6404"N	80°32'11.2530"W	1550.17	247.044	0.77	0.07	2.13
7024.00	22.050	251.320	6728.90	-76.01	-615.15	-1457.29	1707978.31	407238.78	39°36'48.5329"N	80°32'11.6333"W	1581.80	247.114	1.19	1.00	1.77
7111.00	22.300	249.010	6809.46	-79.33	-626.29	-1488.17	1707947.43	407227.64	39°36'48.4192"N	80°32'12.0262"W	1614.59	247.176	1.04	0.29	-2.66
7190.00	22.050	246.810	6882.62	-81.18	-637.50	-1515.79	1707919.81	407216.43	39°36'48.3053"N	80°32'12.3775"W	1644.40	247.190	1.10	-0.32	-2.78
7284.00	21.930	246.980	6969.78	-82.74	-651.31	-1548.17	1707887.44	407202.62	39°36'48.1651"N	80°32'12.7891"W	1679.59	247.184	0.14	-0.13	0.18
7380.00	22.130	245.180	7058.78	-83.81	-665.91	-1581.08	1707854.53	407188.02	39°36'48.0171"N	80°32'13.2074"W	1715.59	247.160	0.73	0.21	-1.87
7475.00	21.940	239.440	7146.85	-82.55	-682.45	-1612.61	1707823.00	407171.48	39°36'47.8501"N	80°32'13.6078"W	1751.07	247.062	2.27	-0.20	-6.04
7571.00	22.710	217.830	7235.80	-72.72	-706.25	-1639.46	1707796.15	407147.69	39°36'47.6118"N	80°32'13.9474"W	1785.11	246.695	8.54	0.80	-22.51
7666.00	26.630	199.610	7322.24	-49.49	-740.85	-1657.89	1707777.72	407113.08	39°36'47.2678"N	80°32'14.1777"W	1815.89	245.922	8.96	4.13	-19.18
7761.00	31.740	187.120	7405.23	-13.43	-785.77	-1668.15	1707767.47	407068.16	39°36'46.8226"N	80°32'14.3022"W	1843.95	244.777	8.34	5.38	-13.15
7856.00	37.640	179.120	7483.35	33.99	-839.65	-1670.80	1707764.81	407014.29	39°36'46.2899"N	80°32'14.3282"W	1869.92	243.318	7.83	6.21	-8.42
7951.00	45.650	175.050	7554.29	92.21	-902.61	-1667.42	1707768.19	406951.34	39°36'45.6681"N	80°32'14.2757"W	1896.05	241.572	8.90	8.43	-4.28
8045.00	54.270	171.010	7614.72	160.35	-973.93	-1658.54	1707777.07	406880.02	39°36'44.9643"N	80°32'14.1517"W	1923.35	239.578	9.74	9.17	-4.30
8140.00	63.820	165.520	7663.56	239.34	-1053.52	-1641.81	1707793.80	406800.44	39°36'44.1797"N	80°32'13.9262"W	1950.75	237.312	11.20	10.05	-5.78
8235.00	69.230	160.380	7701.41	325.44	-1138.73	-1616.20	1707819.41	406717.23	39°36'43.3602"N	80°32'13.5867"W	1975.92	234.880	7.55	5.69	-5.41
8330.00	79.220	154.490	7727.22	416.58	-1220.96	-1581.07	1707854.53	406633.00	39°36'42.5318"N	80°32'13.1255"W	1997.63	232.323	12.09	10.52	-6.20
8424.00	88.310	151.690	7737.43	509.89	-1304.18	-1538.81	1707896.79	406549.79	39°36'41.7142"N	80°32'12.5733"W	2017.14	229.718	10.11	9.67	-2.98
8520.00	89.720	147.400	7739.08	605.52	-1386.90	-1490.17	1707945.43	406467.07	39°36'40.9023"N	80°32'11.9397"W	2035.71	227.056	4.70	1.47	-4.47
8615.00	90.000	148.060	7739.31	699.88	-1467.23	-1439.45	1707996.14	406386.75	39°36'40.1142"N	80°32'11.2798"W	2055.43	224.453	0.75	0.29	0.69
8710.00	88.800	147.840	7740.30	794.28	-1547.74	-1389.04	1708046.55	406306.24	39°36'39.3243"N	80°32'10.6239"W	2079.65	221.907	1.28	-1.26	-0.23

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Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH DATA (333 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]
8805.00	89.200	148.590	7741.96	888.72	-1628.48	-1339.01	1708096.58	406225.51	39°36'38.5321"N	80°32'9.9728"W	2108.30	219.429	0.89	0.42	0.79
8900.00	89.570	148.360	7742.98	983.21	-1709.46	-1289.34	1708146.25	406144.54	39°36'37.7375"N	80°32'9.3263"W	2141.18	217.025	0.46	0.39	-0.24
8994.00	89.420	148.370	7743.81	1076.69	-1789.49	-1240.04	1708195.54	406064.51	39°36'36.9522"N	80°32'8.6846"W	2177.15	214.720	0.16	-0.16	0.01
9090.00	88.890	147.640	7745.23	1172.09	-1870.89	-1189.18	1708246.40	405983.11	39°36'36.1535"N	80°32'8.0228"W	2216.84	212.441	0.94	-0.55	-0.76
9185.00	89.910	149.470	7746.22	1266.59	-1951.93	-1139.63	1708295.95	405902.08	39°36'35.3583"N	80°32'7.3778"W	2260.27	210.278	2.21	1.07	1.93
9256.00	90.090	147.100	7746.22	1337.19	-2012.33	-1102.31	1708333.27	405841.69	39°36'34.7657"N	80°32'6.8921"W	2294.46	208.713	3.35	0.25	-3.34
9351.00	89.820	148.320	7746.29	1431.55	-2092.63	-1051.56	1708384.02	405761.38	39°36'33.9778"N	80°32'6.2319"W	2341.99	206.680	1.32	-0.28	1.28
9446.00	89.750	146.510	7746.65	1525.85	-2172.68	-1000.40	1708435.17	405681.35	39°36'33.1927"N	80°32'5.5665"W	2391.93	204.723	1.91	-0.07	-1.91
9541.00	89.720	147.950	7747.09	1620.11	-2252.56	-948.98	1708486.59	405601.47	39°36'32.4091"N	80°32'4.8978"W	2444.29	202.845	1.52	-0.03	1.52
9637.00	89.660	148.600	7747.61	1715.57	-2334.21	-898.50	1708537.06	405519.82	39°36'31.6079"N	80°32'4.2409"W	2501.17	201.053	0.68	-0.06	0.68
9732.00	88.920	148.380	7748.79	1810.06	-2415.19	-848.85	1708586.71	405438.84	39°36'30.8132"N	80°32'3.5947"W	2560.02	199.365	0.81	-0.78	-0.23
9826.00	89.910	148.590	7749.75	1903.56	-2495.32	-799.72	1708635.84	405358.72	39°36'30.0269"N	80°32'2.9552"W	2620.34	197.770	1.08	1.05	0.22
9921.00	89.750	149.120	7750.03	1998.12	-2576.63	-750.59	1708684.97	405277.42	39°36'29.2290"N	80°32'2.3155"W	2683.73	196.241	0.58	-0.17	0.56
10016.00	89.750	148.290	7750.44	2092.66	-2657.81	-701.24	1708734.31	405196.25	39°36'28.4324"N	80°32'1.6731"W	2748.76	194.780	0.87	0.00	-0.87
10111.00	90.080	148.380	7750.60	2187.13	-2738.66	-651.37	1708784.18	405115.39	39°36'27.6390"N	80°32'1.0241"W	2815.06	193.379	0.34	0.33	0.09
10206.00	89.450	149.290	7751.01	2281.69	-2819.95	-602.21	1708833.34	405034.11	39°36'26.8412"N	80°32'0.3841"W	2883.54	192.055	1.15	-0.64	0.96
10301.00	89.350	147.690	7752.00	2376.18	-2900.94	-552.56	1708882.98	404953.13	39°36'26.0466"N	80°31'59.7379"W	2953.09	190.784	1.69	-0.11	-1.68
10396.00	89.820	149.150	7752.69	2470.67	-2981.86	-502.81	1708932.73	404872.21	39°36'25.2524"N	80°31'59.0905"W	3023.96	189.571	1.61	0.49	1.54
10492.00	89.140	147.310	7753.56	2566.11	-3063.47	-452.27	1708983.27	404790.60	39°36'24.4517"N	80°31'58.4328"W	3096.68	188.398	2.04	-0.71	-1.92
10586.00	89.910	147.390	7754.34	2659.40	-3142.62	-401.56	1709033.97	404711.47	39°36'23.6753"N	80°31'57.7733"W	3168.17	187.282	0.82	0.82	0.09
10681.00	89.780	148.520	7754.60	2753.81	-3223.14	-351.16	1709084.37	404630.95	39°36'22.8853"N	80°31'57.1176"W	3242.21	186.218	1.20	-0.14	1.19
10776.00	89.630	149.930	7755.09	2848.42	-3304.76	-302.55	1709132.98	404549.33	39°36'22.0842"N	80°31'56.4846"W	3318.58	185.231	1.49	-0.16	1.48
10871.00	90.370	149.840	7755.09	2943.13	-3386.94	-254.89	1709180.64	404467.16	39°36'21.2775"N	80°31'55.8636"W	3396.51	184.304	0.78	0.78	-0.09
10967.00	89.350	148.120	7755.32	3038.70	-3469.20	-205.42	1709230.11	404384.90	39°36'20.4701"N	80°31'55.2196"W	3475.28	183.389	2.08	-1.06	-1.79
11062.00	90.400	149.860	7755.53	3133.28	-3550.62	-156.48	1709279.04	404303.49	39°36'19.6710"N	80°31'54.5824"W	3554.07	182.523	2.14	1.11	1.83
11157.00	89.230	148.550	7755.84	3227.89	-3632.22	-107.84	1709327.68	404221.89	39°36'18.8701"N	80°31'53.9491"W	3633.82	181.701	1.85	-1.23	-1.38
11252.00	90.370	149.840	7756.17	3322.50	-3713.81	-59.19	1709376.32	404140.30	39°36'18.0693"N	80°31'53.3156"W	3714.29	180.913	1.81	1.20	1.36
11347.00	89.290	148.050	7756.45	3417.07	-3795.19	-10.19	1709425.32	404058.93	39°36'17.2706"N	80°31'52.6777"W	3795.21	180.154	2.20	-1.14	-1.88
11442.00	89.910	149.730	7757.11	3511.64	-3876.53	38.89	1709474.40	403977.60	39°36'16.4724"N	80°31'52.0387"W	3876.72	179.425	1.88	0.65	1.77
11537.00	89.480	148.000	7757.62	3606.19	-3957.84	88.01	1709523.52	403896.30	39°36'15.6745"N	80°31'51.3993"W	3958.81	178.726	1.88	-0.45	-1.82

