



# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19227'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Ohio County, WV	Well	Glenn Didriksen OHI 406H
Field	Ohio	Wellbore	Glenn Didriksen OHI 406H AWP
Facility	Glenn Didriksen OHI Pad 1		Office of Oil and Gas

OCT 21 2019

REPORT SETUP INFORMATION			
Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 5.1
North Reference	Grid	User	Hiliphop
Scale	0.999615	Report Generated	14/May/2019 at 11:44
Convergence at slot	0.26° East	Database/Source file	WA_MPL_EASTERNU\$ Defn/Glenn_Didriksen_OHI_406H_AWP_Proj_19227_.xml

WV Department of Environmental Protection

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1.40	-24.51	1753612.20	14568480.44	40°06'50.171"N	80°35'42.470"W
Facility Reference Pt			1753636.70	14568481.84	40°06'50.184"N	80°35'42.155"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM			
Calculation method	Minimum curvature	SDC 41 (RKB) to Facility Vertical Datum	1408.00ft
Horizontal Reference Pt	Slot	SDC 41 (RKB) to Mean Sea Level	1408.00ft
Vertical Reference Pt	SDC 41 (RKB)	SDC 41 (RKB) to Ground Level at Slot (Slot #406)	26.00ft
MD Reference Pt	SDC 41 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	167.94°



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OCT 21 2019

## WELLPATH DATA (217 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)
0.00†	0.000	89.120	0.00	0.00	0.00	0.00	1753612.20	14568480.44	40°06'50.171"N	80°35'42.470"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	89.120	26.00	0.00	0.00	0.00	1753612.20	14568480.44	40°06'50.171"N	80°35'42.470"W	0.00	0.000	0.00	0.00	0.00
146.00	0.400	89.120	146.00	0.08	0.01	0.42	1753612.61	14568480.45	40°06'50.171"N	80°35'42.465"W	0.42	89.120	0.33	0.33	74.27
207.00	0.400	67.560	207.00	0.08	0.09	0.83	1753613.02	14568480.53	40°06'50.172"N	80°35'42.460"W	0.83	83.733	0.25	0.25	-35.34
297.00	0.080	324.060	297.00	-0.03	0.26	1.08	1753613.28	14568480.70	40°06'50.174"N	80°35'42.456"W	1.11	76.400	0.47	0.47	-115.00
388.00	0.150	349.910	388.00	-0.21	0.43	1.02	1753613.22	14568480.87	40°06'50.176"N	80°35'42.457"W	1.11	67.196	0.09	0.09	28.41
478.00	0.120	234.500	478.00	-0.29	0.49	0.93	1753613.12	14568480.93	40°06'50.176"N	80°35'42.458"W	1.05	62.043	0.25	0.25	-128.23
568.00	0.090	285.170	568.00	-0.28	0.46	0.78	1753612.98	14568480.90	40°06'50.176"N	80°35'42.460"W	0.90	59.765	0.10	0.10	-0.03
659.00	0.130	250.010	659.00	-0.30	0.44	0.62	1753612.81	14568480.88	40°06'50.176"N	80°35'42.462"W	0.76	54.509	0.08	0.08	-38.64
782.00	0.560	304.140	781.99	-0.72	0.73	-0.01	1753612.18	14568481.17	40°06'50.179"N	80°35'42.471"W	0.73	358.972	0.40	0.40	44.01
872.00	2.630	275.060	871.95	-1.64	1.16	-2.43	1753609.76	14568481.60	40°06'50.183"N	80°35'42.502"W	2.70	295.433	2.40	2.40	-32.31
963.00	5.730	269.010	962.70	-3.13	1.26	-9.06	1753603.14	14568481.71	40°06'50.184"N	80°35'42.587"W	9.15	277.940	3.44	3.44	-6.65
1053.00	8.350	268.460	1052.02	-5.18	1.01	-20.08	1753592.12	14568481.45	40°06'50.182"N	80°35'42.729"W	20.11	272.879	2.91	2.91	-0.61
1144.00	9.800	268.540	1141.87	-7.82	0.64	-34.43	1753577.78	14568481.08	40°06'50.179"N	80°35'42.914"W	34.44	271.057	1.59	1.59	0.09
1237.00	11.180	266.370	1233.32	-10.59	-0.14	-51.34	1753560.87	14568480.31	40°06'50.172"N	80°35'43.131"W	51.34	269.847	1.54	1.54	-2.33
1329.00	12.410	266.830	1323.37	-13.43	-1.25	-70.12	1753542.11	14568479.19	40°06'50.162"N	80°35'43.373"W	70.13	268.980	1.34	1.34	0.50
1421.00	13.350	265.860	1413.06	-16.42	-2.56	-90.58	1753521.65	14568477.88	40°06'50.150"N	80°35'43.636"W	90.62	268.380	1.05	1.05	-1.05
1513.00	14.110	264.860	1502.43	-19.23	-4.33	-112.34	1753499.90	14568476.11	40°06'50.134"N	80°35'43.917"W	112.43	267.791	0.87	0.87	-1.09
1606.00	15.360	268.280	1592.37	-22.81	-5.72	-135.95	1753476.30	14568474.73	40°06'50.121"N	80°35'44.220"W	136.07	267.591	1.64	1.64	3.68
1699.00	16.430	271.280	1681.81	-28.06	-5.80	-161.41	1753450.85	14568474.65	40°06'50.121"N	80°35'44.548"W	161.51	267.944	1.45	1.45	3.23
1791.00	17.650	272.980	1769.77	-34.68	-4.78	-188.35	1753423.92	14568475.67	40°06'50.133"N	80°35'44.895"W	188.41	268.546	1.43	1.43	1.85
1883.00	17.500	272.940	1857.48	-41.88	-3.34	-216.09	1753396.19	14568477.10	40°06'50.148"N	80°35'45.252"W	216.11	269.113	0.16	0.16	-0.04
1976.00	18.160	274.630	1946.01	-49.66	-1.46	-244.50	1753367.79	14568478.99	40°06'50.168"N	80°35'45.617"W	244.50	269.658	0.90	0.90	1.82
2069.00	18.540	273.290	2034.29	-57.74	0.56	-273.70	1753338.60	14568481.00	40°06'50.189"N	80°35'45.993"W	273.71	270.117	0.61	0.61	-1.44
2161.00	17.360	271.620	2121.81	-64.85	1.79	-302.03	1753310.28	14568482.23	40°06'50.203"N	80°35'46.358"W	302.03	270.339	1.40	1.40	-1.82
2253.00	16.750	269.720	2209.76	-70.81	2.11	-329.01	1753283.32	14568482.55	40°06'50.207"N	80°35'46.705"W	329.01	270.368	0.90	0.90	-2.07
2283.00	17.520	270.610	2238.43	-72.68	2.14	-337.84	1753274.48	14568482.58	40°06'50.208"N	80°35'46.819"W	337.85	270.363	2.71	2.71	2.97
2367.00	19.550	270.970	2318.07	-78.62	2.51	-364.54	1753247.80	14568482.95	40°06'50.212"N	80°35'47.162"W	364.55	270.395	2.42	2.42	0.43
2459.00	20.890	267.320	2404.40	-84.77	2.00	-396.32	1753216.03	14568482.45	40°06'50.209"N	80°35'47.571"W	396.32	270.290	2.00	2.00	-3.97
2552.00	21.880	266.710	2491.00	-90.11	0.23	-430.18	1753182.18	14568480.68	40°06'50.193"N	80°35'48.007"W	430.18	270.031	1.09	1.09	-0.66



