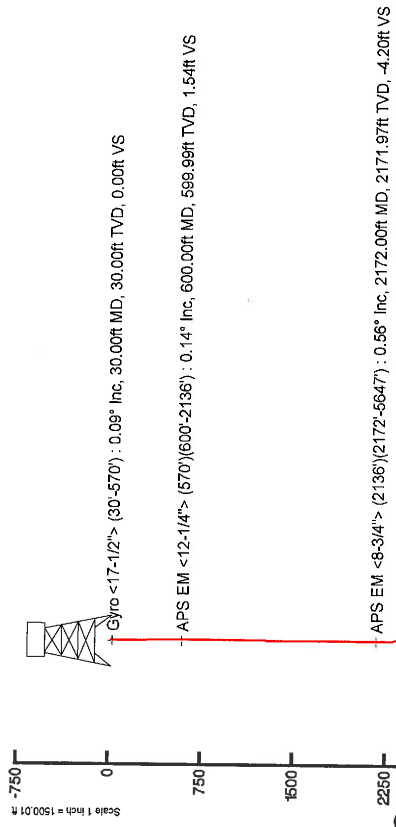


Location: Ohio County, WV  
Field: Ohio  
Facility: GW Rentals LLC OHI Pad

Slot: Slot 5H  
Well: GW Rentals LLC OHI 5H  
Wellbore: GW Rentals LLC OHI 5H PWB

Plot reference wellpaths is GW Rentals LLC OHI 5H PWB Rev-D-0  
True vertical depths are referenced to SDC 41 (RT)  
Measured depths are referenced to SDC 41 (RT)  
SDC 41 (RT) to Mean Sea Level: 1273 feet  
Mean Sea Level to Mud line (At Slot Slot 5H): -1247 feet  
Coordinates are in feet referenced to Slot  
Created by: esbauer on 16/Nov/2015

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
GW Rentals LLC OHI Pad	1761911.920	14554083.900	80°33'56.509"W
Slot	Local N (ft)	Local E (ft)	Local N (ft)
Slot 5H	7.74	11.99	1761923.910
SDC 41 (RT) to Mud line (At Slot Slot 5H)	14554091.640	40°04'27.538"N	80°33'56.354"W
Mean Sea Level to Mud line (At Slot Slot 5H)	28ft		
SDC 41 (RT) to Mean Sea Level	-1247ft		
	1273ft		



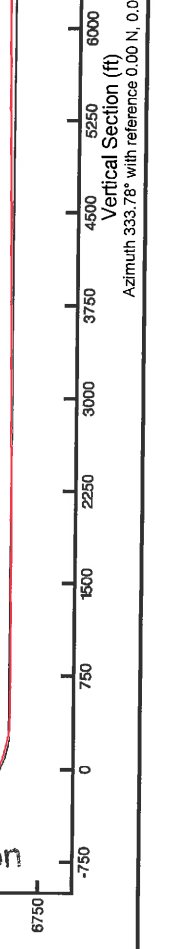
Well Profile Data (PLAN)									
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)	VS (ft)	
Tie On	3657.00	0.00	23.900	3656.56	6.75	3.10	0.00	6.48	
Prop to bit	3721.00	0.00	23.900	3720.56	8.83	3.13	0.00	6.54	
KOP	3913.50	0.00	23.900	3913.06	9.07	3.24	0.00	6.71	
Build to 13inc	4584.40	12.997	128.769	4583.43	-36.56	60.73	2.00	-59.63	
End Hold / curve KOP	5786.40	12.997	128.769	5751.06	-209.01	275.30	0.00	-309.14	
Build 35inc (range zone)	6270.76	35.000	5.000	6205.59	-99.91	332.39	9.00	-236.49	
Landing pt	6936.21	90.000	336.000	6506.00	444.67	201.56	9.00	306.86	
End Hold / start of turn	14030.91	90.000	336.000	6506.00	6926.00	-2684.11	0.00	7399.24	
End Build & Turn 27100	15325.03	90.500	310.122	6500.26	7951.58	-3455.23	2.00	8659.98	
End BHI	16354.08	90.500	310.122	6491.28	8614.70	-4242.09	0.00	9602.52	