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WELLPATH DATA (333 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]
11632.00	90.460	149.900	7757.67	3700.77	-4039.22	137.01	1709572.51	403814.92	39°36'14.8757"N	80°31'50.7615"W	4041.54	178.057	2.25	1.03	2.00
11727.00	89.630	148.490	7757.59	3795.38	-4120.81	185.66	1709621.16	403733.33	39°36'14.0749"N	80°31'50.1280"W	4124.99	177.420	1.72	-0.87	-1.48
11822.00	90.520	148.600	7757.47	3889.89	-4201.85	235.23	1709670.73	403652.29	39°36'13.2796"N	80°31'49.4828"W	4208.43	176.796	0.94	0.94	0.12
11917.00	90.520	149.320	7756.61	3984.46	-4283.25	284.21	1709719.71	403570.91	39°36'12.4808"N	80°31'48.8452"W	4292.66	176.204	0.76	0.00	0.76
12013.00	89.820	149.620	7756.32	4080.11	-4365.94	332.98	1709768.47	403488.22	39°36'11.6692"N	80°31'48.2101"W	4378.61	175.639	0.79	-0.73	0.31
12108.00	90.250	148.270	7756.26	4174.68	-4447.32	381.99	1709817.47	403406.85	39°36'10.8705"N	80°31'47.5721"W	4463.69	175.091	1.49	0.45	-1.42
12203.00	89.660	148.960	7756.34	4269.21	-4528.42	431.46	1709866.94	403325.75	39°36'10.0746"N	80°31'46.9282"W	4548.92	174.557	0.96	-0.62	0.73
12298.00	90.650	147.460	7756.08	4363.65	-4609.16	481.50	1709916.99	403245.01	39°36'9.2823"N	80°31'46.2771"W	4634.24	174.036	1.89	1.04	-1.58
12393.00	88.740	147.700	7756.59	4457.98	-4689.35	532.43	1709967.91	403164.83	39°36'8.4956"N	80°31'45.6147"W	4719.48	173.522	2.03	-2.01	0.25
12488.00	90.180	150.210	7757.48	4552.55	-4770.73	581.42	1710016.89	403083.45	39°36'7.6969"N	80°31'44.9771"W	4806.03	173.052	3.05	1.52	2.64
12584.00	90.950	148.330	7756.54	4648.16	-4853.24	630.47	1710065.94	403000.95	39°36'6.8870"N	80°31'44.3384"W	4894.02	172.598	2.12	0.80	-1.96
12679.00	89.570	149.270	7756.10	4742.71	-4934.50	679.68	1710115.15	402919.69	39°36'6.0896"N	80°31'43.6979"W	4981.09	172.157	1.76	-1.45	0.99
12773.00	91.230	148.620	7755.45	4836.28	-5015.02	728.17	1710163.63	402839.18	39°36'5.2993"N	80°31'43.0667"W	5067.61	171.739	1.90	1.77	-0.69
12869.00	88.950	147.490	7755.30	4931.69	-5096.47	778.96	1710214.42	402757.73	39°36'4.5001"N	80°31'42.4059"W	5155.66	171.310	2.65	-2.38	-1.18
12964.00	90.550	150.910	7755.71	5026.29	-5178.06	827.59	1710263.05	402676.15	39°36'3.6993"N	80°31'41.7727"W	5243.78	170.919	3.97	1.68	3.60
13059.00	91.480	149.460	7754.03	5121.02	-5260.47	874.82	1710310.27	402593.74	39°36'2.8902"N	80°31'41.1574"W	5332.71	170.558	1.81	0.98	-1.53
13153.00	89.720	146.790	7753.04	5214.45	-5340.28	924.45	1710359.90	402513.94	39°36'2.1071"N	80°31'40.5118"W	5419.70	170.179	3.40	-1.87	-2.84
13249.00	90.280	150.490	7753.04	5309.95	-5422.24	974.40	1710409.85	402431.98	39°36'1.3028"N	80°31'39.8617"W	5509.10	169.812	3.90	0.58	3.85
13344.00	90.000	147.680	7752.81	5404.54	-5503.74	1023.20	1710458.65	402350.49	39°36'0.5029"N	80°31'39.2264"W	5598.04	169.468	2.97	-0.29	-2.96
13439.00	89.660	150.420	7753.09	5499.12	-5585.20	1072.05	1710507.50	402269.03	39°35'59.7034"N	80°31'38.5904"W	5687.16	169.135	2.91	-0.36	2.88
13534.00	91.080	149.010	7752.48	5593.80	-5667.23	1119.96	1710555.40	402187.01	39°35'58.8981"N	80°31'37.9665"W	5776.83	168.821	2.11	1.49	-1.48
13629.00	90.950	148.900	7750.80	5688.37	-5748.61	1168.94	1710604.38	402105.63	39°35'58.0994"N	80°31'37.3289"W	5866.25	168.506	0.18	-0.14	-0.12
13724.00	89.910	148.350	7750.09	5782.89	-5829.72	1218.40	1710653.83	402024.53	39°35'57.3035"N	80°31'36.6852"W	5955.68	168.195	1.24	-1.09	-0.58
13819.00	90.490	150.770	7749.75	5877.55	-5911.61	1266.53	1710701.96	401942.64	39°35'56.4996"N	80°31'36.0585"W	6045.76	167.908	2.62	0.61	2.55
13915.00	91.260	146.420	7748.29	5973.20	-5994.39	1315.10	1710750.53	401859.86	39°35'55.6870"N	80°31'35.4259"W	6136.96	167.626	2.58	0.80	-2.45
14010.00	90.890	149.570	7746.50	6067.76	-6075.81	1364.03	1710799.46	401778.46	39°35'54.8879"N	80°31'34.7890"W	6227.04	167.347	1.27	-0.39	1.21
14105.00	90.460	148.690	7745.39	6162.36	-6157.34	1412.77	1710848.19	401696.93	39°35'54.0877"N	80°31'34.1545"W	6317.34	167.077	1.03	-0.45	-0.93
14294.00	90.980	149.170	7743.01	6350.49	-6319.21	1510.30	1710945.72	401535.06	39°35'52.4990"N	80°31'32.8851"W	6497.19	166.558	0.37	0.28	0.25
14389.00	90.620	149.780	7741.68	6445.14	-6401.04	1558.55	1710993.96	401453.24	39°35'51.8958"N	80°31'32.2568"W	6588.05	166.316	0.75	-0.38	0.64
14483.00	89.540	147.810	7741.55	6538.69	-6481.43	1607.25	1711042.66	401372.85	39°35'50.9068"N	80°31'31.6230"W	6677.74	166.073	2.39	-1.15	-2.10

