



Actual Wellpath Report

Willett S-7HM AWB Proj:20023'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT (TUG HILL OPERATING, LLC)	Well	Willett S-7HM
Field	Marshall	API	47-051-02421
Facility	Willett	Wellbore	Willett S-7HM AWB
Slot	Slot 07		

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Scurdan
Scale	0.999611	Report Generated	9/25/2023 at 2:21:17 PM
Convergence at slot	0.22° East	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	45.59	-15.03	1736950.78	14462493.10	39°49'23.0571"N	80°39'22.2628"W
Facility Reference Pt			1736965.80	14462447.53	39°49'22.6060"N	80°39'22.0725"W
Field Reference Pt			1920470.12	14528304.49	40°00'0.0000"N	80°00'0.0000"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Nabors X14 (RKB) to Facility Vertical Datum	1342.50ft
Horizontal Reference Pt	Slot	Nabors X14 (RKB) to Mean Sea Level	1342.50ft
Vertical Reference Pt	Nabors X14 (RKB)	Nabors X14 (RKB) to Ground Level at Slot (Slot 07)	32.50ft
MD Reference Pt	Nabors X14 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	135.43°

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WELLPATH DATA (209 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	358.010	0.00	0.00	0.00	0.00	1736950.78	14462493.10	39°49'23.0571"N	80°39'22.2628"W	0.00	0.000	0.00	0.00	0.00	
32.50	0.000	358.010	32.50	0.00	0.00	0.00	1736950.78	14462493.10	39°49'23.0571"N	80°39'22.2628"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.160	358.010	100.00	-0.07	0.09	0.00	1736950.78	14462493.19	39°49'23.0580"N	80°39'22.2629"W	0.09	358.010	0.24	0.24	0.00	
200.00	0.240	329.000	200.00	-0.38	0.41	-0.12	1736950.66	14462493.51	39°49'23.0611"N	80°39'22.2643"W	0.43	344.322	0.13	0.08	-29.01	
300.00	0.220	54.840	300.00	-0.55	0.70	-0.07	1736950.71	14462493.80	39°49'23.0640"N	80°39'22.2637"W	0.71	354.566	0.31	-0.02	85.84	
400.00	0.090	63.000	400.00	-0.49	0.85	0.16	1736950.94	14462493.95	39°49'23.0654"N	80°39'22.2607"W	0.86	10.668	0.13	-0.13	8.16	
500.00	0.060	47.400	500.00	-0.47	0.92	0.27	1736951.05	14462494.02	39°49'23.0661"N	80°39'22.2593"W	0.96	16.262	0.04	-0.03	-15.60	
600.00	0.130	44.270	600.00	-0.47	1.04	0.39	1736951.17	14462494.14	39°49'23.0673"N	80°39'22.2578"W	1.11	20.425	0.07	0.07	-3.13	
700.00	0.190	25.830	700.00	-0.53	1.27	0.54	1736951.32	14462494.37	39°49'23.0696"N	80°39'22.2559"W	1.38	22.984	0.08	0.06	-18.44	
800.00	0.100	34.900	800.00	-0.60	1.49	0.66	1736951.44	14462494.59	39°49'23.0717"N	80°39'22.2543"W	1.63	23.907	0.09	-0.09	9.07	
900.00	0.160	46.030	900.00	-0.61	1.66	0.81	1736951.59	14462494.76	39°49'23.0734"N	80°39'22.2524"W	1.84	26.058	0.06	0.06	11.13	
1000.00	0.120	12.490	1000.00	-0.67	1.86	0.93	1736951.71	14462494.96	39°49'23.0754"N	80°39'22.2508"W	2.08	26.696	0.09	-0.04	-33.54	
1100.00	0.190	5.490	1100.00	-0.83	2.12	0.97	1736951.75	14462495.22	39°49'23.0780"N	80°39'22.2503"W	2.34	24.593	0.07	0.07	-7.00	
1200.00	0.130	63.780	1200.00	-0.90	2.34	1.09	1736951.87	14462495.44	39°49'23.0801"N	80°39'22.2488"W	2.58	24.980	0.16	-0.06	58.29	
1300.00	0.240	133.420	1300.00	-0.66	2.24	1.34	1736952.12	14462495.34	39°49'23.0792"N	80°39'22.2455"W	2.62	30.899	0.23	0.11	69.64	
1400.00	0.990	111.690	1399.99	0.34	1.78	2.30	1736953.08	14462494.88	39°49'23.0746"N	80°39'22.2333"W	2.91	52.217	0.77	0.75	-21.73	
1500.00	2.510	87.340	1499.94	2.60	1.56	5.29	1736956.07	14462494.66	39°49'23.0723"N	80°39'22.1950"W	5.52	73.525	1.66	1.52	-24.35	
1600.00	5.680	81.920	1599.67	7.00	2.36	12.38	1736963.15	14462495.46	39°49'23.0799"N	80°39'22.1041"W	12.60	79.199	3.19	3.17	-5.42	
1700.00	8.270	77.330	1698.93	13.75	4.63	24.30	1736975.07	14462497.73	39°49'23.1019"N	80°39'21.9512"W	24.73	79.200	2.65	2.59	-4.59	
1800.00	9.400	72.340	1797.74	21.25	8.69	39.09	1736989.86	14462501.79	39°49'23.1414"N	80°39'21.7613"W	40.05	77.468	1.36	1.13	-4.99	
1900.00	12.880	67.160	1895.84	29.07	15.50	57.15	1737007.91	14462508.59	39°49'23.2080"N	80°39'21.5296"W	59.22	74.830	3.62	3.48	-5.18	
2000.00	14.630	69.020	1992.97	38.25	24.34	79.22	1737029.97	14462517.43	39°49'23.2946"N	80°39'21.2463"W	82.87	72.918	1.80	1.75	1.86	
2100.00	16.810	75.740	2089.23	50.61	32.43	105.03	1737055.77	14462525.52	39°49'23.3736"N	80°39'20.9151"W	109.92	72.841	2.84	2.18	6.72	
2200.00	17.860	80.750	2184.69	66.77	38.46	134.18	1737084.91	14462531.54	39°49'23.4320"N	80°39'20.5412"W	139.58	74.008	1.82	1.05	5.01	
2300.00	18.500	82.210	2279.70	85.14	43.07	165.04	1737115.75	14462536.16	39°49'23.4764"N	80°39'20.1455"W	170.56	75.373	0.79	0.64	1.46	
2400.00	17.170	84.850	2374.90	104.01	46.55	195.46	1737146.16	14462539.63	39°49'23.5096"N	80°39'19.7554"W	200.92	76.605	1.56	-1.33	2.64	
2500.00	13.820	81.640	2471.25	120.44	49.61	221.98	1737172.68	14462542.69	39°49'23.5389"N	80°39'19.4153"W	227.46	77.402	3.46	-3.35	-3.21	
2600.00	13.350	78.990	2568.45	133.88	53.55	245.13	1737195.82	14462546.63	39°49'23.5770"N	80°39'19.1184"W	250.91	77.677	0.78	-0.47	-2.65	
2700.00	12.360	79.670	2665.95	146.28	57.68	267.00	1737217.67	14462550.75	39°49'23.6169"N	80°39'18.8380"W	273.15	77.810	1.00	-0.99	0.68	
2800.00	11.720	79.250	2763.75	157.96	61.49	287.50	1737238.17	14462554.57	39°49'23.6538"N	80°39'18.5750"W	294.00	77.928	0.65	-0.64	-0.42	