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## WELLPATH DATA (217 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]
2645.00	23.540	267.900	2576.78	-95.96	-1.44	-466.05	1753146.33	14568479.00	40°06'50.178"N	80°35'48.469"W	466.05	269.823	1.85	1.78	1.28
2737.00	25.250	268.580	2660.57	-102.77	-2.60	-504.02	1753108.37	14568477.84	40°06'50.168"N	80°35'48.958"W	504.03	269.704	1.88	1.86	0.74
2835.00	27.030	269.010	2748.54	-110.90	-3.50	-547.19	1753065.22	14568476.94	40°06'50.161"N	80°35'49.513"W	547.20	269.633	1.83	1.82	0.44
2928.00	29.240	271.460	2830.55	-120.27	-3.29	-591.03	1753021.39	14568477.16	40°06'50.165"N	80°35'50.078"W	591.04	269.681	2.68	2.38	2.63
3021.00	31.260	273.550	2910.88	-132.08	-1.22	-637.83	1752974.62	14568479.23	40°06'50.188"N	80°35'50.680"W	637.83	269.891	2.45	2.17	2.25
3113.00	33.400	274.200	2988.62	-145.59	2.12	-686.91	1752925.55	14568482.56	40°06'50.223"N	80°35'51.311"W	686.91	270.177	2.36	2.33	2.25
3206.00	34.330	273.670	3065.84	-159.87	5.67	-738.61	1752873.87	14568486.11	40°06'50.260"N	80°35'51.977"W	738.63	270.440	1.05	1.00	-0.57
3298.00	33.940	271.990	3141.99	-173.14	8.22	-790.17	1752822.33	14568488.66	40°06'50.288"N	80°35'52.640"W	790.21	270.596	1.11	-0.42	-1.83
3391.00	33.490	271.730	3219.35	-185.55	9.90	-841.76	1752770.76	14568490.34	40°06'50.307"N	80°35'53.304"W	841.82	270.674	0.51	-0.48	-0.28
3484.00	33.410	273.530	3296.95	-198.55	12.25	-892.97	1752719.58	14568492.69	40°06'50.332"N	80°35'53.963"W	893.05	270.786	1.07	-0.09	1.94
3576.00	34.120	275.220	3373.43	-213.02	16.16	-943.94	1752668.62	14568496.59	40°06'50.373"N	80°35'54.619"W	944.08	270.981	1.28	0.77	1.84
3669.00	34.410	275.330	3450.29	-228.63	20.97	-996.08	1752616.50	14568501.41	40°06'50.423"N	80°35'55.290"W	996.30	271.206	0.32	0.31	0.12
3762.00	33.950	274.300	3527.23	-243.79	25.36	-1048.14	1752564.46	14568505.79	40°06'50.469"N	80°35'55.960"W	1048.45	271.386	0.79	-0.49	-1.11
3855.00	33.090	272.730	3604.76	-257.59	28.52	-1099.40	1752513.22	14568508.95	40°06'50.502"N	80°35'56.619"W	1099.77	271.486	1.31	-0.92	-1.69
3947.00	32.370	272.230	3682.15	-270.08	30.67	-1149.10	1752463.55	14568511.10	40°06'50.526"N	80°35'57.259"W	1149.50	271.529	0.84	-0.78	-0.54
4041.00	32.100	271.530	3761.66	-282.16	32.32	-1199.21	1752413.45	14568512.75	40°06'50.544"N	80°35'57.903"W	1199.64	271.544	0.49	-0.29	-0.74
4133.00	31.560	271.800	3839.83	-293.67	33.73	-1247.71	1752364.97	14568514.16	40°06'50.560"N	80°35'58.528"W	1248.16	271.548	0.61	-0.59	0.29
4226.00	30.370	270.400	3919.57	-304.57	34.65	-1295.54	1752317.15	14568515.08	40°06'50.572"N	80°35'59.143"W	1296.01	271.532	1.50	-1.28	-1.51
4319.00	31.000	268.860	3999.55	-314.18	34.34	-1343.00	1752269.72	14568514.77	40°06'50.571"N	80°35'59.754"W	1343.44	271.465	1.08	0.68	-1.66
4412.00	32.260	271.850	4057.74	-324.69	34.67	-1391.75	1752220.98	14568515.10	40°06'50.576"N	80°36'00.382"W	1392.19	271.427	2.16	1.35	3.22
4505.00	31.660	274.480	4157.65	-337.60	37.37	-1440.90	1752171.86	14568517.80	40°06'50.605"N	80°36'01.014"W	1441.38	271.486	1.63	-0.65	2.83
4597.00	32.070	275.360	4235.78	-351.79	41.54	-1489.28	1752123.49	14568521.97	40°06'50.648"N	80°36'01.636"W	1489.86	271.598	0.67	0.45	0.96
4690.00	33.630	276.070	4313.91	-367.20	46.57	-1539.48	1752073.31	14568527.00	40°06'50.700"N	80°36'02.282"W	1540.18	271.733	1.73	1.68	0.76
4783.00	35.320	274.340	4390.58	-382.80	51.33	-1591.90	1752020.91	14568531.75	40°06'50.750"N	80°36'02.957"W	1592.73	271.847	2.10	1.82	-1.86
4876.00	37.730	272.030	4465.31	-397.32	54.37	-1647.15	1751965.68	14568534.79	40°06'50.782"N	80°36'03.668"W	1648.05	271.891	2.98	2.59	-2.48
4967.00	36.960	270.420	4537.65	-410.01	55.56	-1702.34	1751910.52	14568535.98	40°06'50.796"N	80°36'04.378"W	1703.24	271.869	1.37	-0.85	-1.77
5060.00	33.440	267.860	4613.64	-420.47	54.81	-1755.92	1751856.95	14568535.23	40°06'50.791"N	80°36'05.066"W	1756.78	271.788	4.10	-3.78	-2.75
5153.00	32.560	272.220	4691.65	-431.06	54.82	-1806.54	1751806.35	14568535.24	40°06'50.794"N	80°36'05.719"W	1807.37	271.738	2.72	-0.95	4.69
5245.00	33.090	275.290	4768.96	-444.66	58.09	-1856.29	1751756.62	14568538.52	40°06'50.828"N	80°36'06.359"W	1857.20	271.793	1.90	0.58	3.34
5338.00	34.150	274.890	4846.41	-459.84	62.66	-1907.58	1751705.35	14568543.08	40°06'50.876"N	80°36'07.019"W	1908.61	271.881	1.16	1.14	-0.43