Targets			
MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)
16354.08	6491.28	8614.70	-4242.09
8995.21	6606.00	444.67	1761923.91
	201.56		14554091.64
			40°04'27.538"N
			80°33'56.354"W

User specified (HDGM) Dip: 87.61° Field: 52980 nT  
Magnetic North is 8.33 degrees West of True North (at 07/Oct/2015)  
Grid North is 0.28 degrees East of True North  
To correct azimuth from Magnetic to Grid subtract 0.28 degrees

Gyro <17-1/2"> (30-570') : 30.00ft TVD, 0.00ft N, 0.00ft E  
APS EM <12-1/4"> (570)(600-2136)' : 599.99ft TVD, 0.51ft N, 2.46ft W  
APS EM <8-3/4"> (2136)(2172-5647)' : 2171.97ft TVD, 6.21ft S, 3.10ft W  
BHI AT Curve <8-1/2"> (5647)(5717-16360)' : 5677.83ft TVD, 208.65ft S, 270.40ft E

Projected MD at TD: 16375' : 90.58° Inc, 16375.00ft MD, 6420.26ft TVD, 9617.44ft VS



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### REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 5H
Area	Ohio County, WV	Well	GW Rentals LLC OHI 5H
Field	Ohio	Wellbore	GW Rentals LLC OHI 5H AWB
Facility	GW Rentals LLC OHI Pad		

### REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Edsaryar
Scale	0.999617	Report Generated	13/Nov/2015 at 18:04
Convergence at slot	0.28° East	Database/Source file	WA_MPL_EASTERONUS_Defn/GW_Rentals_LLC_OHI_5H_AWB.xml

### WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [ft]	East [ft]	Easting [US ft]	Northing [US ft]	Latitude	Longitude
Slot Location	7.74	11.99	1761923.91	14554091.64	40°04'27.538"N	80°33'56.354"W
Facility Reference Pt			1761911.92	14554083.90	40°04'27.462"N	80°33'56.509"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 (RT) to Facility Vertical Datum	1273.00ft
Horizontal Reference Pt	Slot	SDC 41 (RT) to Mean Sea Level	1273.00ft
Vertical Reference Pt	SDC 41 (RT)	SDC 41 (RT) to Mud Line at Slot (Slot 5H)	26.00ft
MD Reference Pt	SDC 41 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	333.78°

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 Office of Oil and Gas  
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 JAN 26 2017



## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 5H
Area	Ohio County, WV	Well	GW Rentals LLC OHI 5H
Field	Ohio	Wellbore	GW Rentals LLC OHI 5H AWB
Facility	GW Rentals LLC OHI Pad		