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Slot	Slot 07		

WELLPATH DATA (209 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]
2900.00	11.980	76.620	2861.61	168.99	65.79	307.58	1737258.24	14462558.86	39°49'23.6955"N	80°39'18.3175"W	314.53	77.927	0.60	0.26	-2.63
2943.00	11.470	77.170	2903.72	173.55	67.77	316.09	1737266.74	14462560.84	39°49'23.7147"N	80°39'18.2083"W	323.27	77.899	1.21	-1.19	1.28
3006.00	10.280	74.270	2965.59	179.55	70.68	327.61	1737278.26	14462563.75	39°49'23.7431"N	80°39'18.0606"W	335.15	77.825	2.08	-1.89	-4.60
3100.00	11.060	76.300	3057.96	188.23	75.09	344.44	1737295.09	14462568.16	39°49'23.7861"N	80°39'17.8446"W	352.53	77.701	0.92	0.83	2.16
3194.00	9.990	72.080	3150.38	196.51	79.74	360.96	1737311.60	14462572.81	39°49'23.8313"N	80°39'17.6326"W	369.66	77.543	1.40	-1.14	-4.49
3288.00	11.590	69.980	3242.71	204.09	85.48	377.59	1737328.22	14462578.54	39°49'23.8874"N	80°39'17.4192"W	387.14	77.245	1.75	1.70	-2.23
3382.00	15.190	76.140	3334.15	214.31	91.66	398.43	1737349.05	14462584.73	39°49'23.9478"N	80°39'17.1519"W	408.83	77.044	4.11	3.83	6.55
3477.00	16.080	80.390	3425.63	228.20	96.84	423.48	1737374.10	14462589.90	39°49'23.9980"N	80°39'16.8305"W	434.42	77.119	1.53	0.94	4.47
3571.00	17.390	78.800	3515.65	243.39	101.74	450.10	1737400.70	14462594.80	39°49'24.0454"N	80°39'16.4891"W	461.46	77.263	1.48	1.39	-1.69
3666.00	19.300	79.560	3605.82	260.01	107.35	479.47	1737430.06	14462600.40	39°49'24.0997"N	80°39'16.1124"W	491.34	77.380	2.03	2.01	0.80
3760.00	20.430	77.210	3694.23	277.37	113.79	510.75	1737461.33	14462606.85	39°49'24.1622"N	80°39'15.7112"W	523.27	77.440	1.47	1.20	-2.50
3854.00	22.870	76.450	3781.59	295.42	121.71	544.51	1737495.07	14462614.76	39°49'24.2391"N	80°39'15.2781"W	557.94	77.401	2.61	2.60	-0.81
3948.00	26.180	77.270	3867.10	315.78	130.56	582.50	1737533.05	14462623.61	39°49'24.3251"N	80°39'14.7907"W	596.95	77.367	3.54	3.52	0.87
4042.00	29.580	77.300	3950.17	338.98	140.23	625.37	1737575.91	14462633.28	39°49'24.4191"N	80°39'14.2408"W	640.90	77.361	3.62	3.62	0.03
4137.00	32.490	75.050	4031.57	363.97	151.97	672.91	1737623.43	14462645.01	39°49'24.5333"N	80°39'13.6309"W	689.86	77.274	3.30	3.06	-2.37
4232.00	35.160	73.140	4110.48	389.31	166.49	723.75	1737674.25	14462659.52	39°49'24.6748"N	80°39'12.9786"W	742.65	77.045	3.02	2.81	-2.01
4326.00	37.400	73.450	4186.26	415.31	182.47	777.02	1737727.50	14462675.50	39°49'24.8307"N	80°39'12.2950"W	798.16	76.784	2.39	2.38	0.33
4419.00	39.520	75.090	4259.08	443.22	198.13	832.70	1737783.15	14462691.16	39°49'24.9834"N	80°39'11.5807"W	855.95	76.616	2.53	2.28	1.76
4512.00	41.910	76.510	4329.56	473.90	212.99	891.51	1737841.94	14462706.01	39°49'25.1280"N	80°39'10.8262"W	916.60	76.563	2.76	2.57	1.53
4607.00	44.920	76.730	4398.56	507.72	228.10	955.02	1737905.42	14462721.11	39°49'25.2748"N	80°39'10.0115"W	981.88	76.567	3.17	3.17	0.23
4701.00	46.240	77.800	4464.35	543.13	242.89	1020.50	1737970.88	14462735.90	39°49'25.4185"N	80°39'9.1715"W	1049.01	76.612	1.62	1.40	1.14
4796.00	45.580	79.190	4530.46	580.36	256.50	1087.36	1738037.71	14462749.50	39°49'25.5504"N	80°39'8.3139"W	1117.20	76.727	1.26	-0.69	1.46
4891.00	44.440	78.640	4597.62	617.43	269.42	1153.29	1738103.62	14462762.41	39°49'25.6755"N	80°39'7.4682"W	1184.34	76.851	1.27	-1.20	-0.58
4986.00	44.480	77.780	4665.42	653.45	283.01	1218.43	1738168.73	14462776.00	39°49'25.8074"N	80°39'6.6327"W	1250.86	76.923	0.64	0.04	-0.91
5081.00	44.790	77.130	4733.03	688.84	297.51	1283.58	1738233.86	14462790.50	39°49'25.9482"N	80°39'5.7970"W	1317.61	76.950	0.58	0.33	-0.68
5176.00	44.340	76.510	4800.71	723.57	312.71	1348.48	1738298.74	14462805.69	39°49'26.0959"N	80°39'4.9643"W	1384.27	76.944	0.66	-0.47	-0.65
5271.00	43.950	77.530	4868.88	758.22	327.57	1412.96	1738363.18	14462820.55	39°49'26.2403"N	80°39'4.1373"W	1450.43	76.947	0.85	-0.41	1.07
5366.00	44.550	76.540	4936.93	792.96	342.45	1477.55	1738427.76	14462835.41	39°49'26.3848"N	80°39'3.3086"W	1516.72	76.951	0.96	0.63	-1.04
5461.00	44.670	76.320	5004.56	827.32	358.10	1542.41	1738492.58	14462851.06	39°49'26.5370"N	80°39'2.4766"W	1583.43	76.929	0.21	0.13	-0.23
5556.00	43.430	78.510	5072.84	862.29	372.51	1606.86	1738557.01	14462865.46	39°49'26.6768"N	80°39'1.6498"W	1649.47	76.948	2.07	-1.31	2.31