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5431.00	35.110	278.430	4922.94	-476.81	68.81	-1960.05	1751662.90	14568549.22	40°06'50.939"N	80°36'07.694"W	1961.26	272.011	2.40	1.03	3.81
5524.00	32.210	276.550	5000.34	-494.09	75.56	-2011.14	1751601.83	14568555.97	40°06'51.008"N	80°36'08.351"W	2012.56	272.152	3.31	-3.12	-2.02
5616.00	32.510	276.560	5078.05	-509.81	81.18	-2060.06	1751552.93	14568561.59	40°06'51.065"N	80°36'08.981"W	2061.66	272.257	0.33	0.33	0.01
5709.00	32.510	275.340	5156.48	-525.26	86.36	-2109.77	1751503.24	14568566.77	40°06'51.119"N	80°36'09.620"W	2111.54	272.344	0.71	0.00	-1.31
5802.00	34.210	271.670	5234.16	-538.94	89.45	-2160.80	1751452.24	14568569.86	40°06'51.152"N	80°36'10.277"W	2162.65	272.370	2.84	1.83	-3.95
5894.00	34.470	270.760	5310.13	-550.86	90.55	-2212.68	1751400.37	14568570.95	40°06'51.165"N	80°36'10.944"W	2214.53	272.343	0.63	0.28	-0.99
5987.00	34.590	269.120	5386.74	-561.81	90.49	-2265.39	1751347.68	14568570.90	40°06'51.166"N	80°36'11.623"W	2267.20	272.287	1.01	0.13	-1.76
6078.00	31.660	271.230	5462.95	-572.32	90.61	-2315.11	1751297.98	14568571.01	40°06'51.170"N	80°36'12.263"W	2316.88	272.241	3.46	-3.22	-2.32
6147.00	30.900	270.880	5521.92	-580.45	91.27	-2350.93	1751262.18	14568571.67	40°06'51.178"N	80°36'12.724"W	2352.70	272.223	1.13	-1.10	-0.51
6239.00	30.840	262.580	5600.92	-587.65	88.58	-2397.96	1751215.17	14568568.99	40°06'51.153"N	80°36'13.329"W	2399.59	272.116	4.63	-0.07	-9.02
6332.00	30.870	254.910	5680.79	-588.31	79.29	-2444.65	1751168.49	14568559.70	40°06'51.064"N	80°36'13.931"W	2445.93	271.858	4.23	0.03	-8.25
6425.00	30.610	244.010	5760.79	-581.35	62.69	-2489.00	1751124.16	14568543.11	40°06'50.902"N	80°36'14.503"W	2489.79	271.443	5.99	-0.28	-11.72
6517.00	32.690	228.200	5839.24	-563.35	35.82	-2528.65	1751084.53	14568516.25	40°06'50.638"N	80°36'15.014"W	2528.90	270.811	9.27	2.26	-17.18
6610.00	35.910	215.180	5916.16	-532.33	-3.28	-2563.14	1751050.05	14568477.17	40°06'50.253"N	80°36'15.461"W	2563.14	269.927	8.60	3.46	-14.00
6702.00	39.270	207.130	5989.09	-491.41	-51.29	-2591.99	1751021.21	14568429.18	40°06'49.780"N	80°36'15.835"W	2592.50	268.866	6.46	3.65	-8.75
6794.00	42.740	199.790	6058.55	-442.28	-106.62	-2615.86	1750997.35	14568373.86	40°06'49.234"N	80°36'16.145"W	2618.03	267.666	6.45	3.77	-7.98
6887.00	46.700	190.670	6124.69	-384.17	-169.67	-2632.83	1750980.38	14568310.84	40°06'48.612"N	80°36'16.367"W	2638.29	266.313	8.10	4.26	-9.81
6980.00	50.660	180.990	6186.16	-317.81	-239.00	-2639.73	1750973.49	14568241.54	40°06'47.927"N	80°36'16.460"W	2650.53	264.827	8.89	4.26	-10.41
7027.00	52.330	176.800	6215.43	-281.71	-275.76	-2639.01	1750974.21	14568204.79	40°06'47.564"N	80°36'16.453"W	2653.38	264.035	7.83	3.55	-8.91
7073.00	55.870	174.490	6242.42	-244.79	-312.90	-2636.16	1750977.05	14568167.66	40°06'47.196"N	80°36'16.418"W	2654.67	263.231	8.70	7.70	-5.02
7123.00	60.030	173.720	6268.93	-202.67	-355.04	-2631.80	1750981.41	14568125.54	40°06'46.780"N	80°36'16.364"W	2655.65	262.317	8.42	8.32	-1.54
7166.00	64.620	172.670	6288.90	-164.76	-392.85	-2627.29	1750985.93	14568087.75	40°06'46.406"N	80°36'16.309"W	2656.49	261.496	10.89	10.67	-2.44
7217.00	68.650	171.050	6309.12	-118.06	-439.18	-2620.65	1750992.56	14568041.43	40°06'45.948"N	80°36'16.226"W	2657.19	260.487	8.42	7.90	-3.18
7257.00	72.300	169.650	6322.49	-80.40	-476.34	-2614.33	1750998.88	14568004.29	40°06'45.580"N	80°36'16.146"W	2657.37	259.674	9.70	9.12	-3.50
7303.00	73.970	167.150	6335.83	-36.39	-519.45	-2605.47	1751007.73	14567961.19	40°06'45.154"N	80°36'16.035"W	2656.75	258.725	6.34	3.63	-5.43
7349.00	76.330	165.080	6347.62	8.05	-562.61	-2594.80	1751018.40	14567918.05	40°06'44.727"N	80°36'15.900"W	2655.09	257.766	6.73	5.13	-4.50
7394.00	78.720	162.890	6357.34	51.87	-604.84	-2582.67	1751030.52	14567875.84	40°06'44.309"N	80°36'15.746"W	2652.55	256.819	7.13	5.31	-4.87
7441.00	80.600	160.340	6365.78	97.82	-648.71	-2568.09	1751045.10	14567831.99	40°06'43.875"N	80°36'15.561"W	2648.76	255.824	6.67	4.00	-5.43
7487.00	84.580	158.130	6371.71	142.90	-691.35	-2551.92	1751061.27	14567789.37	40°06'43.453"N	80°36'15.356"W	2643.91	254.842	9.88	8.65	-4.80
7534.00	87.260	155.290	6375.06	188.87	-734.40	-2533.38	1751079.79	14567746.33	40°06'43.027"N	80°36'15.119"W	2637.68	253.834	8.30	5.70	-6.04



# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19227'

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Office of Oil and Gas

OCT 21 2019

REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #406
Operator	SOUTHWESTERN ENERGY	Well	Glenn Didriksen OHI 406H
Area	Ohio County, WV	Wellbore	Glenn Didriksen OHI 406H AWB
Field	Ohio		
Facility	Glenn Didriksen OHI Pad 1		
			WV Department of Environmental Protection