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH DATA (333 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]
14578.00	90.800	149.030	7741.27	6633.18	-6562.36	1656.99	1711092.40	401291.93	39°35'50.1126"N	80°31'30.9758"W	6768.32	165.829	1.85	1.33	1.28
14674.00	90.370	148.480	7740.29	6728.71	-6644.43	1706.79	1711142.19	401209.87	39°35'49.3071"N	80°31'30.3278"W	6860.14	165.594	0.73	-0.45	-0.57
14769.00	90.860	148.990	7739.27	6823.25	-6725.63	1756.09	1711191.49	401128.67	39°35'48.5103"N	80°31'29.6862"W	6951.11	165.367	0.74	0.52	0.54
14864.00	89.570	147.060	7738.91	6917.66	-6806.21	1806.39	1711241.79	401048.10	39°35'47.7196"N	80°31'29.0319"W	7041.84	165.136	2.44	-1.36	-2.03
14959.00	90.490	149.700	7738.87	7012.13	-6887.10	1856.19	1711291.59	400967.21	39°35'46.9258"N	80°31'28.3839"W	7132.85	164.916	2.94	0.97	2.78
15055.00	89.820	148.450	7738.61	7107.72	-6969.45	1905.53	1711340.92	400884.87	39°35'46.1175"N	80°31'27.7418"W	7225.25	164.708	1.48	-0.70	-1.30
15150.00	90.370	148.860	7738.45	7202.25	-7050.58	1954.95	1711390.34	400803.74	39°35'45.3213"N	80°31'27.0987"W	7316.59	164.503	0.72	0.58	0.43
15244.00	90.250	149.730	7737.94	7295.88	-7131.40	2002.94	1711438.33	400722.92	39°35'44.5280"N	80°31'26.4739"W	7407.34	164.312	0.93	-0.13	0.93
15339.00	90.890	148.870	7736.99	7390.51	-7213.08	2051.44	1711486.82	400641.25	39°35'43.7262"N	80°31'25.8425"W	7499.13	164.124	1.13	0.67	-0.91
15434.00	90.340	149.260	7735.97	7485.09	-7294.57	2100.27	1711535.66	400559.77	39°35'42.9265"N	80°31'25.2068"W	7590.90	163.938	0.71	-0.58	0.41
15530.00	90.770	148.580	7735.04	7580.66	-7376.78	2149.83	1711585.21	400477.56	39°35'42.1196"N	80°31'24.5619"W	7683.66	163.752	0.84	0.45	-0.71
15625.00	90.770	149.050	7733.77	7675.20	-7458.04	2199.02	1711634.39	400396.30	39°35'41.3220"N	80°31'23.9218"W	7775.48	163.572	0.49	0.00	0.49
15720.00	90.620	148.500	7732.62	7769.75	-7539.28	2248.26	1711683.63	400315.08	39°35'40.5248"N	80°31'23.2810"W	7867.36	163.395	0.60	-0.16	-0.58
15815.00	90.990	149.520	7731.28	7864.32	-7620.71	2297.17	1711732.54	400233.65	39°35'39.7256"N	80°31'22.6444"W	7959.41	163.225	1.14	0.39	1.07
15911.00	89.320	149.200	7731.02	7959.95	-7703.30	2346.09	1711781.46	400151.06	39°35'38.9148"N	80°31'22.0075"W	8052.64	163.062	1.77	-1.74	-0.33
16006.00	91.050	149.030	7730.71	8054.55	-7784.83	2394.86	1711830.22	400069.54	39°35'38.1146"N	80°31'21.3727"W	8144.87	162.900	1.83	1.82	-0.18
16101.00	88.460	148.360	7731.12	8149.08	-7865.99	2444.21	1711879.57	399988.38	39°35'37.3181"N	80°31'20.7305"W	8236.99	162.738	2.82	-2.73	-0.71
16196.00	89.750	150.760	7732.60	8243.72	-7947.87	2492.33	1711927.69	399906.50	39°35'36.5143"N	80°31'20.1040"W	8329.49	162.589	2.87	1.36	2.53
16291.00	91.140	148.600	7731.87	8338.40	-8029.87	2540.29	1711975.64	399824.51	39°35'35.7093"N	80°31'19.4796"W	8422.11	162.445	2.70	1.46	-2.27
16386.00	89.350	147.880	7731.46	8432.85	-8110.64	2590.29	1712025.64	399743.75	39°35'34.9167"N	80°31'18.8291"W	8514.23	162.288	2.03	-1.88	-0.76
16481.00	91.720	152.230	7730.57	8527.55	-8192.93	2637.69	1712073.04	399661.46	39°35'34.1088"N	80°31'18.2117"W	8607.06	162.154	5.21	2.49	4.58
16576.00	91.540	147.920	7727.87	8622.22	-8275.21	2685.05	1712120.40	399579.19	39°35'33.3010"N	80°31'17.5948"W	8699.92	162.023	4.54	-0.19	-4.54
16671.00	90.950	148.900	7725.81	8716.68	-8356.11	2734.81	1712170.15	399498.29	39°35'32.5071"N	80°31'16.9476"W	8792.26	161.878	1.20	-0.62	1.03
16766.00	90.520	148.140	7724.59	8811.18	-8437.12	2784.41	1712219.75	399417.28	39°35'31.7120"N	80°31'16.3022"W	8884.71	161.736	0.92	-0.45	-0.80
16861.00	91.350	148.970	7723.04	8905.68	-8518.16	2833.96	1712269.30	399336.25	39°35'30.9168"N	80°31'15.6575"W	8977.22	161.598	1.24	0.87	0.87
16956.00	91.390	149.380	7720.77	9000.27	-8599.72	2882.63	1712317.96	399254.70	39°35'30.1162"N	80°31'15.0241"W	9069.99	161.469	0.43	0.04	0.43
17051.00	91.690	149.040	7718.21	9094.85	-8681.30	2931.24	1712366.57	399173.12	39°35'29.3155"N	80°31'14.3913"W	9162.81	161.343	0.48	0.32	-0.36
17146.00	91.050	149.120	7715.94	9189.42	-8762.77	2980.04	1712415.37	399091.65	39°35'28.5158"N	80°31'13.7562"W	9255.64	161.218	0.68	-0.67	0.08
17336.00	91.140	148.840	7712.31	9378.55	-8825.57	3077.94	1712513.26	398928.87	39°35'26.9179"N	80°31'12.4822"W	9441.37	160.974	0.15	0.05	-0.15
17431.00	90.950	148.780	7710.58	9473.08	-8906.82	3127.13	1712562.45	398847.62	39°35'26.1204"N	80°31'11.8421"W	9534.24	160.853	0.21	-0.20	-0.06