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5650.00	43.040	79.380	5141.33	897.84	384.85	1670.05	1738620.18	14462877.80	39°49'26.7964"N	80°39'0.8393"W	1713.82	77.023	0.76	-0.41	0.93
5744.00	43.150	77.860	5209.97	933.00	397.53	1733.01	1738683.11	14462890.47	39°49'26.9192"N	80°39'0.0318"W	1778.02	77.081	1.11	0.12	-1.62
5839.00	42.890	77.000	5279.43	967.34	411.63	1796.27	1738746.35	14462904.57	39°49'27.0562"N	80°38'59.2203"W	1842.83	77.093	0.68	-0.27	-0.91
5934.00	43.510	77.010	5348.68	1001.39	426.25	1859.63	1738809.69	14462919.19	39°49'27.1982"N	80°38'58.4074"W	1907.86	77.090	0.65	0.65	0.01
6028.00	44.010	78.200	5416.57	1036.02	440.21	1923.13	1738873.16	14462933.13	39°49'27.3336"N	80°38'57.5929"W	1972.87	77.107	1.02	0.53	1.27
6122.00	41.580	79.160	5485.54	1071.02	452.75	1985.74	1738935.75	14462945.67	39°49'27.4552"N	80°38'56.7898"W	2036.70	77.156	2.68	-2.59	1.02
6217.00	39.990	78.980	5557.47	1105.39	464.52	2046.67	1738996.65	14462957.43	39°49'27.5691"N	80°38'56.0083"W	2098.72	77.213	1.68	-1.67	-0.19
6312.00	41.240	79.010	5629.58	1139.59	476.32	2107.37	1739057.33	14462969.24	39°49'27.6834"N	80°38'55.2297"W	2160.53	77.264	1.32	1.32	0.03
6407.00	41.450	78.450	5700.90	1174.04	488.59	2168.92	1739118.85	14462981.50	39°49'27.8022"N	80°38'54.4402"W	2223.27	77.305	0.45	0.22	-0.59
6508.00	41.470	78.860	5776.60	1210.68	501.74	2234.49	1739184.39	14462994.64	39°49'27.9297"N	80°38'53.5992"W	2290.12	77.344	0.27	0.02	0.41
6603.00	43.900	79.440	5846.42	1246.44	513.86	2297.74	1739247.62	14463006.76	39°49'28.0470"N	80°38'52.7879"W	2354.49	77.394	2.59	2.56	0.61
6697.00	43.950	76.320	5914.14	1281.42	527.55	2361.48	1739311.33	14463020.44	39°49'28.1798"N	80°38'51.9703"W	2419.68	77.407	2.30	0.05	-3.32
6792.00	44.220	76.410	5982.38	1315.39	543.13	2425.71	1739375.54	14463036.01	39°49'28.3312"N	80°38'51.1463"W	2485.77	77.379	0.29	0.28	0.09
6887.00	44.180	76.470	6050.48	1349.52	558.65	2490.09	1739439.90	14463051.54	39°49'28.4822"N	80°38'50.3203"W	2551.99	77.355	0.06	-0.04	0.06
6982.00	44.190	76.290	6118.61	1383.57	574.25	2554.44	1739504.22	14463067.12	39°49'28.6338"N	80°38'49.4947"W	2618.19	77.330	0.13	0.01	-0.19
7077.00	44.140	76.520	6186.75	1417.63	589.80	2618.78	1739568.53	14463082.67	39°49'28.7850"N	80°38'48.6694"W	2684.37	77.308	0.18	-0.05	0.24
7172.00	44.160	76.380	6254.92	1451.73	605.31	2683.11	1739632.84	14463098.17	39°49'28.9357"N	80°38'47.8441"W	2750.54	77.287	0.10	0.02	-0.15
7267.00	44.140	76.450	6323.08	1485.80	620.85	2747.43	1739697.13	14463113.71	39°49'29.0868"N	80°38'47.0189"W	2816.70	77.266	0.06	-0.02	0.07
7361.00	44.080	76.420	6390.57	1519.50	636.20	2811.03	1739760.71	14463129.05	39°49'29.2360"N	80°38'46.2030"W	2882.12	77.248	0.07	-0.06	-0.03
7456.00	44.130	76.470	6458.79	1553.57	651.69	2875.30	1739824.96	14463144.54	39°49'29.3866"N	80°38'45.3784"W	2948.23	77.230	0.06	0.05	0.05
7551.00	44.120	76.490	6526.98	1587.68	667.16	2939.61	1739889.24	14463160.00	39°49'29.5369"N	80°38'44.5534"W	3014.37	77.213	0.02	-0.01	0.02
7645.00	45.030	81.730	6593.96	1624.26	679.59	3004.36	1739953.96	14463172.42	39°49'29.6572"N	80°38'43.7229"W	3080.26	77.254	4.03	0.97	5.57
7739.00	47.600	92.930	6658.99	1669.62	682.60	3072.05	1740021.63	14463175.43	39°49'29.6844"N	80°38'42.8552"W	3146.97	77.473	9.03	2.73	11.91
7834.00	51.380	103.070	6720.78	1726.94	672.40	3143.36	1740092.91	14463165.23	39°49'29.5807"N	80°38'41.9417"W	3214.48	77.926	9.03	3.98	10.67
7928.00	56.480	113.120	6776.20	1794.36	648.65	3215.34	1740164.86	14463141.50	39°49'29.3432"N	80°38'41.0204"W	3280.11	78.594	10.19	5.43	10.69
8022.00	62.660	120.260	6823.84	1871.06	612.16	3287.57	1740237.07	14463105.02	39°49'28.9797"N	80°38'40.0964"W	3344.08	79.452	9.27	6.57	7.60
8116.00	65.050	125.970	6865.28	1953.45	566.05	3358.18	1740307.65	14463058.93	39°49'28.5213"N	80°38'39.1938"W	3405.55	80.432	6.02	2.54	6.07
8211.00	72.030	132.320	6900.05	2041.24	510.22	3426.59	1740376.03	14463003.12	39°49'27.9668"N	80°38'38.3199"W	3464.37	81.531	9.62	7.35	6.68
8305.00	79.210	140.680	6923.42	2132.13	444.20	3489.09	1740438.50	14462937.13	39°49'27.3120"N	80°38'37.5222"W	3517.25	82.745	11.51	7.64	8.89
8400.00	87.120	148.160	6934.73	2225.14	367.58	3543.84	1740493.24	14462860.53	39°49'26.5526"N	80°38'36.8243"W	3562.86	84.078	11.42	8.33	7.87



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Field	Marshall	API	47-051-02421
Facility	Willett	Wellbore	Willett S-7HM AWB
Slot	Slot 07		