## WELLPATH DATA (217 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)
7626.00	88.060	152.500	63378.81	278.04	-816.93	-2492.94	1751120.22	14567663.83	40°06'42.209"N	80°36'14.604"W	2623.38	251.856	3.15	0.87	-3.03
7719.00	87.940	153.120	63382.06	367.76	-899.61	-2450.47	1751162.68	14567581.18	40°06'41.390"N	80°36'14.062"W	2610.38	249.841	0.68	-0.13	0.67
7812.00	87.810	151.100	63385.51	457.17	-981.74	-2407.00	1751206.13	14567499.08	40°06'40.577"N	80°36'13.507"W	2599.51	247.811	2.18	-0.14	-2.17
7903.00	87.840	151.640	63388.96	544.33	-1061.56	-2363.43	1751249.68	14567419.29	40°06'39.786"N	80°36'12.951"W	2590.89	245.812	0.59	0.03	0.59
7996.00	87.780	151.150	63392.52	633.41	-1143.15	-2318.94	1751294.16	14567337.74	40°06'38.978"N	80°36'12.383"W	2585.39	243.758	0.53	-0.06	-0.53
8089.00	87.910	151.920	63396.01	722.56	-1224.85	-2274.64	1751338.44	14567256.07	40°06'38.169"N	80°36'11.817"W	2583.46	241.698	0.84	0.14	0.83
8182.00	87.910	153.520	63399.40	812.23	-1307.45	-2232.05	1751381.02	14567173.50	40°06'37.351"N	80°36'11.214"W	2586.78	239.640	1.72	0.00	1.72
8274.00	88.490	154.200	6402.29	901.43	-1389.99	-2191.53	1751421.51	14567090.99	40°06'36.533"N	80°36'10.757"W	2595.17	237.615	0.97	0.63	0.74
8367.00	88.460	155.010	6404.77	991.89	-1473.98	-2151.66	1751461.37	14567007.04	40°06'35.701"N	80°36'10.249"W	2608.12	235.587	0.87	-0.03	0.87
8459.00	88.430	156.050	6407.27	1081.70	-1557.68	-2113.57	1751499.44	14566923.36	40°06'34.872"N	80°36'09.764"W	2625.56	233.610	1.13	-0.03	1.13
8552.00	88.460	154.850	6409.79	1172.47	-1642.24	-2074.95	1751538.05	14566838.84	40°06'34.035"N	80°36'09.271"W	2646.20	231.640	1.29	0.03	-1.29
8644.00	88.370	154.720	6412.33	1262.02	-1725.44	-2035.77	1751577.22	14566755.67	40°06'33.211"N	80°36'08.772"W	2668.61	229.717	0.17	-0.10	-0.14
8737.00	88.400	154.890	6414.96	1352.55	-1809.56	-1996.19	1751616.78	14566671.58	40°06'32.378"N	80°36'08.267"W	2694.31	227.807	0.19	0.03	0.18
8829.00	88.340	153.820	6417.57	1441.94	-1892.47	-1956.39	1751656.56	14566588.71	40°06'31.557"N	80°36'07.760"W	2721.93	225.952	1.16	-0.07	-1.16
8922.00	88.490	154.070	6420.14	1532.14	-1975.98	-1915.56	1751697.38	14566505.23	40°06'30.730"N	80°36'07.239"W	2752.07	224.110	0.31	0.16	0.27
9015.00	88.490	154.770	6422.60	1622.53	-2059.84	-1875.42	1751737.50	14566421.40	40°06'29.900"N	80°36'06.727"W	2785.70	222.317	0.75	0.00	0.75
9106.00	88.430	157.140	6425.04	1711.51	-2142.90	-1838.36	1751774.55	14566338.37	40°06'29.077"N	80°36'06.255"W	2823.40	220.626	2.60	-0.07	2.60
9199.00	88.460	158.290	6427.57	1803.00	-2228.92	-1803.10	1751809.79	14566252.38	40°06'28.225"N	80°36'05.807"W	2866.93	218.971	1.24	0.03	1.24
9292.00	88.550	159.580	6429.99	1894.82	-2315.68	-1769.69	1751843.19	14566165.66	40°06'27.367"N	80°36'05.381"W	2914.48	217.388	1.39	0.10	1.39
9384.00	88.400	158.790	6432.44	1985.71	-2440.22	-1737.01	1751875.86	14566079.73	40°06'26.516"N	80°36'04.966"W	2963.96	215.877	0.87	-0.16	-0.86
9477.00	88.620	158.470	6434.86	2077.46	-2488.64	-1703.13	1751909.92	14565993.19	40°06'25.659"N	80°36'04.535"W	3015.28	214.391	0.42	0.24	-0.34
9570.00	88.400	158.140	6437.28	2169.11	-2574.60	-1668.76	1751944.08	14565906.84	40°06'24.804"N	80°36'04.098"W	3068.12	212.950	0.43	-0.24	-0.35
9663.00	88.400	157.730	6439.87	2260.66	-2660.76	-1633.84	1751978.99	14565820.72	40°06'23.951"N	80°36'03.653"W	3122.35	211.552	0.44	0.00	-0.44
9756.00	88.490	158.990	6442.40	2352.33	-2747.17	-1599.56	1752013.26	14565734.34	40°06'23.095"N	80°36'03.217"W	3178.92	210.210	1.36	0.10	1.35
9849.00	88.490	156.890	6444.85	2443.88	-2833.33	-1564.64	1752048.16	14565648.22	40°06'22.242"N	80°36'02.773"W	3236.64	208.909	2.26	0.00	-2.26
9941.00	89.110	156.400	6446.77	2534.08	-2917.77	-1528.18	1752084.61	14565563.80	40°06'21.406"N	80°36'02.308"W	3293.74	207.643	0.86	0.67	-0.53
10034.00	89.010	154.850	6448.30	2624.92	-3002.46	-1489.81	1752122.97	14565479.14	40°06'20.567"N	80°36'01.819"W	3351.76	206.390	1.67	-0.11	-1.67
10127.00	89.050	154.570	6449.88	2715.44	-3086.54	-1450.08	1752162.68	14565395.10	40°06'19.735"N	80°36'01.313"W	3410.20	205.165	0.30	0.04	-0.30
10220.00	89.080	153.870	6451.39	2805.78	-3170.27	-1409.64	1752203.10	14565311.40	40°06'18.906"N	80°36'00.797"W	3469.54	203.972	0.75	0.03	-0.75
10313.00	89.050	152.480	6452.91	2895.69	-3253.25	-1367.68	1752245.05	14565228.45	40°06'18.084"N	80°36'00.262"W	3529.05	202.802	1.49	-0.03	-1.49



Southwestern Energy

# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19227'

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Office of Oil and Gas

## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Ohio County, WV	Well	Glenn Didriksen OHI 406H
Field	Ohio	Wellbore	Glenn Didriksen OHI 406H AWB
Facility	Glenn Didriksen OHI Pad 1		WV Department of Environmental Protection