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH DATA (333 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]
17526.00	91.230	149.520	7708.77	9567.67	-9088.37	3175.83	1712611.15	398766.08	39°35'25.3200"N	80°31'11.2082"W	9627.27	160.739	0.83	0.29	0.78
17621.00	91.020	149.350	7706.90	9662.30	-9170.15	3224.13	1712659.45	398684.30	39°35'24.5172"N	80°31'10.5795"W	9720.43	160.629	0.28	-0.22	-0.18
17716.00	91.290	150.140	7704.99	9756.98	-9252.20	3271.99	1712707.30	398602.26	39°35'23.7118"N	80°31'9.9563"W	9813.72	160.524	0.88	0.28	0.83
17811.00	90.830	150.230	7703.23	9851.71	-9334.61	3319.21	1712754.52	398519.86	39°35'22.9026"N	80°31'9.3412"W	9907.17	160.426	0.49	-0.48	0.09
17906.00	90.740	147.810	7701.93	9946.28	-9416.04	3368.11	1712803.41	398438.43	39°35'22.1034"N	80°31'8.7049"W	10000.30	160.318	2.55	-0.09	-2.55
18001.00	89.940	149.820	7701.37	10040.83	-9497.31	3417.29	1712852.59	398357.16	39°35'21.3057"N	80°31'8.0649"W	10093.40	160.210	2.28	-0.84	2.12
18096.00	91.050	148.640	7700.55	10135.44	-9578.93	3465.89	1712901.19	398275.55	39°35'20.5046"N	80°31'7.4324"W	10186.67	160.109	1.71	1.17	-1.24
18190.00	91.630	149.100	7698.35	10228.98	-9659.37	3514.47	1712949.77	398195.11	39°35'19.7150"N	80°31'6.8002"W	10278.86	160.007	0.79	0.62	0.49
18285.00	91.050	148.000	7696.13	10323.47	-9740.39	3564.03	1712999.32	398114.10	39°35'18.9199"N	80°31'6.1556"W	10371.96	159.902	1.31	-0.61	-1.16
18380.00	91.600	149.070	7693.93	10417.95	-9821.40	3613.60	1713048.89	398033.09	39°35'18.1249"N	80°31'5.5107"W	10465.08	159.800	1.27	0.58	1.13
18475.00	91.420	148.990	7691.43	10512.51	-9902.82	3662.47	1713097.75	397951.67	39°35'17.3257"N	80°31'4.8748"W	10558.39	159.704	0.21	-0.19	-0.08
18570.00	91.880	149.300	7688.69	10607.07	-9984.35	3711.17	1713146.45	397870.16	39°35'16.5255"N	80°31'4.2410"W	10651.76	159.610	0.58	0.48	0.33
18665.00	90.490	148.730	7686.73	10701.64	-10065.77	3760.07	1713195.35	397788.74	39°35'15.7263"N	80°31'3.6047"W	10745.13	159.517	1.58	-1.46	-0.60
18759.00	91.940	148.470	7684.73	10795.14	-10145.98	3809.03	1713244.31	397708.53	39°35'14.9390"N	80°31'2.9677"W	10837.42	159.423	1.57	1.54	-0.28
18855.00	91.050	149.820	7682.23	10890.71	-10228.36	3858.25	1713293.52	397626.15	39°35'14.1304"N	80°31'2.3272"W	10931.86	159.333	1.68	-0.93	1.41
18949.00	91.540	149.730	7680.10	10984.38	-10309.57	3905.55	1713340.82	397544.96	39°35'13.3332"N	80°31'1.7113"W	11024.54	159.252	0.53	0.52	-0.10
19044.00	90.580	148.290	7678.35	11078.95	-10390.99	3954.46	1713389.72	397463.54	39°35'12.5340"N	80°31'1.0749"W	11118.02	159.165	1.82	-1.01	-1.52
19139.00	90.980	149.460	7677.05	11173.50	-10472.30	4003.56	1713438.82	397382.23	39°35'11.7359"N	80°31'0.4360"W	11211.49	159.078	1.30	0.42	1.23
19234.00	90.000	148.380	7676.24	11268.07	-10553.66	4052.60	1713487.86	397300.88	39°35'10.9374"N	80°30'59.7980"W	11305.01	158.993	1.54	-1.03	-1.14
19329.00	91.600	148.930	7674.91	11362.58	-10634.78	4102.01	1713537.27	397219.76	39°35'10.1412"N	80°30'59.1552"W	11398.47	158.908	1.78	1.68	0.58
19424.00	90.430	148.190	7673.23	11457.08	-10715.82	4151.55	1713586.81	397138.72	39°35'9.3459"N	80°30'58.5107"W	11491.92	158.823	1.46	-1.23	-0.78
19519.00	91.140	149.450	7671.93	11551.63	-10797.09	4200.73	1713635.98	397057.46	39°35'8.5482"N	80°30'57.8709"W	11585.48	158.741	1.52	0.75	1.33
19613.00	90.490	148.800	7670.59	11645.22	-10877.76	4248.96	1713684.21	396976.80	39°35'7.7564"N	80°30'57.2432"W	11678.16	158.664	0.98	-0.69	-0.69
19708.00	90.770	149.050	7669.55	11739.79	-10959.12	4297.99	1713733.24	396895.44	39°35'6.9578"N	80°30'56.6053"W	11771.79	158.586	0.40	0.29	0.26
19803.00	90.830	148.650	7668.22	11834.34	-11040.41	4347.13	1713782.38	396814.15	39°35'6.1599"N	80°30'55.9660"W	11865.42	158.508	0.43	0.06	-0.42
19898.00	90.890	149.130	7666.80	11928.90	-11121.74	4396.21	1713831.45	396732.83	39°35'5.3617"N	80°30'55.3274"W	11959.09	158.432	0.51	0.06	0.51
19993.00	90.770	148.760	7665.42	12023.46	-11203.12	4445.21	1713880.45	396651.46	39°35'4.5630"N	80°30'54.6898"W	12052.79	158.358	0.41	-0.13	-0.39
20088.00	91.080	149.190	7663.89	12118.03	-11284.52	4494.17	1713929.40	396570.07	39°35'3.7640"N	80°30'54.0528"W	12146.52	158.285	0.56	0.33	0.45
20183.00	90.770	149.320	7662.35	12212.64	-11366.15	4542.73	1713977.96	396488.43	39°35'2.9626"N	80°30'53.4209"W	12240.34	158.215	0.35	-0.33	0.14
20277.00	90.400	149.480	7661.39	12306.29	-11447.06	4590.58	1714025.81	396407.53	39°35'2.1684"N	80°30'52.7981"W	12333.23	158.148	0.43	-0.39	0.17