WELLPATH DATA (209 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]
8494.00	88.020	147.580	6938.71	2316.85	288.04	3593.79	1740543.17	14462781.03	39°49'25.7646"N	80°38'36.1882"W	3605.32	85.418	1.14	0.96	-0.62
8589.00	87.840	146.930	6942.14	2409.77	208.19	3645.14	1740594.50	14462701.21	39°49'24.9735"N	80°38'35.5342"W	3651.08	86.731	0.71	-0.19	-0.68
8684.00	88.450	147.170	6945.22	2502.78	128.52	3696.79	1740646.12	14462621.57	39°49'24.1840"N	80°38'34.8763"W	3699.02	88.009	0.69	0.64	0.25
8777.00	88.090	147.470	6948.03	2593.74	50.28	3746.98	1740696.29	14462543.36	39°49'23.4088"N	80°38'34.2371"W	3747.32	89.231	0.50	-0.39	0.32
8872.00	88.520	146.850	6950.84	2686.71	-29.51	3798.47	1740747.77	14462463.60	39°49'22.6184"N	80°38'33.5811"W	3798.59	90.445	0.79	0.45	-0.65
8967.00	89.010	146.550	6952.89	2779.86	-108.89	3850.62	1740799.89	14462384.25	39°49'21.8318"N	80°38'32.9169"W	3852.16	91.620	0.60	0.52	-0.32
9060.00	88.360	147.300	6955.02	2870.97	-186.80	3901.36	1740850.61	14462306.37	39°49'21.0599"N	80°38'32.2706"W	3905.83	92.741	1.07	-0.70	0.81
9155.00	89.560	147.340	6956.74	2963.92	-266.75	3952.64	1740901.88	14462226.46	39°49'20.2677"N	80°38'31.6174"W	3961.64	93.861	1.26	1.26	0.04
9249.00	88.330	147.610	6958.47	3055.83	-345.99	4003.18	1740952.39	14462147.25	39°49'19.4826"N	80°38'30.9738"W	4018.10	94.940	1.34	-1.31	0.29
9344.00	88.520	146.360	6961.09	3148.87	-425.62	4054.92	1741004.11	14462067.65	39°49'18.6937"N	80°38'30.3148"W	4077.19	95.992	1.33	0.20	-1.32
9436.00	89.100	146.530	6963.00	3239.15	-502.27	4105.76	1741054.93	14461991.03	39°49'17.9341"N	80°38'29.6671"W	4136.37	96.974	0.66	0.63	0.18
9529.00	88.980	148.780	6964.55	3330.02	-580.82	4155.50	1741104.66	14461912.51	39°49'17.1559"N	80°38'29.0336"W	4195.90	97.957	2.42	-0.13	2.42
9622.00	88.000	148.790	6967.01	3420.48	-660.33	4203.68	1741152.82	14461833.03	39°49'16.3682"N	80°38'28.4202"W	4255.23	98.927	1.05	-1.05	0.01
9717.00	89.630	149.170	6968.97	3512.81	-741.72	4252.63	1741201.74	14461751.67	39°49'15.5619"N	80°38'27.7971"W	4316.83	99.894	1.76	1.72	0.40
9812.00	89.330	148.840	6969.83	3605.15	-823.15	4301.55	1741250.64	14461670.27	39°49'14.7552"N	80°38'27.1743"W	4379.60	100.833	0.47	-0.32	-0.35
9907.00	88.590	148.760	6971.56	3697.56	-904.40	4350.75	1741299.83	14461589.05	39°49'13.9503"N	80°38'26.5479"W	4443.76	101.743	0.78	-0.78	-0.08
10001.00	88.740	149.130	6973.75	3788.93	-984.91	4399.23	1741348.29	14461508.58	39°49'13.1528"N	80°38'25.9308"W	4508.13	102.619	0.42	0.16	0.39
10095.00	91.290	149.350	6973.72	3880.21	-1065.67	4447.30	1741396.34	14461427.84	39°49'12.3527"N	80°38'25.3189"W	4573.20	103.475	2.72	2.71	0.23
10190.00	90.090	147.690	6972.58	3972.73	-1146.68	4496.90	1741445.92	14461346.87	39°49'11.5502"N	80°38'24.6873"W	4640.80	104.305	2.16	-1.26	-1.75
10285.00	90.000	146.150	6972.50	4065.82	-1226.28	4548.75	1741497.75	14461267.30	39°49'10.7615"N	80°38'24.0269"W	4711.15	105.087	1.62	-0.09	-1.62
10379.00	90.280	148.700	6972.27	4157.76	-1305.49	4599.36	1741548.34	14461188.12	39°49'9.9767"N	80°38'23.3824"W	4781.05	105.846	2.73	0.30	2.71
10474.00	90.150	149.120	6971.92	4250.14	-1386.84	4648.42	1741597.38	14461106.80	39°49'9.1708"N	80°38'22.7580"W	4850.89	106.612	0.46	-0.14	0.44
10569.00	86.950	150.030	6974.32	4342.22	-1468.72	4696.50	1741645.45	14461024.96	39°49'8.3597"N	80°38'22.1459"W	4920.80	107.366	3.50	-3.37	0.96
10664.00	86.860	149.750	6979.45	4434.08	-1550.78	4744.09	1741693.02	14460942.93	39°49'7.5468"N	80°38'21.5403"W	4991.12	108.102	0.31	-0.09	-0.29
10759.00	86.330	150.100	6985.09	4525.89	-1632.85	4791.62	1741740.52	14460860.89	39°49'6.7339"N	80°38'20.9355"W	5062.19	108.818	0.67	-0.56	0.37
10854.00	87.350	150.170	6990.33	4617.64	-1715.10	4838.85	1741787.73	14460778.67	39°49'5.9191"N	80°38'20.3344"W	5133.81	109.517	1.08	1.07	0.07
10949.00	88.060	150.220	6994.13	4709.43	-1797.47	4886.03	1741834.90	14460696.33	39°49'5.1032"N	80°38'19.7340"W	5206.17	110.198	0.75	0.75	0.05
11044.00	88.120	149.630	6997.30	4801.35	-1879.63	4933.61	1741882.46	14460614.20	39°49'4.2893"N	80°38'19.1285"W	5279.54	110.856	0.62	0.06	-0.62
11138.00	89.170	149.990	6999.52	4892.38	-1960.86	4980.87	1741929.70	14460533.01	39°49'3.4847"N	80°38'18.5271"W	5352.94	111.488	1.18	1.12	0.38
11233.00	90.000	149.830	7000.21	4984.36	-2043.06	5028.49	1741977.31	14460450.84	39°49'2.6705"N	80°38'17.9210"W	5427.69	112.112	0.89	0.87	-0.17