OCT 21 2019

## WELLPATH DATA (217 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)
10405.00	89.170	155.290	6454.34	2984.92	-3335.84	-1327.19	1752285.52	14565145.90	40°06'17.266"N	80°35'59.746"W	3590.16	201.696	3.06	0.13	3.05
10498.00	88.980	155.260	6455.84	3075.64	-3420.30	-1288.30	1752324.40	14565061.46	40°06'16.429"N	80°35'59.250"W	3654.89	200.639	0.21	-0.20	-0.03
10591.00	89.200	153.060	6457.32	3165.95	-3503.99	-1247.77	1752364.91	14564977.81	40°06'15.601"N	80°35'58.733"W	3719.53	199.601	2.38	0.24	-2.37
10684.00	89.050	151.220	6458.74	3255.42	-3586.20	-1204.32	1752408.34	14564895.64	40°06'14.786"N	80°35'58.179"W	3783.01	198.563	1.98	-0.16	-1.98
10776.00	88.980	151.910	6460.32	3343.68	-3667.08	-1160.52	1752452.13	14564814.78	40°06'13.985"N	80°35'57.620"W	3846.34	197.561	0.75	-0.08	0.75
10869.00	89.110	151.750	6461.87	3433.01	-3749.06	-1116.62	1752496.01	14564732.84	40°06'13.173"N	80°35'57.060"W	3911.81	196.586	0.22	-0.14	-0.17
10962.00	89.020	154.410	6463.39	3522.88	-3831.96	-1074.52	1752538.09	14564649.97	40°06'12.352"N	80°35'56.523"W	3979.77	195.664	2.86	-0.10	2.86
11054.00	89.140	155.260	6464.87	3612.47	-3915.22	-1035.41	1752577.19	14564566.74	40°06'11.527"N	80°35'56.024"W	4049.82	194.813	0.93	0.13	0.92
11147.00	89.010	154.630	6466.37	3703.08	-3999.46	-996.03	1752616.55	14564482.54	40°06'10.693"N	80°35'55.522"W	4121.62	193.985	0.69	-0.14	-0.68
11240.00	89.110	154.990	6467.89	3793.63	-4083.60	-956.45	1752656.11	14564398.42	40°06'09.860"N	80°35'55.018"W	4194.11	193.182	0.40	0.11	0.39
11333.00	89.050	149.600	6469.39	3883.14	-4165.90	-913.24	1752699.31	14564316.16	40°06'09.045"N	80°35'54.467"W	4264.82	192.365	5.80	-0.06	-5.80
11426.00	89.050	144.700	6470.93	3970.05	-4243.99	-862.81	1752749.72	14564238.10	40°06'08.271"N	80°35'53.822"W	4330.81	191.492	5.27	0.00	-5.27
11518.00	89.110	147.460	6472.41	4055.42	-4320.32	-811.48	1752801.03	14564161.80	40°06'07.514"N	80°35'53.166"W	4395.87	190.638	3.00	0.07	3.00
11612.00	89.050	152.980	6473.92	4144.91	-4401.86	-764.82	1752847.67	14564080.29	40°06'06.706"N	80°35'52.570"W	4467.81	189.857	5.87	-0.06	5.87
11705.00	89.080	154.080	6475.44	4234.97	-4485.10	-723.37	1752889.10	14563997.08	40°06'05.882"N	80°35'52.042"W	4543.06	189.162	1.18	0.03	1.18
11797.00	89.230	156.650	6476.79	4324.75	-4568.71	-685.03	1752927.43	14563913.50	40°06'05.054"N	80°35'51.553"W	4619.78	188.527	2.80	0.16	2.79
11889.00	89.170	158.830	6478.08	4415.28	-4653.84	-650.19	1752962.26	14563828.41	40°06'04.211"N	80°35'51.110"W	4699.04	187.953	2.37	-0.07	2.37
11980.00	89.110	158.880	6479.44	4505.13	-4738.70	-617.37	1752995.07	14563743.58	40°06'03.371"N	80°35'50.693"W	4778.75	187.423	0.09	-0.07	0.05
12072.00	88.980	159.210	6480.98	4596.01	-4824.61	-584.47	1753027.95	14563657.71	40°06'02.521"N	80°35'50.274"W	4859.88	186.907	0.39	-0.14	0.36
12164.00	88.980	158.890	6482.61	4686.89	-4910.51	-551.58	1753060.83	14563581.83	40°06'01.670"N	80°35'49.856"W	4941.39	186.409	0.35	0.00	-0.35
12257.00	89.140	157.630	6484.14	4778.55	-4996.88	-517.14	1753095.26	14563505.50	40°06'00.815"N	80°35'49.418"W	5023.57	185.909	1.37	0.17	-1.35
12349.00	89.140	157.660	6485.52	4869.06	-5081.96	-482.15	1753130.23	14563420.45	40°05'59.973"N	80°35'48.973"W	5104.78	185.420	0.03	0.00	0.03
12439.00	89.140	157.260	6486.87	4957.55	-5165.07	-447.65	1753164.72	14563341.37	40°05'59.150"N	80°35'48.533"W	5184.44	184.953	0.44	0.00	-0.44
12531.00	89.230	157.550	6488.18	5047.99	-5250.00	-412.31	1753200.05	14563262.47	40°05'58.309"N	80°35'48.084"W	5266.17	184.491	0.33	0.10	0.32
12623.00	89.420	156.660	6489.26	5138.34	-5334.75	-376.52	1753235.82	14563187.76	40°05'57.470"N	80°35'47.628"W	5348.02	184.037	0.99	0.21	-0.97
12716.00	89.230	154.110	6490.36	5229.10	-5419.29	-337.79	1753274.54	14563106.26	40°05'56.633"N	80°35'47.135"W	5429.80	183.567	2.75	-0.20	-2.74
12809.00	89.230	153.450	6491.61	5319.27	-5502.71	-296.70	1753315.61	14562979.87	40°05'55.807"N	80°35'46.611"W	5510.70	183.086	0.71	0.00	-0.71
12901.00	89.260	153.400	6492.82	5408.32	-5584.98	-255.55	1753356.75	14562897.63	40°05'54.992"N	80°35'46.086"W	5590.82	182.620	0.06	0.03	-0.05
12994.00	89.480	155.330	6493.84	5498.72	-5668.82	-215.32	1753396.96	14562813.82	40°05'54.161"N	80°35'45.573"W	5672.91	182.175	2.09	0.24	2.08
13087.00	89.230	153.600	6494.89	5589.15	-5752.73	-175.23	1753437.03	14562729.95	40°05'53.331"N	80°35'45.062"W	5755.39	181.745	1.88	-0.27	-1.86



# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19227'  
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Office of Oil and Gas

## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406	OCT 21 2019
Area	Ohio County, WV	Well	Glenn Didriksen OHI 406H	
Field	Ohio	Wellbore	Glenn Didriksen OHI 406H AWB	WV Department of Environmental Protection
Facility	Glenn Didriksen OHI Pad 1			