## WELLPATH DATA (248 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	VertSect [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	213.080	0.00	0.00	0.00	0.00	1761923.91	14554091.64	40°04'27.538"N	80°33'56.354"W	0.00	0.000	0.00	0.00	0.00
26.00	0.000	213.080	26.00	0.00	0.00	0.00	1761923.91	14554091.64	40°04'27.538"N	80°33'56.354"W	0.00	0.000	0.00	0.00	0.00
30.00	0.090	213.080	30.00	0.00	0.00	0.00	1761923.91	14554091.64	40°04'27.538"N	80°33'56.354"W	0.00	213.080	2.25	2.25	0.00
60.00	0.180	213.080	60.00	-0.04	-0.06	-0.04	1761923.87	14554091.58	40°04'27.537"N	80°33'56.355"W	0.07	213.080	0.30	0.30	0.00
90.00	0.270	213.080	90.00	-0.10	-0.16	-0.10	1761923.81	14554091.48	40°04'27.536"N	80°33'56.356"W	0.19	213.080	0.30	0.30	0.00
120.00	0.280	231.090	120.00	-0.15	-0.27	-0.20	1761923.71	14554091.37	40°04'27.535"N	80°33'56.357"W	0.33	216.985	0.29	0.03	60.03
150.00	0.310	258.180	150.00	-0.15	-0.33	-0.34	1761923.57	14554091.31	40°04'27.535"N	80°33'56.359"W	0.47	225.705	0.47	0.10	90.30
180.00	0.390	277.440	180.00	-0.07	-0.33	-0.52	1761923.39	14554091.31	40°04'27.535"N	80°33'56.361"W	0.61	237.318	0.47	0.27	64.20
210.00	0.450	285.440	210.00	0.07	-0.29	-0.73	1761923.18	14554091.35	40°04'27.535"N	80°33'56.364"W	0.79	248.573	0.28	0.20	26.67
240.00	0.440	284.960	240.00	0.22	-0.23	-0.96	1761922.95	14554091.41	40°04'27.536"N	80°33'56.367"W	0.98	256.700	0.04	-0.03	-1.60
270.00	0.430	284.450	270.00	0.37	-0.17	-1.18	1761922.73	14554091.47	40°04'27.536"N	80°33'56.370"W	1.19	261.860	0.04	-0.03	-1.70
300.00	0.410	283.940	300.00	0.51	-0.11	-1.39	1761922.52	14554091.53	40°04'27.537"N	80°33'56.372"W	1.40	265.295	0.07	-0.07	-1.70
330.00	0.370	286.900	329.99	0.65	-0.06	-1.59	1761922.31	14554091.58	40°04'27.537"N	80°33'56.375"W	1.59	267.820	0.15	-0.13	9.87
360.00	0.320	290.700	359.99	0.77	0.00	-1.76	1761922.15	14554091.64	40°04'27.538"N	80°33'56.377"W	1.76	269.913	0.18	-0.17	12.67
390.00	0.280	295.670	389.99	0.89	0.06	-1.90	1761922.01	14554091.70	40°04'27.539"N	80°33'56.379"W	1.90	271.767	0.16	-0.13	16.57
420.00	0.250	300.160	419.99	1.01	0.12	-2.03	1761921.89	14554091.76	40°04'27.539"N	80°33'56.380"W	2.03	273.485	0.12	-0.10	14.97
450.00	0.220	304.800	449.99	1.11	0.19	-2.13	1761921.78	14554091.83	40°04'27.540"N	80°33'56.382"W	2.14	275.076	0.12	-0.10	15.60
480.00	0.200	310.700	479.99	1.21	0.26	-2.22	1761921.69	14554091.90	40°04'27.541"N	80°33'56.383"W	2.23	276.594	0.10	-0.07	19.60
510.00	0.180	315.500	509.99	1.30	0.32	-2.29	1761921.62	14554091.96	40°04'27.541"N	80°33'56.384"W	2.31	278.056	0.09	-0.07	16.00
540.00	0.170	316.480	539.99	1.39	0.39	-2.35	1761921.56	14554092.03	40°04'27.542"N	80°33'56.385"W	2.38	279.409	0.03	-0.03	3.20
570.00	0.150	317.610	569.99	1.47	0.45	-2.41	1761921.50	14554092.09	40°04'27.542"N	80°33'56.385"W	2.45	280.604	0.07	-0.07	3.77
600.00	0.140	317.980	599.99	1.54	0.51	-2.46	1761921.45	14554092.15	40°04'27.543"N	80°33'56.386"W	2.51	281.650	0.03	-0.03	1.23
630.00	0.130	318.640	629.99	1.61	0.55	-2.52	1761921.40	14554092.19	40°04'27.543"N	80°33'56.387"W	2.57	282.355	0.15	-0.03	-64.47
660.00	0.120	318.410	659.99	1.65	0.57	-2.58	1761921.33	14554092.21	40°04'27.544"N	80°33'56.388"W	2.64	282.507	0.16	0.03	-67.43
690.00	0.110	318.350	689.99	1.69	0.57	-2.66	1761921.25	14554092.21	40°04'27.544"N	80°33'56.389"W	2.72	282.136	0.16	0.07	-56.20
720.00	0.100	318.200	719.99	1.70	0.55	-2.73	1761921.18	14554092.19	40°04'27.543"N	80°33'56.390"W	2.79	281.398	0.14	-0.07	-49.17
750.00	0.100	318.130	749.99	1.69	0.51	-2.79	1761921.12	14554092.15	40°04'27.543"N	80°33'56.390"W	2.84	280.421	0.16	-0.03	-65.20
780.00	0.100	318.300	779.99	1.66	0.46	-2.83	1761921.08	14554092.10	40°04'27.543"N	80°33'56.391"W	2.87	279.221	0.16	0.00	-72.60
810.00	0.100	318.400	809.99	1.62	0.39	-2.86	1761921.05	14554092.03	40°04'27.542"N	80°33'56.391"W	2.88	277.848	0.08	0.03	-32.00
840.00	0.160	201.510	839.99	1.56	0.32	-2.88	1761921.03	14554091.96	40°04'27.541"N	80°33'56.391"W	2.90	276.327	0.08	0.07	18.83