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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]
11328.00	88.800	150.260	7001.21	5076.28	-2125.36	5075.93	1742024.72	14460368.57	39°49'1.8553"N	80°38'17.3174"W	5502.92	112.720	1.34	-1.26	0.45
11423.00	89.510	150.310	7002.61	5168.09	-2207.86	5123.01	1742071.79	14460286.11	39°49'1.0381"N	80°38'16.7182"W	5578.52	113.315	0.75	0.75	0.05
11516.00	89.260	149.750	7003.60	5258.08	-2288.42	5169.47	1742118.22	14460205.58	39°49'0.2401"N	80°38'16.1271"W	5653.34	113.878	0.66	-0.27	-0.60
11610.00	88.980	149.660	7005.05	5349.17	-2369.57	5216.88	1742165.62	14460124.46	39°48'59.4362"N	80°38'15.5237"W	5729.81	114.428	0.31	-0.30	-0.10
11705.00	89.350	150.360	7006.43	5441.10	-2451.84	5264.36	1742213.08	14460042.22	39°48'58.6213"N	80°38'14.9195"W	5807.32	114.973	0.83	0.39	0.74
11799.00	89.140	149.580	7007.67	5532.08	-2533.22	5311.40	1742260.10	14459960.88	39°48'57.8152"N	80°38'14.3209"W	5884.57	115.498	0.86	-0.22	-0.83
11893.00	89.510	150.480	7008.78	5623.04	-2614.64	5358.35	1742307.03	14459879.48	39°48'57.0086"N	80°38'13.7234"W	5962.24	116.010	1.04	0.39	0.96
11988.00	89.170	150.010	7009.87	5714.87	-2697.11	5405.49	1742354.16	14459797.05	39°48'56.1917"N	80°38'13.1235"W	6041.01	116.517	0.61	-0.36	-0.49
12082.00	89.020	149.920	7011.36	5805.85	-2778.48	5452.54	1742401.18	14459715.71	39°48'55.3857"N	80°38'12.5249"W	6119.65	117.002	0.19	-0.16	-0.10
12176.00	89.600	151.250	7012.49	5896.57	-2860.35	5498.70	1742447.33	14459633.87	39°48'54.5748"N	80°38'11.9376"W	6198.17	117.483	1.54	0.62	1.41
12271.00	89.080	150.440	7013.58	5988.15	-2943.31	5544.98	1742493.59	14459550.94	39°48'53.7531"N	80°38'11.3488"W	6277.73	117.960	1.01	-0.55	-0.85
12365.00	89.080	150.330	7015.09	6078.95	-3025.02	5591.42	1742540.02	14459469.27	39°48'52.9437"N	80°38'10.7579"W	6357.26	118.414	0.12	0.00	-0.12
12458.00	89.080	150.250	7016.59	6168.83	-3105.78	5637.51	1742586.08	14459388.53	39°48'52.1437"N	80°38'10.1715"W	6436.41	118.851	0.09	0.00	-0.09
12553.00	88.990	149.830	7018.19	6260.75	-3188.08	5684.95	1742633.50	14459306.27	39°48'51.3285"N	80°38'9.5679"W	6517.86	119.283	0.45	-0.09	-0.44
12646.00	89.200	148.470	7019.66	6351.08	-3267.91	5732.63	1742681.17	14459226.47	39°48'50.5377"N	80°38'8.9610"W	6598.65	119.685	1.48	0.23	-1.46
12741.00	88.960	150.040	7021.18	6443.31	-3349.54	5781.19	1742729.70	14459144.87	39°48'49.7290"N	80°38'8.3430"W	6681.43	120.087	1.67	-0.25	1.65
12835.00	89.630	149.890	7022.34	6534.30	-3430.91	5828.23	1742776.73	14459063.53	39°48'48.9229"N	80°38'7.7444"W	6763.09	120.484	0.73	0.71	-0.16
12930.00	89.540	150.310	7023.03	6626.20	-3513.26	5875.59	1742824.07	14458981.21	39°48'48.1072"N	80°38'7.1419"W	6845.84	120.877	0.45	-0.09	0.44
13025.00	90.310	150.350	7023.15	6718.00	-3595.81	5922.61	1742871.07	14458898.70	39°48'47.2895"N	80°38'6.5436"W	6928.72	121.263	0.81	0.81	0.04
13120.00	89.790	149.120	7023.07	6810.05	-3677.86	5970.49	1742918.93	14458816.68	39°48'46.4767"N	80°38'5.9343"W	7012.37	121.633	1.41	-0.55	-1.29
13215.00	89.170	148.430	7023.93	6902.48	-3759.09	6019.74	1742968.16	14458735.48	39°48'45.6719"N	80°38'5.3075"W	7097.04	121.983	0.98	-0.65	-0.73
13310.00	89.110	150.040	7025.36	6994.73	-3840.71	6068.32	1743016.73	14458653.89	39°48'44.8634"N	80°38'4.6891"W	7181.62	122.330	1.70	-0.06	1.69
13405.00	89.390	150.350	7026.60	7086.58	-3923.14	6115.54	1743063.93	14458571.50	39°48'44.0469"N	80°38'4.0884"W	7265.73	122.680	0.44	0.29	0.33
13499.00	88.830	149.620	7028.06	7177.55	-4004.52	6162.55	1743110.92	14458490.15	39°48'43.2407"N	80°38'3.4902"W	7349.37	123.016	0.98	-0.60	-0.78
13595.00	89.510	150.120	7029.45	7270.51	-4087.54	6210.74	1743159.09	14458407.16	39°48'42.4183"N	80°38'2.8771"W	7435.14	123.351	0.88	0.71	0.52
13689.00	89.670	150.250	7030.12	7361.41	-4169.10	6257.47	1743205.80	14458325.64	39°48'41.6105"N	80°38'2.2825"W	7519.13	123.674	0.22	0.17	0.14
13784.00	89.540	149.380	7030.78	7453.43	-4251.21	6305.24	1743253.55	14458243.55	39°48'40.7970"N	80°38'1.6747"W	7604.53	123.989	0.93	-0.14	-0.92
13878.00	89.600	149.660	7031.48	7544.60	-4332.22	6352.92	1743301.21	14458162.58	39°48'39.9945"N	80°38'1.0680"W	7689.45	124.291	0.30	0.06	0.30
13973.00	89.540	150.070	7032.20	7636.59	-4414.38	6400.61	1743348.88	14458080.45	39°48'39.1807"N	80°38'0.4612"W	7775.25	124.593	0.44	-0.06	0.43
14068.00	89.640	150.060	7032.88	7728.51	-4496.70	6448.01	1743396.27	14457998.16	39°48'38.3652"N	80°37'59.8580"W	7861.12	124.891	0.11	0.11	-0.01