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Slot	Slot 4H		

WELLPATH DATA (333 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]
20372.00	90.310	148.970	7660.80	12400.90	-11528.68	4639.18	1714074.41	396325.92	39°35'1.3672"N	80°30'52.1656"W	12427.09	158.080	0.55	-0.09	-0.54
20466.00	90.860	148.890	7659.84	12494.48	-11609.19	4687.69	1714122.92	396245.41	39°35'0.5770"N	80°30'51.5345"W	12519.89	158.012	0.59	0.59	-0.09
20561.00	90.890	149.230	7658.39	12589.06	-11690.66	4736.53	1714171.75	396163.94	39°34'59.7773"N	80°30'50.8990"W	12613.73	157.944	0.36	0.03	0.36
20656.00	90.800	149.330	7656.99	12683.68	-11772.32	4785.06	1714220.27	396082.29	39°34'58.9757"N	80°30'50.2675"W	12707.65	157.880	0.14	-0.09	0.11
20751.00	90.430	148.930	7655.97	12778.27	-11853.86	4833.80	1714269.01	396000.76	39°34'58.1753"N	80°30'49.6333"W	12801.54	157.815	0.57	-0.39	-0.42
20846.00	91.170	149.920	7654.65	12872.91	-11935.64	4882.11	1714317.32	395918.98	39°34'57.3725"N	80°30'49.0044"W	12895.52	157.754	1.30	0.78	1.04
20941.00	90.650	149.200	7653.14	12967.56	-12017.53	4930.24	1714365.45	395837.09	39°34'56.5685"N	80°30'48.3780"W	12989.55	157.694	0.93	-0.55	-0.76
21036.00	89.970	147.950	7652.62	13062.08	-12098.60	4979.77	1714414.97	395756.03	39°34'55.7729"N	80°30'47.7338"W	13083.35	157.628	1.50	-0.72	-1.32
21131.00	90.680	149.240	7652.08	13156.59	-12179.68	5029.27	1714464.47	395674.96	39°34'54.9772"N	80°30'47.0900"W	13177.18	157.563	1.55	0.75	1.36
21226.00	90.520	150.600	7651.09	13251.30	-12261.88	5076.88	1714512.08	395592.77	39°34'54.1701"N	80°30'46.4701"W	13271.33	157.509	1.44	-0.17	1.43
21321.00	90.920	149.170	7649.90	13346.00	-12344.04	5124.54	1714559.74	395510.60	39°34'53.3634"N	80°30'45.8496"W	13365.49	157.455	1.56	0.42	-1.51
21416.00	90.220	148.990	7648.95	13440.59	-12425.54	5173.35	1714608.54	395429.11	39°34'52.5635"N	80°30'45.2145"W	13459.48	157.396	0.76	-0.74	-0.19
21511.00	90.800	148.860	7648.11	13535.16	-12506.90	5222.38	1714657.57	395347.75	39°34'51.7649"N	80°30'44.5766"W	13553.45	157.337	0.63	0.61	-0.14
21606.00	89.420	148.730	7647.92	13629.71	-12588.15	5271.60	1714706.79	395266.51	39°34'50.9674"N	80°30'43.9363"W	13647.40	157.277	1.46	-1.45	-0.14
21701.00	89.450	149.350	7648.86	13724.30	-12669.62	5320.47	1714755.66	395185.05	39°34'50.1678"N	80°30'43.3005"W	13741.42	157.221	0.65	0.03	0.65
21796.00	90.060	149.500	7649.27	13818.94	-12751.41	5368.79	1714803.98	395103.26	39°34'49.3648"N	80°30'42.6717"W	13835.54	157.167	0.66	0.64	0.16
21891.00	89.780	149.070	7649.40	13913.57	-12833.08	5417.32	1714852.50	395021.60	39°34'48.5631"N	80°30'42.0402"W	13929.65	157.114	0.54	-0.29	-0.45
21986.00	89.750	148.760	7649.79	14008.14	-12914.44	5466.37	1714901.54	394940.24	39°34'47.7645"N	80°30'41.4022"W	14023.69	157.058	0.33	-0.03	-0.33
22081.00	89.880	149.030	7650.09	14102.71	-12995.78	5515.44	1714950.62	394858.91	39°34'46.9661"N	80°30'40.7637"W	14117.73	157.003	0.32	0.14	0.28
22176.00	89.750	149.180	7650.40	14197.31	-13077.30	5564.22	1714999.39	394777.39	39°34'46.1659"N	80°30'40.1291"W	14211.84	156.951	0.21	-0.14	0.16
22271.00	89.690	149.190	7650.87	14291.92	-13158.88	5612.89	1715048.05	394695.81	39°34'45.3650"N	80°30'39.4959"W	14305.97	156.899	0.06	-0.06	0.01
22366.00	89.660	149.280	7651.40	14386.54	-13240.51	5661.48	1715096.64	394614.19	39°34'44.5637"N	80°30'38.8636"W	14400.12	156.849	0.10	-0.03	0.09
22460.00	89.510	149.250	7652.09	14480.16	-13321.31	5709.52	1715144.68	394533.40	39°34'43.7706"N	80°30'38.2385"W	14493.30	156.800	0.16	-0.16	-0.03
22555.00	89.630	148.980	7652.80	14574.76	-13402.83	5758.28	1715193.44	394451.88	39°34'42.9703"N	80°30'37.6040"W	14587.45	156.750	0.31	0.13	-0.28
22650.00	88.980	148.600	7653.95	14669.31	-13484.08	5807.51	1715242.66	394370.64	39°34'42.1729"N	80°30'36.9638"W	14681.54	156.699	0.79	-0.68	-0.40
22745.00	88.520	149.370	7656.02	14763.87	-13565.48	5856.44	1715291.60	394289.24	39°34'41.3739"N	80°30'36.3271"W	14775.66	156.649	0.94	-0.48	0.81
22841.00	89.080	149.260	7658.03	14859.47	-13648.02	5905.42	1715340.57	394206.71	39°34'40.5637"N	80°30'35.6898"W	14870.86	156.602	0.59	0.56	-0.11
22935.00	87.780	148.860	7660.61	14953.03	-13728.61	5953.73	1715388.88	394126.12	39°34'39.7726"N	80°30'35.0613"W	14964.01	156.555	1.45	-1.38	-0.43
23030.00	88.950	148.940	7663.32	15047.56	-13809.92	6002.78	1715437.93	394044.82	39°34'38.9745"N	80°30'34.4233"W	15058.13	156.507	1.23	1.23	0.08
23125.00	88.740	148.910	7665.23	15142.12	-13891.27	6051.81	1715486.95	393963.47	39°34'38.1759"N	80°30'33.7855"W	15152.29	156.459	0.22	-0.22	-0.03