WV Department of Environmental Protection



### REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 5H
Area	Ohio County, WV	Well	GW Rentals LLC OHI 5H
Field	Ohio	Wellbore	GW Rentals LLC OHI 5H AWB
Facility	GW Rentals LLC OHI Pad		

### WELLPATH DATA (248 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]
870.00	0.170	206.320	869.99	1.51	0.24	-2.92	1761920.99	14554091.88	40°04'27.540"N	80°33'56.392"W	2.93	274.717	0.06	0.03	16.03
900.00	0.180	209.940	899.99	1.45	0.16	-2.96	1761920.95	14554091.80	40°04'27.540"N	80°33'56.392"W	2.97	273.093	0.05	0.03	12.07
930.00	0.180	197.610	929.99	1.39	0.07	-3.00	1761920.91	14554091.71	40°04'27.539"N	80°33'56.393"W	3.00	271.419	0.13	0.00	-41.10
960.00	0.180	184.880	959.99	1.32	-0.02	-3.02	1761920.89	14554091.62	40°04'27.538"N	80°33'56.393"W	3.02	269.666	0.13	0.00	-42.43
990.00	0.190	172.920	989.99	1.23	-0.11	-3.01	1761920.90	14554091.53	40°04'27.537"N	80°33'56.393"W	3.02	267.836	0.13	0.03	-39.87
1020.00	0.190	169.630	1019.99	1.13	-0.21	-3.00	1761920.91	14554091.43	40°04'27.536"N	80°33'56.393"W	3.01	265.953	0.04	0.00	-10.97
1050.00	0.190	170.340	1049.99	1.04	-0.31	-2.98	1761920.93	14554091.33	40°04'27.535"N	80°33'56.393"W	3.00	264.062	0.01	0.00	2.37
1080.00	0.190	171.050	1079.99	0.94	-0.41	-2.97	1761920.94	14554091.23	40°04'27.534"N	80°33'56.393"W	2.99	262.162	0.01	0.00	2.37
1110.00	0.170	171.430	1109.99	0.85	-0.50	-2.95	1761920.96	14554091.14	40°04'27.533"N	80°33'56.392"W	2.99	260.358	0.07	-0.07	1.27
1140.00	0.130	171.220	1139.99	0.78	-0.58	-2.94	1761920.97	14554091.06	40°04'27.532"N	80°33'56.392"W	3.00	258.856	0.13	-0.13	-0.70
1170.00	0.090	170.790	1169.99	0.72	-0.64	-2.93	1761920.98	14554091.00	40°04'27.531"N	80°33'56.392"W	3.00	257.757	0.13	-0.13	-1.43
1200.00	0.050	168.540	1199.99	0.69	-0.67	-2.92	1761920.99	14554090.97	40°04'27.531"N	80°33'56.392"W	3.00	257.058	0.13	-0.13	-7.50
1230.00	0.070	152.720	1229.99	0.66	-0.70	-2.91	1761921.01	14554090.94	40°04'27.531"N	80°33'56.392"W	3.00	256.468	0.09	0.07	-52.73
1260.00	0.090	144.730	1259.99	0.62	-0.74	-2.89	1761921.02	14554090.90	40°04'27.531"N	80°33'56.392"W	2.98	255.706	0.08	0.07	-26.63