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14163.00	89.270	149.910	7033.78	7820.46	-4578.96	6495.53	1743443.77	14457915.93	39°48'37.5504"N	80°37'59.2534"W	7947.25	125.182	0.42	-0.39	-0.16
14257.00	89.200	149.750	7035.03	7911.49	-4660.22	6542.77	1743490.99	14457834.71	39°48'36.7454"N	80°37'58.6524"W	8032.77	125.461	0.19	-0.07	-0.17
14351.00	89.850	149.550	7035.81	8002.61	-4741.33	6590.26	1743538.47	14457753.62	39°48'35.9418"N	80°37'58.0481"W	8118.61	125.733	0.72	0.69	-0.21
14446.00	89.940	149.990	7035.99	8094.65	-4823.41	6638.09	1743586.28	14457671.58	39°48'35.1287"N	80°37'57.4395"W	8205.46	126.003	0.47	0.09	0.46
14541.00	90.010	149.580	7036.03	8186.68	-4905.51	6685.90	1743634.07	14457589.51	39°48'34.3155"N	80°37'56.8312"W	8292.48	126.268	0.44	0.07	-0.43
14636.00	89.940	149.820	7036.07	8278.75	-4987.53	6733.83	1743681.98	14457507.52	39°48'33.5030"N	80°37'56.2214"W	8379.73	126.526	0.26	-0.07	0.25
14731.00	89.700	149.630	7036.37	8370.81	-5069.57	6781.73	1743729.85	14457425.51	39°48'32.6902"N	80°37'55.6120"W	8467.13	126.779	0.32	-0.25	-0.20
14824.00	89.940	149.550	7036.66	8460.98	-5149.78	6828.80	1743776.91	14457345.34	39°48'31.8957"N	80°37'55.0130"W	8552.94	127.021	0.27	0.26	-0.09
14940.00	89.910	149.980	7036.81	8573.37	-5250.00	6887.21	1743835.30	14457245.16	39°48'30.9029"N	80°37'54.2698"W	8660.03	127.318	0.37	-0.03	0.37
15013.00	89.270	149.920	7037.34	8644.04	-5313.18	6923.77	1743871.84	14457182.00	39°48'30.2770"N	80°37'53.8047"W	8727.45	127.502	0.88	-0.88	-0.08
15202.00	89.140	149.550	7039.96	8827.16	-5476.41	7019.01	1743967.05	14457018.84	39°48'28.6600"N	80°37'52.5929"W	8902.67	127.962	0.21	-0.07	-0.20
15297.00	90.990	152.250	7039.85	8918.71	-5559.40	7065.21	1744013.22	14456935.87	39°48'27.8379"N	80°37'52.0053"W	8990.22	128.198	3.45	1.95	2.84
15392.00	89.540	149.360	7039.41	9010.29	-5642.32	7111.54	1744059.54	14456852.99	39°48'27.0166"N	80°37'51.4160"W	9077.99	128.429	3.40	-1.53	-3.04
15485.00	89.140	150.290	7040.48	9100.37	-5722.71	7158.28	1744106.26	14456772.63	39°48'26.2202"N	80°37'50.8213"W	9164.63	128.641	1.09	-0.43	1.00
15579.00	89.150	150.090	7041.88	9191.25	-5804.27	7205.01	1744152.97	14456691.11	39°48'25.4123"N	80°37'50.2269"W	9252.12	128.854	0.21	0.01	-0.21
15673.00	89.390	150.360	7043.08	9282.13	-5885.85	7251.68	1744199.63	14456609.55	39°48'24.6042"N	80°37'49.6332"W	9339.71	129.065	0.38	0.26	0.29
15768.00	89.300	150.060	7044.17	9373.98	-5968.29	7298.88	1744246.80	14456527.15	39°48'23.7875"N	80°37'49.0328"W	9428.37	129.273	0.33	-0.09	-0.32
15863.00	89.330	150.230	7045.30	9465.86	-6050.68	7346.17	1744294.07	14456444.79	39°48'22.9714"N	80°37'48.4312"W	9517.19	129.477	0.18	0.03	0.18
15958.00	89.080	149.850	7046.62	9557.78	-6132.97	7393.61	1744341.49	14456362.53	39°48'22.1562"N	80°37'47.8278"W	9606.18	129.676	0.48	-0.26	-0.40
16052.00	90.010	148.820	7047.37	9649.02	-6213.83	7441.54	1744389.41	14456281.71	39°48'21.3552"N	80°37'47.2178"W	9694.75	129.862	1.48	0.99	-1.10
16147.00	89.480	148.980	7047.79	9741.40	-6295.17	7490.61	1744438.46	14456200.39	39°48'20.5493"N	80°37'46.5933"W	9784.60	130.044	0.58	-0.56	0.17
16240.00	90.470	148.790	7047.83	9831.85	-6374.79	7538.67	1744486.50	14456120.81	39°48'19.7605"N	80°37'45.9818"W	9872.66	130.218	1.08	1.06	-0.20
16334.00	89.450	148.700	7047.90	9923.32	-6455.15	7587.44	1744535.25	14456040.48	39°48'18.9644"N	80°37'45.3611"W	9961.84	130.390	1.09	-1.09	-0.10
16428.00	89.850	149.500	7048.47	10014.66	-6535.80	7635.71	1744583.51	14455959.86	39°48'18.1653"N	80°37'44.7469"W	10050.91	130.562	0.95	0.43	0.85
16523.00	89.670	149.170	7048.87	10106.87	-6617.52	7684.17	1744631.94	14455878.17	39°48'17.3558"N	80°37'44.1304"W	10140.90	130.735	0.40	-0.19	-0.35
16618.00	89.580	148.990	7049.49	10199.19	-6699.01	7732.98	1744680.73	14455796.71	39°48'16.5484"N	80°37'43.5093"W	10231.12	130.902	0.21	-0.09	-0.19
16807.00	89.670	149.160	7050.73	10382.85	-6861.14	7830.11	1744777.82	14455634.64	39°48'14.9421"N	80°37'42.2734"W	10410.85	131.227	0.10	0.05	0.09
16902.00	89.670	149.120	7051.28	10475.14	-6942.69	7878.84	1744826.53	14455553.13	39°48'14.1342"N	80°37'41.6534"W	10501.29	131.386	0.04	0.00	-0.04
16997.00	89.790	149.150	7051.72	10567.43	-7024.24	7927.57	1744875.25	14455471.61	39°48'13.3264"N	80°37'41.0333"W	10591.80	131.543	0.13	0.13	0.03
17091.00	89.580	148.780	7052.24	10658.82	-7104.78	7976.03	1744923.69	14455391.10	39°48'12.5284"N	80°37'40.4167"W	10681.53	131.694	0.45	-0.22	-0.39



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Actual Wellpath Report

Willett S-7HM AWB Proj:20023'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EQT (TUG HILL OPERATING LLC)	Well	Willett S-7HM
Field	Marshall	API	47-051-02421
Facility	Willett	Wellbore	Willett S-7HM AWB
Slot	Slot 07		