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Michael Kuhn 4H AWP Proj: 29132'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH DATA (333 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]
23220.00	88.980	149.690	7667.12	15236.73	-13972.94	6100.30	1715535.44	393881.81	39°34'37.3742"N	80°30'33.1546"W	15246.53	156.415	0.86	0.25	0.82
23315.00	88.340	149.100	7669.35	15331.34	-14054.68	6148.65	1715583.79	393800.07	39°34'36.5718"N	80°30'32.5254"W	15340.80	156.372	0.92	-0.67	-0.62
23410.00	89.050	149.570	7671.51	15425.95	-14136.38	6197.09	1715632.22	393718.38	39°34'35.7698"N	80°30'31.8951"W	15435.06	156.328	0.90	0.75	0.49
23600.00	88.490	149.100	7675.59	15615.18	-14299.77	6293.97	1715729.10	393555.00	39°34'34.1658"N	80°30'30.6345"W	15623.62	156.244	0.38	-0.29	-0.25
23695.00	88.680	149.560	7677.93	15709.78	-14381.46	6342.41	1715777.54	393473.32	39°34'33.3639"N	80°30'30.0042"W	15717.90	156.202	0.52	0.20	0.48
23790.00	87.910	149.360	7680.76	15804.39	-14463.24	6390.67	1715825.79	393391.54	39°34'32.5610"N	80°30'29.3763"W	15812.21	156.161	0.84	-0.81	-0.21
23885.00	88.370	149.190	7683.84	15898.97	-14544.86	6439.18	1715874.29	393309.92	39°34'31.7598"N	80°30'28.7451"W	15906.48	156.120	0.52	0.48	-0.18
23980.00	87.970	148.680	7686.88	15993.49	-14626.19	6488.17	1715923.29	393228.59	39°34'30.9614"N	80°30'28.1078"W	16000.69	156.078	0.68	-0.42	-0.54
24075.00	87.100	148.270	7690.96	16087.91	-14707.10	6537.80	1715972.91	393147.69	39°34'30.1674"N	80°30'27.4625"W	16094.77	156.033	1.01	-0.92	-0.43
24170.00	87.690	149.870	7695.28	16182.40	-14788.50	6586.58	1716021.68	393066.29	39°34'29.3683"N	80°30'26.8280"W	16188.97	155.993	1.79	0.62	1.68
24265.00	87.910	148.530	7698.93	16276.94	-14870.04	6635.18	1716070.29	392984.76	39°34'28.5679"N	80°30'26.1956"W	16283.24	155.953	1.43	0.23	-1.41
24360.00	88.400	149.110	7701.99	16371.45	-14951.27	6684.34	1716119.44	392903.53	39°34'27.7705"N	80°30'25.5563"W	16377.46	155.912	0.80	0.52	0.61
24455.00	87.660	148.760	7705.25	16465.97	-15032.60	6733.33	1716168.43	392822.21	39°34'26.9722"N	80°30'24.9190"W	16471.70	155.872	0.86	-0.78	-0.37
24550.00	86.920	148.690	7709.75	16560.40	-15113.70	6782.60	1716217.69	392741.11	39°34'26.1762"N	80°30'24.2784"W	16565.86	155.831	0.78	-0.78	-0.07
24645.00	87.940	149.290	7714.00	16654.89	-15195.04	6831.49	1716266.58	392659.78	39°34'25.3777"N	80°30'23.6424"W	16660.09	155.792	1.25	1.07	0.63
24741.00	87.810	148.910	7717.56	16750.42	-15277.36	6880.76	1716315.84	392577.46	39°34'24.5697"N	80°30'23.0015"W	16755.37	155.754	0.42	-0.14	-0.40
24836.00	87.010	149.160	7721.86	16844.91	-15358.74	6929.58	1716364.67	392496.09	39°34'23.7709"N	80°30'22.3664"W	16849.63	155.716	0.88	-0.84	0.26
24931.00	86.270	149.290	7727.43	16939.37	-15440.22	6978.11	1716413.19	392414.62	39°34'22.9710"N	80°30'21.7351"W	16943.86	155.680	0.79	-0.78	0.14
25026.00	84.450	148.730	7735.11	17033.64	-15521.39	7026.86	1716461.94	392333.45	39°34'22.1742"N	80°30'21.1010"W	17037.91	155.643	2.00	-1.92	-0.59
25121.00	85.380	149.360	7743.53	17127.85	-15602.54	7075.53	1716510.61	392252.31	39°34'21.3776"N	80°30'20.4879"W	17131.91	155.606	1.18	0.98	0.66
25216.00	87.200	149.640	7749.68	17222.31	-15684.22	7123.64	1716558.72	392170.63	39°34'20.5758"N	80°30'19.8418"W	17226.17	155.573	1.94	1.92	0.29
25311.00	87.010	148.900	7754.48	17316.81	-15765.77	7172.13	1716607.20	392089.08	39°34'19.7751"N	80°30'19.2111"W	17320.48	155.538	0.80	-0.20	-0.78
25406.00	87.260	149.160	7759.22	17411.29	-15847.13	7220.95	1716656.02	392007.73	39°34'18.9765"N	80°30'18.5760"W	17414.75	155.503	0.38	0.26	0.27
25501.00	87.840	149.790	7763.28	17505.85	-15928.88	7269.16	1716704.22	391925.98	39°34'18.1739"N	80°30'17.9488"W	17509.14	155.470	0.90	0.61	0.66
25595.00	88.920	148.600	7767.58	17599.37	-16009.54	7317.24	1716752.31	391845.33	39°34'17.3822"N	80°30'17.3232"W	17602.48	155.437	1.60	-0.98	-1.27
25690.00	86.770	148.520	7772.81	17693.74	-16090.47	7366.72	1716801.78	391764.41	39°34'16.5878"N	80°30'16.6799"W	17696.66	155.400	0.18	-0.16	-0.08
25785.00	86.800	148.640	7778.14	17788.11	-16171.41	7416.17	1716851.22	391683.47	39°34'15.7934"N	80°30'16.0370"W	17790.84	155.364	0.13	0.03	0.13
25880.00	85.630	148.900	7784.41	17882.45	-16252.46	7465.32	1716900.37	391602.42	39°34'14.9978"N	80°30'15.3978"W	17885.01	155.329	1.26	-1.23	0.27
25975.00	85.960	149.580	7791.38	17976.82	-16333.88	7513.77	1716948.82	391521.01	39°34'14.1985"N	80°30'14.7675"W	17979.22	155.297	0.79	0.35	0.72
26070.00	85.500	148.880	7798.45	18071.17	-16415.28	7562.24	1716997.28	391439.62	39°34'13.3994"N	80°30'14.1370"W	18073.43	155.265	0.88	-0.48	-0.74

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Actual Wellpath Report

Michael Kuhn 4H AWP Proj: 29132'
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Slot	Slot 4H		