## WELLPATH DATA (217 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)
13180.00	89.450	154.340	6495.96	5679.39	-5836.29	-134.43	1753477.82	14562646.42	40°05'52.503"N	80°35'44.542"W	5837.83	181.319	0.83	0.24	0.80
13271.00	89.200	155.000	6497.03	5767.95	-5918.53	-95.50	1753516.74	14562564.21	40°05'51.688"N	80°35'44.046"W	5919.30	180.924	0.78	-0.27	0.73
13364.00	89.350	154.180	6498.21	5858.43	-6002.53	-55.59	1753556.62	14562480.24	40°05'50.857"N	80°35'43.537"W	6002.78	180.531	0.90	0.16	-0.88
13457.00	89.230	152.390	6499.36	5948.40	-6085.59	-13.79	1753598.41	14562397.21	40°05'50.034"N	80°35'43.004"W	6085.60	180.130	1.93	-0.13	-1.92
13549.00	89.350	152.930	6500.50	6037.14	-6167.31	28.46	1753640.64	14562315.53	40°05'49.224"N	80°35'42.465"W	6167.37	179.736	0.60	0.13	0.59
13642.00	89.350	155.380	6501.56	6127.44	-6250.99	69.00	1753681.17	14562231.87	40°05'48.396"N	80°35'41.949"W	6251.37	179.368	2.63	0.00	2.63
13733.00	89.350	157.760	6502.59	6216.65	-6334.48	105.18	1753717.33	14562148.42	40°05'47.569"N	80°35'41.488"W	6335.35	179.049	2.62	0.00	2.62
13826.00	89.540	158.270	6503.49	6308.25	-6420.71	139.99	1753752.13	14562062.22	40°05'46.715"N	80°35'41.045"W	6422.24	178.751	0.59	0.20	0.55
13919.00	89.600	158.960	6504.19	6400.02	-6507.30	173.90	1753786.03	14561975.66	40°05'45.858"N	80°35'40.614"W	6509.63	178.469	0.74	0.06	0.74
14010.00	89.540	158.600	6505.87	6489.85	-6592.13	206.84	1753818.95	14561890.86	40°05'45.018"N	80°35'40.195"W	6595.38	178.203	0.40	-0.07	-0.40
14102.00	89.380	155.380	6505.74	6580.16	-6676.80	242.79	1753854.89	14561806.23	40°05'44.180"N	80°35'39.737"W	6681.21	177.917	3.50	-0.17	-3.50
14194.00	89.660	152.120	6506.51	6669.34	-6759.30	283.47	1753895.56	14561723.77	40°05'43.363"N	80°35'39.219"W	6765.24	177.599	3.56	0.30	-3.54
14287.00	89.660	149.840	6507.06	6758.29	-6840.61	328.59	1753940.66	14561642.48	40°05'42.557"N	80°35'38.643"W	6848.50	177.250	2.45	0.00	-2.45
14380.00	89.720	149.580	6507.57	6846.62	-6920.91	375.49	1753987.54	14561562.21	40°05'41.762"N	80°35'38.044"W	6931.09	176.894	0.29	0.06	-0.28
14473.00	89.630	150.080	6508.09	6935.01	-7001.32	422.23	1754034.26	14561481.84	40°05'40.965"N	80°35'37.448"W	7014.04	176.549	0.55	-0.10	0.54
14565.00	89.820	151.990	6508.54	7023.03	-7081.80	466.78	1754078.80	14561401.38	40°05'40.168"N	80°35'36.879"W	7097.17	176.229	2.09	0.21	2.08
14658.00	89.690	153.910	6508.93	7112.86	-7164.63	509.07	1754121.07	14561318.59	40°05'39.347"N	80°35'36.340"W	7182.69	175.936	2.07	-0.14	2.06
14751.00	89.750	155.390	6509.39	7203.37	-7248.67	548.89	1754160.87	14561234.58	40°05'38.515"N	80°35'35.832"W	7269.42	175.670	1.59	0.06	1.59
14843.00	89.780	157.730	6509.77	7293.55	-7333.07	585.48	1754197.45	14561150.22	40°05'37.679"N	80°35'35.366"W	7356.40	175.435	2.54	0.03	2.54
14936.00	89.480	156.050	6510.37	7385.12	-7419.23	620.49	1754232.44	14561064.09	40°05'36.826"N	80°35'34.921"W	7445.13	175.219	0.47	-0.32	0.34
15029.00	89.480	157.930	6511.21	7476.72	-7505.45	655.34	1754267.28	14560977.90	40°05'35.973"N	80°35'34.478"W	7534.00	175.010	0.13	0.00	-0.13
15122.00	89.420	158.500	6512.10	7568.38	-7591.80	689.85	1754301.78	14560891.58	40°05'35.118"N	80°35'34.039"W	7623.08	174.808	0.62	-0.06	0.61
15214.00	89.320	158.540	6513.11	7659.13	-7677.40	723.54	1754335.45	14560806.01	40°05'34.270"N	80°35'33.610"W	7711.42	174.616	0.12	-0.11	0.04
15307.00	89.380	158.740	6514.17	7750.90	-7764.01	757.41	1754369.31	14560719.44	40°05'33.413"N	80°35'33.180"W	7800.87	174.428	0.22	0.06	0.22
15400.00	89.480	156.680	6515.09	7842.42	-7850.05	792.68	1754404.57	14560633.43	40°05'32.561"N	80°35'32.731"W	7889.97	174.234	2.22	0.11	-2.22
15492.00	89.540	156.420	6515.88	7932.60	-7934.45	829.29	1754441.16	14560549.07	40°05'31.725"N	80°35'32.265"W	7977.67	174.033	0.29	0.07	-0.28
15585.00	89.480	156.290	6516.68	8023.70	-8019.64	866.59	1754478.45	14560463.91	40°05'30.882"N	80°35'31.790"W	8066.32	173.833	0.15	-0.06	-0.14
15678.00	89.540	156.200	6517.47	8114.77	-8104.76	904.05	1754515.89	14560378.82	40°05'30.039"N	80°35'31.313"W	8155.02	173.635	0.12	0.06	-0.10
15769.00	89.450	157.970	6518.27	8204.13	-8188.57	939.48	1754551.31	14560295.05	40°05'29.209"N	80°35'30.862"W	8242.29	173.455	1.95	-0.10	1.95
15862.00	89.570	157.540	6519.07	8295.66	-8274.64	974.68	1754586.50	14560209.00	40°05'28.357"N	80°35'30.414"W	8331.85	173.282	0.48	0.13	-0.46



# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19227'  
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OCT 21 2019

REFERENCE WELLPATH IDENTIFICATION		Slot #406	Well	Glenn Didriksen OHI 406H	Wellbore	Glenn Didriksen OHI 406H AWB	MA Department of Environmental Protection
Operator	SOUTHWESTERN ENERGY	Slot #406	Well	Glenn Didriksen OHI 406H	Wellbore	Glenn Didriksen OHI 406H AWB	MA Department of Environmental Protection
Area	Ohio County, WV						
Field	Ohio						
Facility	Glenn Didriksen OHI Pad 1						