WELLPATH DATA (209 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]
17186.00	90.100	149.080	7052.50	10751.20	-7186.15	8025.06	1744972.70	14455309.76	39°48'11.7222"N	80°37'39.7928"W	10772.30	131.843	0.63	0.55	0.32
17281.00	89.890	149.190	7052.51	10843.49	-7267.69	8073.80	1745021.42	14455228.25	39°48'10.9143"N	80°37'39.1727"W	10863.04	131.992	0.25	-0.22	0.12
17375.00	90.410	148.720	7052.27	10934.88	-7348.23	8122.28	1745069.88	14455147.75	39°48'10.1165"N	80°37'38.5559"W	10952.98	132.136	0.75	0.55	-0.50
17470.00	90.350	148.630	7051.64	11027.35	-7429.38	8171.66	1745119.25	14455066.63	39°48'9.3125"N	80°37'37.9274"W	11044.08	132.276	0.11	-0.06	-0.09
17564.00	90.500	149.080	7050.94	11118.78	-7509.83	8220.28	1745167.84	14454986.21	39°48'8.5154"N	80°37'37.3088"W	11134.20	132.414	0.50	0.16	0.48
17659.00	90.780	149.380	7049.88	11211.03	-7591.45	8268.88	1745216.42	14454904.62	39°48'7.7068"N	80°37'36.6905"W	11225.17	132.554	0.43	0.29	0.32
17754.00	91.730	148.830	7047.80	11303.32	-7672.95	8317.64	1745265.17	14454823.15	39°48'6.8994"N	80°37'36.0700"W	11316.24	132.691	1.16	1.00	-0.58
17848.00	91.730	149.040	7044.96	11394.68	-7753.43	8366.13	1745313.63	14454742.70	39°48'6.1020"N	80°37'35.4531"W	11406.48	132.823	0.22	0.00	0.22
17943.00	90.250	149.110	7043.32	11486.98	-7834.91	8414.94	1745362.43	14454661.25	39°48'5.2947"N	80°37'34.8321"W	11497.70	132.956	1.56	-1.56	0.07
18038.00	90.470	149.220	7042.72	11579.26	-7916.48	8463.63	1745411.10	14454579.72	39°48'4.4866"N	80°37'34.2126"W	11588.95	133.087	0.26	0.23	0.12
18132.00	89.730	149.140	7042.56	11670.57	-7997.21	8511.79	1745459.24	14454499.02	39°48'3.6869"N	80°37'33.5999"W	11679.29	133.215	0.79	-0.79	-0.09
18227.00	89.640	148.940	7043.08	11762.90	-8078.67	8560.66	1745508.09	14454417.59	39°48'2.8798"N	80°37'32.9781"W	11770.72	133.341	0.23	-0.09	-0.21
18322.00	89.580	149.010	7043.73	11855.25	-8160.08	8609.63	1745557.04	14454336.22	39°48'2.0732"N	80°37'32.3551"W	11862.23	133.464	0.10	-0.06	0.07
18417.00	89.670	148.970	7044.35	11947.60	-8241.50	8658.57	1745605.96	14454254.83	39°48'1.2666"N	80°37'31.7324"W	11953.79	133.586	0.10	0.09	-0.04
18512.00	89.580	149.450	7044.97	12039.87	-8323.11	8707.20	1745654.57	14454173.25	39°48'0.4581"N	80°37'31.1137"W	12045.31	133.708	0.51	-0.09	0.51
18606.00	89.090	151.640	7046.06	12130.60	-8404.94	8753.42	1745700.77	14454091.44	39°47'59.6474"N	80°37'30.5260"W	12135.29	133.837	2.39	-0.52	2.33
18700.00	89.180	149.240	7047.48	12221.38	-8486.69	8799.78	1745747.12	14454009.73	39°47'58.8376"N	80°37'29.9363"W	12225.39	133.962	2.55	0.10	-2.55
18793.00	89.270	148.580	7048.74	12311.81	-8566.33	8847.80	1745795.12	14453930.12	39°47'58.0486"N	80°37'29.3254"W	12315.26	134.074	0.72	0.10	-0.71
18888.00	88.990	149.030	7050.18	12404.22	-8647.58	8897.00	1745844.30	14453848.90	39°47'57.2435"N	80°37'28.6994"W	12407.15	134.186	0.56	-0.29	0.47
18983.00	87.390	147.720	7053.18	12496.75	-8728.43	8946.78	1745894.06	14453768.09	39°47'56.4425"N	80°37'28.0659"W	12499.22	134.292	2.18	-1.68	-1.38
19077.00	89.090	149.200	7056.07	12588.28	-8808.50	8995.93	1745943.19	14453688.05	39°47'55.6491"N	80°37'27.4406"W	12590.33	134.397	2.40	1.81	1.57
19171.00	89.020	149.250	7057.62	12679.56	-8889.25	9044.02	1745991.26	14453607.33	39°47'54.8491"N	80°37'26.8288"W	12681.21	134.506	0.09	-0.07	0.05
19265.00	89.050	148.980	7059.20	12770.88	-8969.91	9092.26	1746039.49	14453526.70	39°47'54.0500"N	80°37'26.2150"W	12772.18	134.612	0.29	0.03	-0.29
19359.00	90.160	149.400	7059.85	12862.18	-9050.64	9140.41	1746087.61	14453446.00	39°47'53.2502"N	80°37'25.6025"W	12863.17	134.717	1.26	1.18	0.45
19453.00	89.020	149.210	7060.52	12953.43	-9131.47	9188.39	1746135.57	14453365.20	39°47'52.4494"N	80°37'24.9921"W	12954.16	134.822	1.23	-1.21	-0.20
19642.00	89.270	149.190	7063.34	13136.98	-9293.79	9285.16	1746232.30	14453202.94	39°47'50.8412"N	80°37'23.7612"W	13137.30	135.027	0.13	0.13	-0.01
19830.00	89.270	150.390	7065.74	13319.09	-9456.25	9379.74	1746326.85	14453040.55	39°47'49.2318"N	80°37'22.5581"W	13319.16	135.233	0.64	0.00	0.64
19998.00	89.180	148.920	7068.01	13481.92	-9601.21	9464.61	1746411.68	14452895.64	39°47'47.7956"N	80°37'21.4787"W	13481.92	135.411	0.88	-0.05	-0.88
20023.00‡	89.180	148.920	7068.37	13506.22	-9622.62	9477.51	1746424.58	14452874.24	39°47'47.5835"N	80°37'21.3145"W	13506.22	135.435	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Willett S-7HM AWB Ref Wellpath: Willett S-7HM AWB Proj:20023'									
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]
30in Conductor	32.50	153.00	120.50	32.50	153.00	0.00	0.00	0.25	-0.04

HOLE & CASING SECTIONS - Ref Wellbore: Willett S-7HM AWB Ref Wellpath: Willett S-7HM AWB Proj:20023'									
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	153.00	1110.00	957.00	153.00	1110.00	0.25	-0.04	2.16	0.98
13.375in Casing Surface	32.50	1110.00	1077.50	32.50	1110.00	0.00	0.00	2.16	0.98
12.25in Open Hole	1110.00	2903.00	1793.00	1110.00	2864.55	2.16	0.98	65.93	308.18
9.625in Casing Intermediate	32.50	2903.00	2870.50	32.50	2864.55	0.00	0.00	65.93	308.18
8.75in Open Hole	2903.00	6484.00	3581.00	2864.55	5758.61	65.93	308.18	498.66	2218.89
8.5in Open Hole	6484.00	20023.00	13539.00	5758.61	7068.37	498.66	2218.89	-9622.62	9477.51
5.5in Casing Production	32.50	20023.00	19990.50	32.50	7068.37	0.00	0.00	-9622.62	9477.51

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Willett S-07 HM BHL Rev-0	7242.79	-9621.52	9478.45	1746425.52	14452875.35	39°47'47.5944"N	80°37'21.3024"W	point

WELLPATH COMPOSITION - Ref Wellbore: Willett S-7HM AWB Ref Wellpath: Willett S-7HM AWB Proj:20023'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
32.50	1100.00	Gyrodata 2015 - CT+WIR+DPIPE	01_Gyrodata 17.5" [Gyrodata CT+WIR+DPIPE] (100' - 1100')	Willett S-7HM AWB	9/14/2023
1100.00	2900.00	Gyrodata 2015 - CT+WIR+DPIPE	02_Gyrodata 12.25" [Gyrodata CT+WIR+DPIPE] (1100)(1200' - 2900')	Willett S-7HM AWB	9/14/2023
2900.00	6407.00	OWSG MWD rev2 + HRGM	03_SD1 MWD 8.75" [OWSG MWD Rev.2+HRGM] (2900')(2943' - 6407')	Willett S-7HM AWB	9/15/2023
6407.00	20023.00	OWSG MWD rev2 + IFR1 + Sag + Multi-Station Correction	04_BH Lucida+SQC IFR1+SAG+FDIR <8-1/2">(6407')(6508'-19998')	Willett S-7HM AWB	9/15/2023

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Actual Wellpath Report

Willett S-7HM AWB Proj:20023'

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REFERENCE WELLPATH IDENTIFICATION

Operator	EQT (TUG HILL OPERATING, LLC)	Well	Willett S-7HM
Field	Marshall	API	47-051-02421
Facility	Willett	Wellbore	Willett S-7HM AWB
Slot	Slot 07		

COMMENTS

Wellpath general comments

API: 47-051-02421

BH Job #: 111947696

Rig: Nabors X14

Duration: 9/15/2023-9/19/2023

01_Gyrodata 17.5" [Gyrodata CT+WIR+DPIPE] (100' - 1100')

02_Gyrodata 12.25" [Gyrodata CT+WIR+DPIPE] (1100)(1200' - 2900')

03_SDI MWD 8.75" [OWSG MWD Rev.2+HRGM] (2900')(2943'- 6407')

04_BH Lucida+SQC IFR1+SAG+FDIR <8-1/2">(6407')(6508'-19998')