WELLPATH DATA (333 stations)															
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26165.00	85.870	149.200	7805.60	18165.49	-16496.51	7610.97	1717046.01	391358.39	39°34'12.6020"N	80°30'13.5032"W	18167.60	155.233	0.51	0.39	0.34
26260.00	85.380	149.110	7812.84	18259.83	-16577.84	7659.54	1717094.58	391277.07	39°34'11.8037"N	80°30'12.8714"W	18261.80	155.201	0.52	-0.52	-0.09
26355.00	85.160	149.110	7820.68	18354.11	-16659.08	7708.14	1717143.18	391195.83	39°34'11.0061"N	80°30'12.2392"W	18355.94	155.170	0.23	-0.23	0.00
26449.00	85.010	149.030	7828.73	18447.36	-16739.42	7756.28	1717191.31	391115.49	39°34'10.2175"N	80°30'11.6131"W	18449.07	155.139	0.18	-0.16	-0.09
26545.00	85.660	149.250	7836.54	18542.65	-16821.56	7805.36	1717240.39	391033.36	39°34'9.4112"N	80°30'10.9747"W	18544.23	155.108	0.71	0.68	0.23
26640.00	85.590	149.280	7843.79	18636.99	-16902.97	7853.77	1717288.80	390951.95	39°34'8.6119"N	80°30'10.3450"W	18638.46	155.079	0.08	-0.07	0.03
26735.00	85.470	149.240	7851.19	18731.33	-16984.38	7902.18	1717337.21	390870.55	39°34'7.8128"N	80°30'9.7152"W	18732.69	155.049	0.13	-0.13	-0.04
26830.00	85.590	149.050	7858.59	18825.65	-17065.68	7950.75	1717385.78	390789.25	39°34'7.0146"N	80°30'9.0834"W	18826.90	155.020	0.24	0.13	-0.20
26925.00	85.440	147.640	7866.02	18919.83	-17146.30	8000.46	1717435.48	390708.64	39°34'6.2234"N	80°30'8.4373"W	18920.96	154.986	1.49	-0.16	-1.48
27020.00	85.440	144.980	7873.58	19013.59	-17225.09	8052.98	1717488.00	390629.86	39°34'5.4505"N	80°30'7.7554"W	19014.58	154.943	2.79	0.00	-2.80
27115.00	85.440	142.790	7881.13	19106.71	-17301.58	8108.79	1717543.81	390553.36	39°34'4.7007"N	80°30'7.0319"W	19107.52	154.889	2.30	0.00	-2.31
27210.00	85.560	140.350	7888.59	19199.06	-17375.77	8167.66	1717602.66	390479.18	39°34'3.9741"N	80°30'6.2698"W	19199.69	154.824	2.56	0.13	-2.57
27305.00	85.130	137.630	7896.30	19290.35	-17447.21	8229.78	1717664.79	390407.75	39°34'3.2749"N	80°30'5.4664"W	19290.79	154.747	2.89	-0.45	-2.86
27400.00	85.160	136.640	7904.34	19380.76	-17516.59	8294.17	1717729.18	390338.37	39°34'2.5963"N	80°30'4.6343"W	19381.03	154.662	1.04	0.03	-1.04
27495.00	85.250	137.490	7912.28	19471.15	-17585.90	8358.66	1717793.66	390269.07	39°34'1.9184"N	80°30'3.8011"W	19471.29	154.578	0.90	0.09	0.89
27590.00	85.340	137.980	7920.07	19561.87	-17655.97	8422.34	1717857.33	390199.00	39°34'1.2330"N	80°30'2.9781"W	19561.93	154.498	0.52	0.09	0.52
27684.00	87.260	140.940	7926.14	19652.51	-17727.25	8483.29	1717918.29	390127.73	39°34'0.5353"N	80°30'2.1896"W	19652.52	154.427	3.75	2.04	3.15
27779.00	89.050	144.470	7929.20	19745.48	-17802.77	8540.81	1717975.80	390052.21	39°33'59.7953"N	80°30'1.4444"W	19745.48	154.371	4.16	1.88	3.72
27874.00	89.020	146.740	7930.80	19839.35	-17881.14	8594.47	1718029.45	389973.84	39°33'59.0267"N	80°30'0.7482"W	19839.36	154.329	2.39	-0.03	2.39
27969.00	90.250	151.320	7931.40	19933.91	-17962.57	8643.34	1718078.32	389892.42	39°33'58.2273"N	80°30'0.1127"W	19933.92	154.304	4.98	1.29	4.82
28064.00	90.180	154.180	7931.05	20028.87	-18047.02	8686.83	1718121.81	389807.98	39°33'57.3975"N	80°29'59.5453"W	20028.88	154.296	3.01	-0.07	3.01
28159.00	91.450	156.000	7929.69	20123.84	-18133.17	8726.84	1718161.82	389721.83	39°33'56.5505"N	80°29'59.0223"W	20123.85	154.300	2.34	1.34	1.92
28255.00	91.390	155.680	7927.32	20219.78	-18220.73	8766.12	1718201.09	389634.27	39°33'55.6895"N	80°29'58.5083"W	20219.79	154.307	0.34	-0.06	-0.33
28350.00	91.720	155.670	7924.74	20314.72	-18307.27	8805.24	1718240.21	389547.74	39°33'54.8386"N	80°29'57.9966"W	20314.73	154.314	0.35	0.35	-0.01
28445.00	91.290	155.960	7922.24	20409.66	-18393.90	8844.14	1718279.11	389461.12	39°33'53.9867"N	80°29'57.4875"W	20409.68	154.321	0.55	-0.45	0.31
28540.00	90.740	156.030	7920.56	20504.60	-18480.67	8882.78	1718317.75	389374.35	39°33'53.1335"N	80°29'56.9818"W	20504.61	154.329	0.58	-0.58	0.07
28635.00	94.130	155.740	7916.52	20599.47	-18567.29	8921.56	1718356.52	389287.74	39°33'52.2817"N	80°29'56.4745"W	20599.47	154.336	3.58	3.57	-0.31
28730.00	94.680	154.960	7909.23	20694.17	-18653.37	8961.06	1718396.02	389201.66	39°33'51.4353"N	80°29'55.9579"W	20694.18	154.340	1.00	0.58	-0.82
28825.00	95.980	154.810	7900.40	20788.76	-18739.02	9001.21	1718436.17	389116.02	39°33'50.5933"N	80°29'55.4332"W	20788.76	154.343	1.38	1.37	-0.16
28919.00	96.200	155.030	7890.43	20882.22	-18823.67	9040.83	1718475.78	389031.37	39°33'49.7610"N	80°29'54.9153"W	20882.22	154.345	0.33	0.23	0.23

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Actual Wellpath Report

Michael Kuhn 4H AWP Proj: 29132'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH DATA (333 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]
29014.00	95.400	154.890	7880.83	20976.73	-18909.30	9080.83	1718515.78	388945.74	39°33'48.9192"N	80°29'54.3924"W	20976.73	154.348	0.85	-0.84	-0.15
29107.00	95.800	153.670	7871.75	21069.28	-18992.69	9121.00	1718555.95	388862.36	39°33'48.0995"N	80°29'53.8677"W	21069.29	154.348	1.37	0.43	-1.31
29132.00‡	95.800	153.670	7869.23	21094.15	-19014.98	9132.03	1718566.98	388840.07	39°33'47.8804"N	80°29'53.7237"W	21094.16	154.347	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Michael Kuhn 4H AWB Ref Wellpath: Michael Kuhn 4H AWP Proj: 29132'									
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	1390.00	1362.00	28.00	1389.98	0.00	0.00	-3.68	4.60
13.375in Casing Surface	28.00	1360.00	1332.00	28.00	1359.98	0.00	0.00	-3.83	4.91
12.5in Open Hole	1390.00	2906.00	1516.00	1389.98	2889.82	-3.68	4.60	-149.36	-57.21
9.625in Casing Intermediate	28.00	2876.00	2848.00	28.00	2860.51	0.00	0.00	-145.28	-52.32
8.75in Open Hole	2906.00	7188.00	4282.00	2889.82	6880.77	-149.36	-57.21	-637.21	-1515.10
8.5in Open Hole	7188.00	29132.00	21944.00	6880.77	7869.23	-637.21	-1515.10	-19014.98	9132.03
5.5in Casing Production	28.00	29102.00	29074.00	28.00	7872.26	0.00	0.00	-18988.23	9118.79

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Michael Kuhn 4H LP Rev-2	7749.00	-1338.15	-1493.90	1707941.70	406515.82	39°36'41.3836"N	80°32'11.9945"W	point
Michael Kuhn 4H BHL Rev-2	8019.20	-19018.75	9130.24	1718565.19	388836.31	39°33'47.8430"N	80°29'53.7461"W	point

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REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

WELLPATH COMPOSITION - Ref Wellbore: Michael Kuhn 4H AWB Ref Wellpath: Michael Kuhn 4H AWP Proj: 29132'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1306.00	Gyrodata 2015 - CT+WIR+ALC	01_Gyro Data [CT+WIR+ALC] <17.5">(115'-1306')	Michael Kuhn 4H AWB	1/18/2022
1306.00	7111.00	OWSG MWD rev2 - Standard	02_SDI MWD [OWSG MWD Rev.2-Standard] <12.25">(1306') (1345'-7111')	Michael Kuhn 4H AWB	1/18/2022
7111.00	29132.00	OWSG MWD rev2 + IFR1 + Multi-Station Correction	03_ATK Curve [OWSG MWD Rev.2+IFR1+MS] <8.5"> (7111')(7190'-29107')	Michael Kuhn 4H AWB	2/21/2022

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Michael Kuhn 4H AWP Proj: 29132'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EQT PRODUCTION COMPANY	Well	Michael Kuhn 4H (L-020015)
Field	Wetzel	API/Legal	
Facility	Big 467 Pad	Wellbore	Michael Kuhn 4H AWB
Slot	Slot 4H		

COMMENTS

Wellpath general comments

API: 47103034120000

BH Job #: 111204422

Rig: Patterson 294

Duration: 02/23/2022 - 02/28/2022

01_Gyro Data [CT+WIR+ALC] <17.5">(115'-1306')

02_SDI MWD [OWSG MWD Rev.2-Standard] <12.25">(1306') (1345'-7111')

03_ATK Curve [OWSG MWD Rev.2+IFR1+MS] <8.5"> (7111')(7190'-29107')