## WELLPATH DATA (217 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)
15954.00	89.570	154.250	6519.76	8385.62	-8358.61	1012.25	1754624.05	14560125.07	40°05'27.525"N	80°35'29.936"W	8419.68	173.095	3.58	0.00	-3.58
16047.00	89.480	152.970	6520.53	8475.72	-8441.91	1053.58	1754665.37	14560041.80	40°05'26.700"N	80°35'29.409"W	8507.40	172.886	1.38	-0.10	-1.38
16140.00	89.260	153.490	6521.55	8565.67	-8524.94	1095.47	1754707.24	14559958.81	40°05'25.878"N	80°35'28.875"W	8595.04	172.678	0.61	-0.24	0.56
16232.00	89.480	155.440	6522.57	8655.13	-8607.94	1135.12	1754746.88	14559875.83	40°05'25.056"N	80°35'28.370"W	8682.46	172.488	2.13	0.24	2.12
16325.00	89.290	156.170	6523.56	8746.04	-8692.77	1173.24	1754784.98	14559791.04	40°05'24.216"N	80°35'27.884"W	8771.59	172.313	0.81	-0.20	0.78
16418.00	89.420	157.350	6524.61	8837.27	-8778.22	1209.93	1754821.66	14559705.63	40°05'23.370"N	80°35'27.417"W	8861.21	172.152	1.28	0.14	1.27
16510.00	89.420	155.280	6525.54	8927.38	-8862.46	1246.88	1754858.60	14559621.42	40°05'22.536"N	80°35'26.947"W	8949.74	171.991	2.25	0.00	-2.25
16602.00	89.510	154.640	6526.40	9017.02	-8945.81	1285.82	1754897.52	14559538.10	40°05'21.710"N	80°35'26.451"W	9037.74	171.821	0.70	0.10	-0.70
16695.00	89.450	153.620	6527.25	9107.33	-9029.48	1326.40	1754938.08	14559454.46	40°05'20.882"N	80°35'25.933"W	9126.38	171.643	1.10	-0.06	-1.10
16788.00	89.380	152.030	6528.19	9197.10	-9112.21	1368.87	1754980.53	14559371.76	40°05'20.062"N	80°35'25.392"W	9214.45	171.457	1.71	-0.08	-1.71
16880.00	89.420	150.860	6529.16	9285.31	-9193.01	1412.84	1755024.49	14559290.99	40°05'19.262"N	80°35'24.831"W	9300.95	171.263	1.27	0.04	-1.27
16973.00	89.170	149.010	6530.30	9373.74	-9273.49	1459.43	1755071.06	14559210.54	40°05'18.464"N	80°35'24.236"W	9387.63	171.056	2.01	-0.27	-1.99
17066.00	89.230	149.240	6531.60	9461.77	-9353.30	1507.15	1755118.76	14559130.76	40°05'17.673"N	80°35'23.627"W	9473.95	170.846	0.26	0.06	0.25
17158.00	89.170	151.180	6532.89	9549.38	-9433.13	1552.85	1755164.44	14559050.96	40°05'16.882"N	80°35'23.044"W	9560.09	170.652	2.11	-0.07	2.11
17251.00	89.200	156.310	6534.21	9639.51	-9516.50	1593.97	1755205.55	14558967.63	40°05'16.057"N	80°35'22.520"W	9649.07	170.491	5.52	0.03	5.52
17344.00	89.170	157.920	6535.53	9730.84	-9602.17	1630.13	1755241.69	14558881.99	40°05'15.208"N	80°35'22.060"W	9739.56	170.365	1.73	-0.03	1.73
17435.00	89.200	157.390	6536.83	9820.37	-9686.33	1664.72	1755276.27	14558797.87	40°05'14.375"N	80°35'21.619"W	9828.34	170.248	0.58	0.03	-0.58
17528.00	89.200	156.640	6538.13	9911.67	-9771.94	1701.03	1755312.57	14558712.29	40°05'13.528"N	80°35'21.157"W	9918.88	170.125	0.81	0.00	-0.81
17620.00	89.230	155.900	6539.39	10001.76	-9856.15	1738.05	1755349.58	14558628.11	40°05'12.694"N	80°35'20.686"W	10008.22	169.999	0.80	0.03	-0.80
17711.00	89.260	155.320	6540.58	10090.65	-9939.02	1775.63	1755387.77	14558545.27	40°05'11.873"N	80°35'20.208"W	10096.39	169.871	0.64	0.03	-0.64
17804.00	89.230	155.560	6541.81	10181.44	-10023.60	1814.28	1755425.77	14558460.73	40°05'11.035"N	80°35'19.715"W	10186.47	169.740	0.26	-0.03	0.26
17897.00	89.290	156.010	6543.01	10272.35	-10108.41	1852.42	1755463.90	14558375.95	40°05'10.186"N	80°35'19.230"W	10276.74	169.615	0.49	0.06	0.48
17990.00	89.200	155.540	6544.24	10363.25	-10193.21	1890.58	1755502.04	14558291.18	40°05'09.356"N	80°35'18.744"W	10367.06	169.493	0.51	-0.10	-0.51
18083.00	89.200	154.830	6545.54	10453.95	-10277.62	1929.61	1755541.05	14558206.81	40°05'08.520"N	80°35'18.247"W	10457.19	169.367	0.76	0.00	-0.76
18176.00	89.230	155.360	6546.81	10544.61	-10361.96	1968.77	1755580.20	14558122.50	40°05'07.685"N	80°35'17.748"W	10547.33	169.242	0.57	0.03	0.57
18266.00	89.230	153.430	6548.02	10632.10	-10443.11	2007.66	1755619.07	14558041.38	40°05'06.881"N	80°35'17.252"W	10634.34	169.118	2.14	0.00	-2.14
18360.00	89.110	154.560	6549.38	10723.31	-10527.58	2048.86	1755660.27	14557956.94	40°05'06.044"N	80°35'16.727"W	10725.10	168.987	1.21	-0.13	1.20
18452.00	89.230	156.330	6550.71	10813.12	-10611.25	2087.09	1755698.48	14557873.30	40°05'05.216"N	80°35'16.240"W	10814.56	168.873	1.93	0.13	1.92
18544.00	89.290	157.480	6551.90	10903.41	-10695.87	2123.17	1755734.55	14557788.72	40°05'04.378"N	80°35'15.781"W	10904.56	168.772	1.25	0.07	1.25
18637.00	89.350	158.170	6553.01	10994.96	-10781.98	2158.27	1755769.63	14557702.63	40°05'03.525"N	80°35'15.335"W	10995.88	168.680	0.74	0.06	0.74





# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19227'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Ohio County, WV	Well	Glenn Didriksen OHI 406H
Field	Ohio	Wellbore	Glenn Didriksen OHI 406H AWB
Facility	Glenn Didriksen OHI Pad 1		WV Department of Environmental Protection