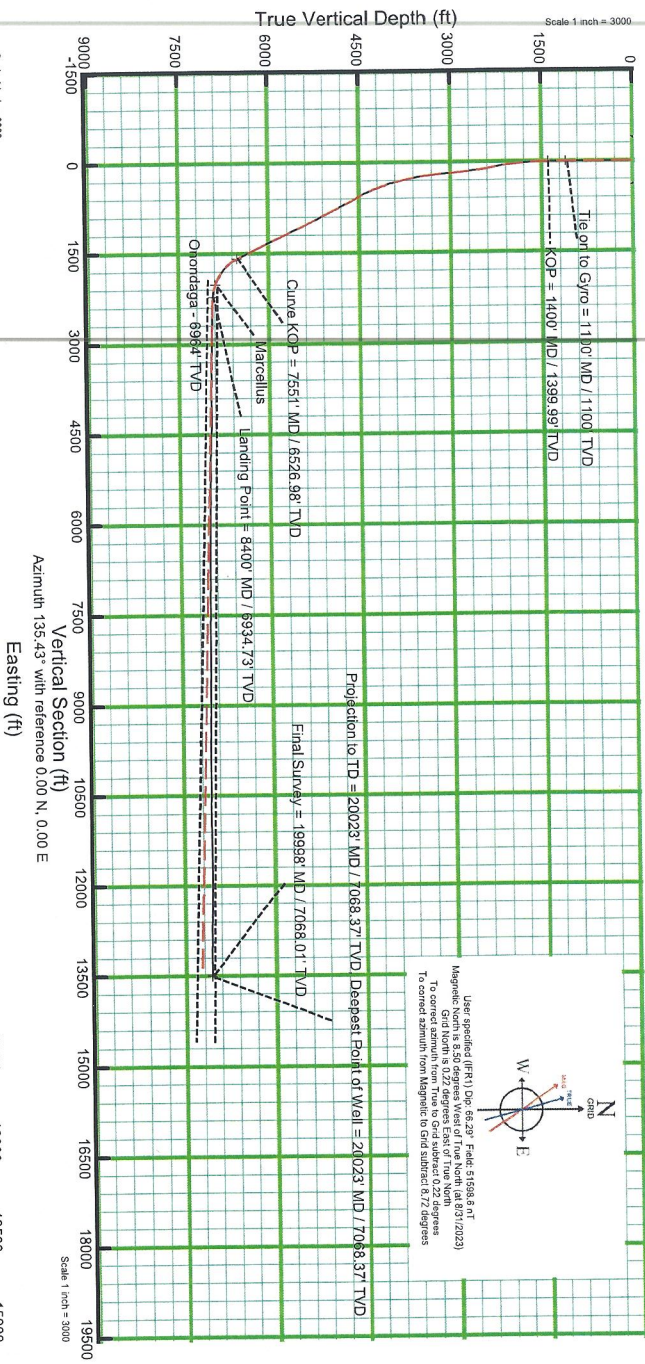
Landing Pt. @ 8400' MD

Final Survey @ 19998' MD

Projected MD at TD: 20023'



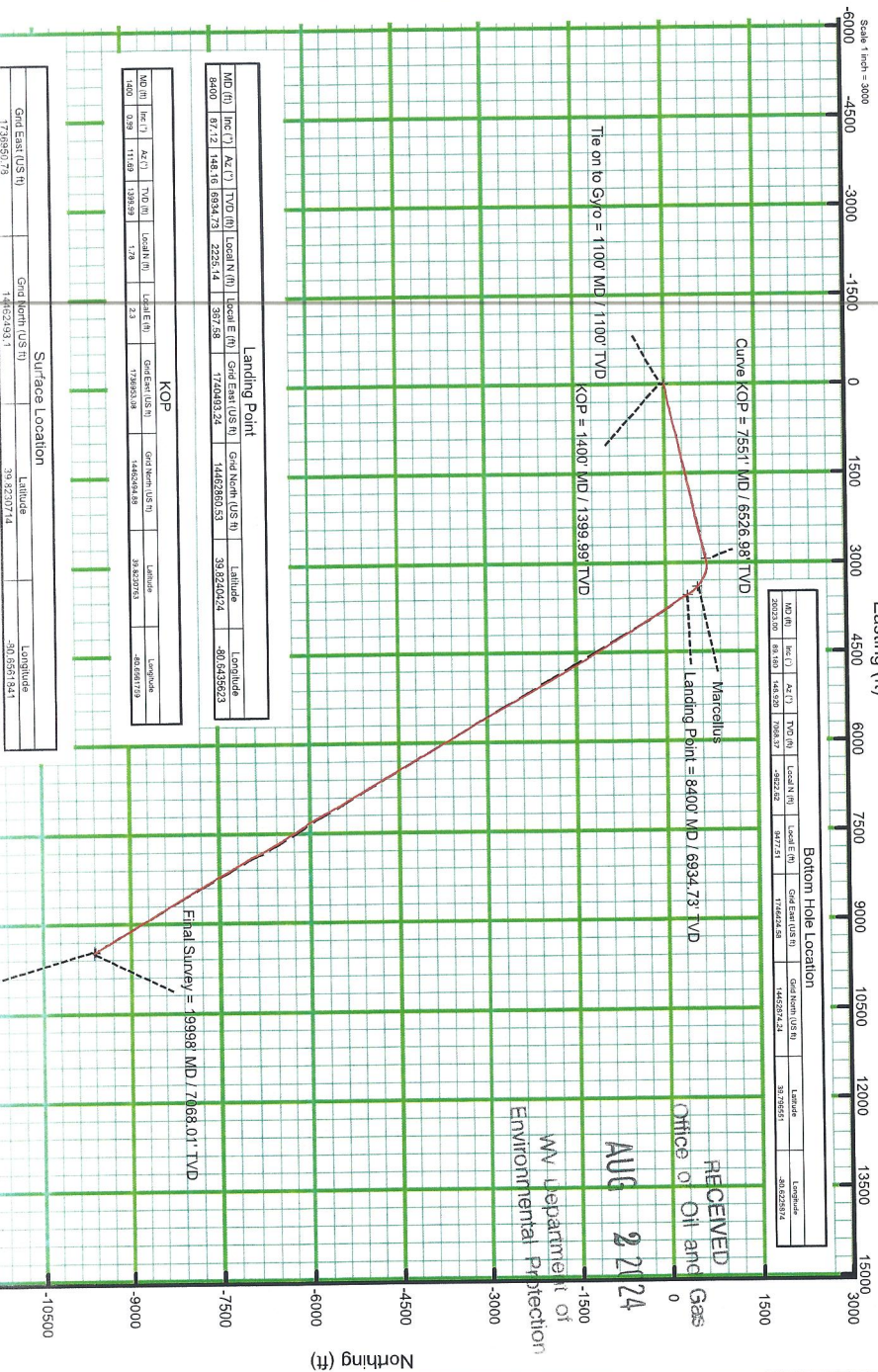
KB Elevation=1342.50 FT
 Ground Elevation=1310 FT
 All Survey Measurements were taken from KB Elevation



Scale 1 inch = 3000

Use specified (FKM) Dip, Rise, and Fall (Slope) to correct azimuth from True to Grid subtract 0.22 degrees. To correct azimuth from Magnetic to Grid subtract 0.72 degrees.

Magnetic Grid North is 0.22 degrees East of True North



Landing Point									
MD (ft)	Incl. (°)	AS (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
8400	87.121	148.16	6934.73	2225.14	357.58	1740493.24	14462869.53	39.8240224	-80.6435923

KOP									
MD (ft)	Incl. (°)	AS (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
7551	89.830	146.290	6526.98	-2622.82	3677.21	170624.58	3230555.1	39.231651	-80.6263814

Surface Location			
Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
173925.13	14602493.1	39.8230714	-80.6551341

Projection to TD = 20023' MD / 7068.37' TVD. Deepest Point of Well = 20023' MD / 7068.37' TVD

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