Final Survey MD at: 29107'

Projected MD at TD: 29132'

KOP = 1345' MD / 1344.98' TVD

Tie on to SDI MWD = 7111' MD / 6809.46' TVD

Marcellus

Landing Point = 8520' MD / 7739.08' TVD

Deepest Point of Well = 27969' MD / 7931.40' TVD

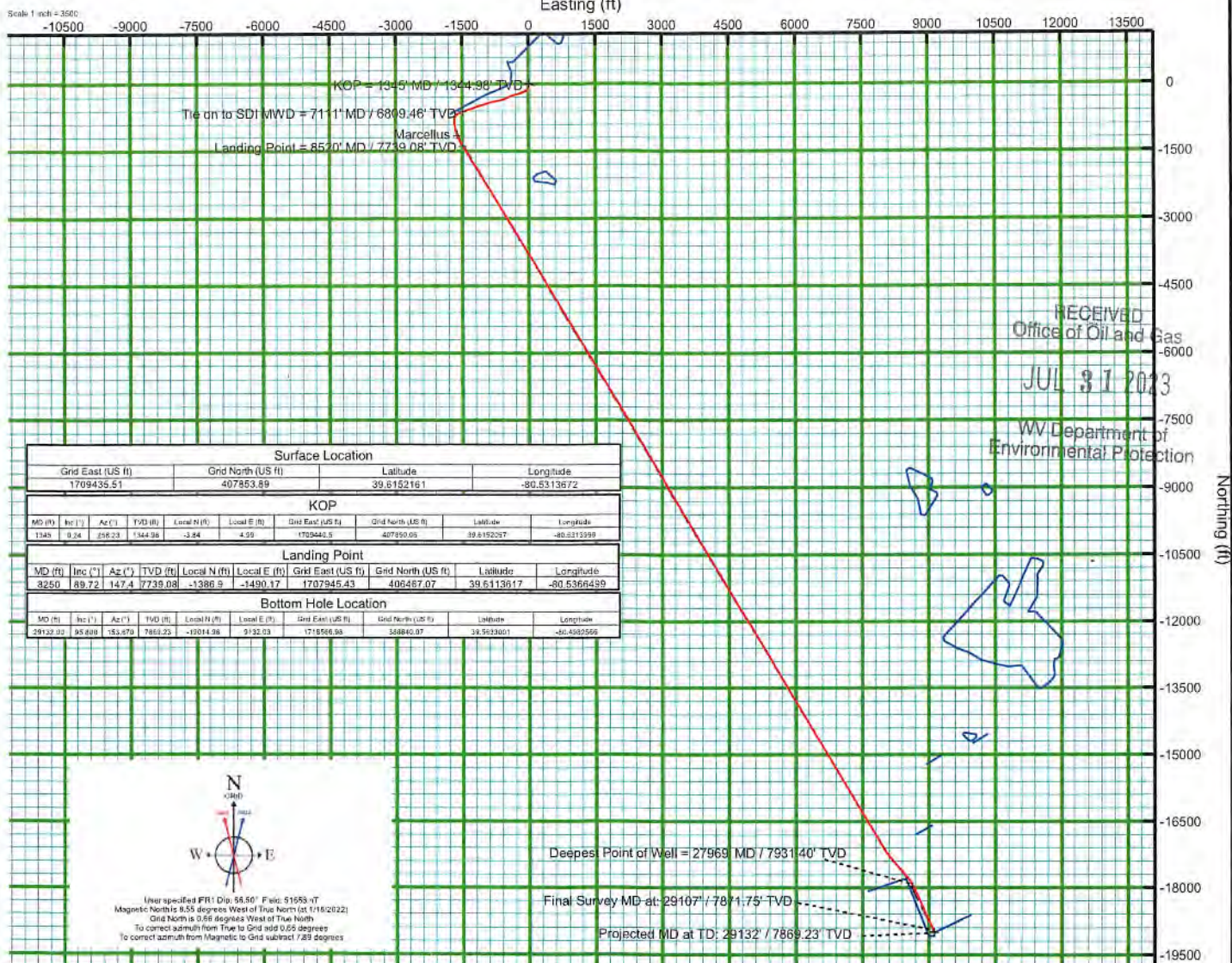
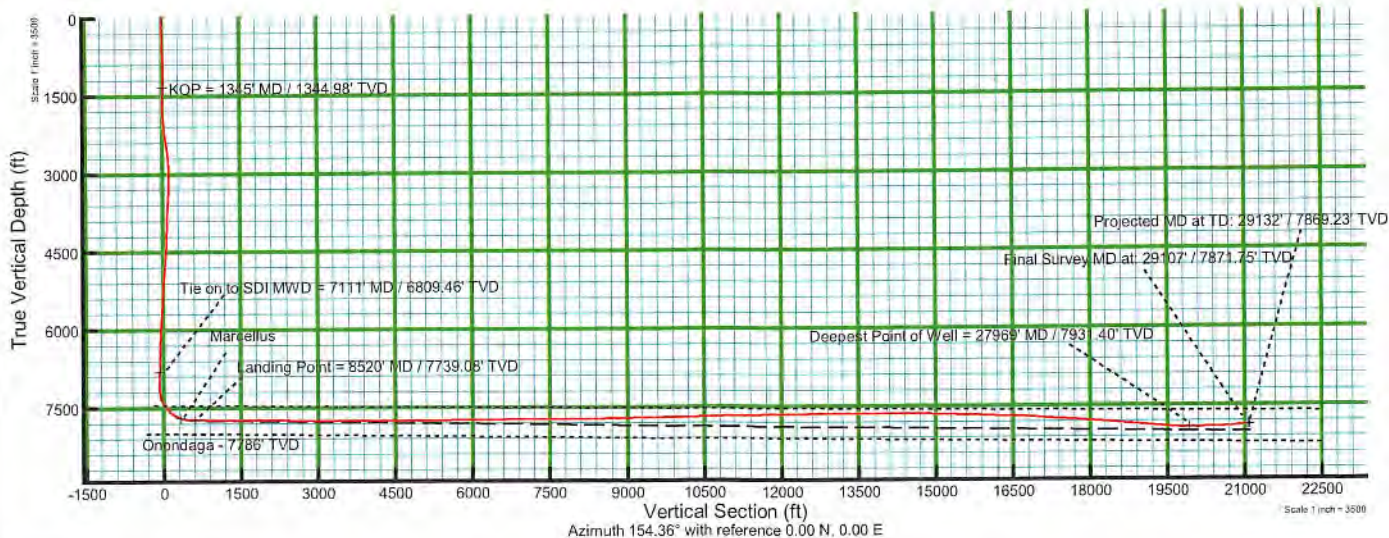
Final Survey = 29107' MD / 7871.75' TVD

Projection to TD = 29132' MD / 7869.23' TVD

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



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Surface Location									
Grid East (US ft)		Grid North (US ft)		Latitude		Longitude			
1709435.51		407853.89		39.8152161		-80.5313672			

KOP									
MD (ft)	Incl (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
134.5	0.24	256.23	1344.98	-3.84	4.29	1709445.5	407850.06	39.8152257	-80.5313599

Landing Point									
MD (ft)	Incl (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
8250	89.72	147.4	7739.08	-1386.9	-1490.17	1707945.43	406467.07	39.6113617	-80.5366499

Bottom Hole Location									
MD (ft)	Incl (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
29132.33	85.809	153.479	7869.23	-13014.96	9132.03	1718566.86	368840.07	39.5933001	-80.4982569

User specified FR1 Dip: 88.50° Field: 51553-VT
 Magnetic North is 8.55 degrees West of True North (at 1/16/2022)
 Grid North is 0.55 degrees West of True North
 To correct azimuth from True to Grid add 0.55 degrees
 To correct azimuth from Magnetic to Grid subtract 7.89 degrees

01/19/2024