OCT 21 2019

## WELLPATH DATA (217 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)
18729.00	89.480	158.390	6553.94	11085.65	-10867.45	2192.32	1755803.67	14557617.20	40°05'02.679"N	80°35'14.902"W	11086.37	168.595	0.28	0.14	0.24
18822.00	89.260	156.980	6554.97	11177.16	-10953.48	2227.63	1755838.96	14557531.21	40°05'01.827"N	80°35'14.453"W	11177.70	168.504	1.53	-0.24	-1.52
18914.00	89.080	155.480	6556.30	11267.23	-11037.66	2264.70	1755876.02	14557447.06	40°05'00.994"N	80°35'13.981"W	11267.60	168.405	1.64	-0.20	-1.63
19007.00	89.140	156.300	6557.74	11358.17	-11122.54	2302.69	1755913.99	14557362.21	40°05'00.153"N	80°35'13.497"W	11358.40	168.303	0.88	0.06	0.88
19099.00	89.260	155.680	6559.03	11448.17	-11206.57	2340.12	1755951.41	14557278.22	40°04'59.321"N	80°35'13.021"W	11448.29	168.205	0.69	0.13	-0.67
19192.00	89.260	155.280	6560.23	11538.97	-11291.17	2378.71	1755989.99	14557193.64	40°04'58.483"N	80°35'12.529"W	11539.02	168.103	0.43	0.00	-0.43
19227.00	89.260	155.280	6560.68	11573.11	-11322.96	2393.35	1756004.62	14557161.87	40°04'58.168"N	80°35'12.343"W	11573.14	168.065	0.00	0.00	0.00

## HOLE & CASING SECTIONS - Ref Wellbore: Glenn Didriksen OHI 406H AWB

## Ref Wellpath: Glenn Didriksen OHI 406H AWP Proj: 19227'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	Start E/W (ft)	End N/S (ft)	End E/W (ft)
20in Conductor	26.00	100.00	74.00	26.00	100.00	0.00	0.00	0.00	0.16
17.5in Open Hole	100.00	767.00	667.00	100.00	766.99	0.00	0.16	0.65	0.10
13.375in Casing Surface	26.00	767.00	741.00	26.00	766.99	0.00	0.00	0.65	0.10
12.25in Open Hole	767.00	2333.00	1566.00	766.99	2285.95	0.65	0.10	2.34	-353.40
9.625in Casing Intermediate	26.00	2333.00	2307.00	26.00	2285.95	0.00	0.00	2.34	-353.40
8.75in Open Hole	2333.00	6143.00	3810.00	2285.95	5518.49	2.34	-353.40	91.23	-2348.87
8.5in Open Hole	6143.00	19227.00	13084.00	5518.49	6560.68	91.23	-2348.87	-11322.96	2393.35

# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19222'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Ohio County, WV	Well	Glenn Didriksen OHI 406H
Field	Ohio	Wellbore	Glenn Didriksen OHI 406H AWB
Facility	Glenn Didriksen OHI Pad 1		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Do Not Cross	6353.00	-141.67	-3095.36	1750518.03	14568338.83	40°06'48.909"N	80°36'22.319"W	point
Do Not Cross 2	6353.00	146.63	-2443.39	1751169.75	14568627.01	40°06'51.729"N	80°36'13.911"W	point
Glenn Didriksen OHI 406H LP Rev-5	6376.00	-728.74	-2520.94	1751092.23	14567751.99	40°06'43.082"N	80°36'14.959"W	point
Glenn Didriksen OHI 406H BHL Rev-3	6553.00	-11322.06	2418.58	1756029.84	14557162.77	40°04'58.176"N	80°35'12.018"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Glenn Didriksen OHI 406H AWB Ref Wellpath: Glenn Didriksen OHI 406H AWP Proj: 19222'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	659.00	OWSG MWD rev2 + HRGM	01_Premier MWD <17 1/2"> (146'-659')	Glenn Didriksen OHI 406H AWB
659.00	2283.00	OWSG MWD rev2 + HRGM	02_Premier MWD <12 1/4"> (782'-2283')	Glenn Didriksen OHI 406H AWB
2283.00	6078.00	OWSG MWD rev2 + HRGM	03_Premier MWD <8 3/4"> (2367'-6078')	Glenn Didriksen OHI 406H AWB
6078.00	19192.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8 1/2"> (6147'-19192')	Glenn Didriksen OHI 406H AWB
19192.00	19227.00	Blind Drilling (std)	Projection to bit	Glenn Didriksen OHI 406H AWB

OCT 21 2019

UNION OF OIL AND GAS

ENVIRONMENTAL PROTECTION



# Actual Wellpath Report

Glenn Didriksen OHI 406H AWP Proj: 19227'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	SOUTHWESTERN ENERGY	Slot	Slot #406
Area	Ohio County, WV	Well	Glenn Didriksen OHI 406H
Field	Ohio	Wellbore	Glenn Didriksen OHI 406H AWB
Facility	Glenn Didriksen OHI Pad 1		

## COMMENTS

### Wellpath general comments

API: 47-069-00293-0000

BH Job #: 1097855371

Rig: SDC 41

Duration: 5/3/2019 - 5/6/19

Premier MWD <17 1/2"> (146'-659')

Premier MWD <12 1/4"> (782'-2283')

Premier MWD <8 3/4"> (2367'-6078')

BH AT Curve <8 1/2"> (6147'-19192')

Projected MD at TD: 19,227'



Well Name: Glenn Didriksen OHI 406H

47069002930000

LITHOLOGY/FORMATION	TOP DEPTH, MD (FT)	TOP DEPTH, TVD (FT)	BOTTOM DEPTH, MD (FT)	BOTTOM DEPTH, TVD (FT)	QUANTITY AND TYPE OF FLUID
Base of Fresh Water	0.00	0.00	284.00	284.00	
Top of Salt Water	801.00	801.00	NA	NA	
Pittsburgh Coal	684.00	684.00	701.00	701.00	
Pottsville (ss)	792.00	792.00	901.00	901.00	
Raven Cliff (ss)	1160.00	1160.00	1333.00	1333.00	
Maxton (ss)	1721.00	1721.00	2056.00	2024.00	
Big Injun (ss)	2056.00	2024.00	2418.00	2357.00	
Berea (siltstone)	2418.00	2357.00	6237.00	5800.00	
Rhinestreet (shale)	6423.00	5759.00	6747.00	6023.00	
Cashagua (shale)	6747.00	6023.00	6873.00	6115.00	
Middlesex (shale)	6873.00	6115.00	6937.00	6158.00	
Burket (shale)	6937.00	6158.00	6967.00	6178.00	
Tully (ls)	6967.00	6178.00	7043.00	6225.00	
Mahantango (shale)	7043.00	6225.00	7371.00	6352.00	
Marcellus (shale)	7371.00	6352.00	NA	NA	GAS