1290.00	0.110	140.080	1289.99	0.57	-0.78	-2.86	1761921.05	14554090.86	40°04'27.530"N	80°33'56.391"W	2.96	254.779	0.07	0.07	-15.50
1320.00	0.130	152.100	1319.99	0.50	-0.83	-2.83	1761921.09	14554090.81	40°04'27.530"N	80°33'56.391"W	2.94	253.624	0.11	0.07	40.07
1350.00	0.150	167.390	1349.99	0.43	-0.90	-2.80	1761921.11	14554090.74	40°04'27.529"N	80°33'56.390"W	2.94	252.211	0.14	0.07	50.97
1380.00	0.190	178.110	1379.99	0.35	-0.99	-2.79	1761921.12	14554090.65	40°04'27.528"N	80°33'56.390"W	2.96	250.527	0.17	0.13	35.73
1410.00	0.220	183.760	1409.99	0.25	-1.09	-2.79	1761921.12	14554090.55	40°04'27.527"N	80°33'56.390"W	3.00	248.610	0.12	0.10	18.83
1440.00	0.250	187.270	1439.99	0.15	-1.22	-2.80	1761921.11	14554090.42	40°04'27.526"N	80°33'56.390"W	3.05	246.530	0.10	0.10	3.37
1470.00	0.280	193.570	1469.99	0.03	-1.35	-2.81	1761921.10	14554090.29	40°04'27.525"N	80°33'56.391"W	3.12	244.296	0.10	0.10	2.67
1500.00	0.310	199.270	1499.99	-0.10	-1.51	-2.83	1761921.08	14554090.13	40°04'27.523"N	80°33'56.391"W	3.21	241.942	0.10	0.10	1.40
1530.00	0.360	205.270	1529.99	-0.25	-1.68	-2.84	1761921.07	14554089.96	40°04'27.521"N	80°33'56.391"W	3.30	239.381	0.17	0.17	-8.73
1560.00	0.420	211.170	1559.99	-0.43	-1.89	-2.85	1761921.06	14554089.75	40°04'27.519"N	80°33'56.391"W	3.42	236.509	0.20	0.20	-6.53
1590.00	0.490	217.970	1589.99	-0.64	-2.12	-2.85	1761921.06	14554089.52	40°04'27.517"N	80°33'56.391"W	3.56	233.399	0.17	0.17	-5.03
1620.00	0.490	218.810	1619.99	-0.87	-2.37	-2.85	1761921.06	14554089.27	40°04'27.515"N	80°33'56.391"W	3.71	230.213	0.11	0.07	-10.30
1650.00	0.500	170.780	1649.98	-1.11	-2.63	-2.82	1761921.09	14554089.01	40°04'27.512"N	80°33'56.391"W	3.86	227.043	0.12	0.03	-13.43
1680.00	0.500	168.840	1679.98	-1.36	-2.89	-2.78	1761921.13	14554088.75	40°04'27.509"N	80°33'56.390"W	4.01	223.934	0.11	0.00	-13.13
1710.00	0.500	168.550	1709.98	-1.61	-3.14	-2.73	1761921.18	14554088.50	40°04'27.507"N	80°33'56.390"W	4.16	220.974	0.01	0.00	-0.97
1740.00	0.470	175.270	1739.98	-1.86	-3.40	-2.69	1761921.22	14554088.25	40°04'27.504"N	80°33'56.389"W	4.33	218.437	0.21	-0.10	22.40



### REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 5H
Area	Ohio County, WV	Well	GW Rentals LLC OHI 5H
Field	Ohio	Wellbore	GW Rentals LLC OHI 5H AWB
Facility	GW Rentals LLC OHI Pad		

### WELLPATH DATA (248 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]
1770.00	0.450	182.680	1769.98	-2.07	-3.64	-2.69	1761921.22	14554088.01	40°04'27.502"N	80°33'56.389"W	4.52	216.498	0.21	-0.07	24.70
1800.00	0.440	190.320	1799.98	-2.27	-3.87	-2.72	1761921.19	14554087.78	40°04'27.500"N	80°33'56.390"W	4.73	215.087	0.20	-0.03	25.47
1830.00	0.410	190.410	1829.98	-2.45	-4.09	-2.76	1761921.15	14554087.56	40°04'27.498"N	80°33'56.390"W	4.93	214.005	0.10	-0.10	0.30
1860.00	0.390	190.510	1859.98	-2.62	-4.29	-2.79	1761921.12	14554087.35	40°04'27.496"N	80°33'56.391"W	5.12	213.069	0.07	-0.07	0.33
1890.00	0.360	190.630	1889.98	-2.77	-4.48	-2.83	1761921.08	14554087.16	40°04'27.494"N	80°33'56.391"W	5.30	212.257	0.10	-0.10	0.40
1920.00	0.370	185.610	1919.98	-2.93	-4.67	-2.86	1761921.05	14554086.97	40°04'27.492"N	80°33'56.391"W	5.48	211.439	0.11	0.03	-16.73
1950.00	0.390	179.040	1949.98	-3.10	-4.87	-2.86	1761921.05	14554086.77	40°04'27.490"N	80°33'56.392"W	5.65	210.456	0.16	0.07	-21.90
1980.00	0.420	173.340	1979.97	-3.30	-5.08	-2.85	1761921.06	14554086.56	40°04'27.488"N	80°33'56.391"W	5.83	209.281	0.17	0.10	-19.00
2010.00	0.430	176.140	2009.97	-3.51	-5.30	-2.83	1761921.08	14554086.34	40°04'27.486"N	80°33'56.391"W	6.01	208.079	0.08	0.03	9.33
2014.00	0.420	178.630	2013.97	-3.54	-5.33	-2.83	1761921.08	14554086.31	40°04'27.485"N	80°33'56.391"W	6.04	207.935	0.53	-0.25	62.25
2044.00	0.580	177.610	2043.97	-3.77	-5.60	-2.82	1761921.09	14554086.05	40°04'27.483"N	80°33'56.391"W	6.27	206.742	0.53	0.53	-3.40
2074.00	0.480	177.110	2073.97	-4.03	-5.87	-2.81	1761921.10	14554085.77	40°04'27.480"N	80°33'56.391"W	6.51	205.545	0.33	-0.33	-1.67
2106.00	0.370	184.760	2105.97	-4.24	-6.11	-2.81	1761921.10	14554085.53	40°04'27.478"N	80°33'56.391"W	6.72	204.688	0.39	-0.34	23.91
2136.00	0.330	231.660	2135.97	-4.34	-6.26	-2.88	1761921.03	14554085.38	40°04'27.476"N	80°33'56.392"W	6.89	204.740	0.94	-0.13	156.33
2172.00	0.560	308.990	2171.97	-4.20	-6.21	-3.10	1761920.81	14554085.43	40°04'27.477"N	80°33'56.395"W	6.95	206.534	1.62	0.64	214.81
2188.00	0.780	328.800	2187.97	-4.02	-6.07	-3.22	1761920.69	14554085.57	40°04'27.478"N	80°33'56.396"W	6.87	207.938	1.98	1.37	123.81
2211.00	2.030	335.940	2230.95	-2.97	-5.13	-3.68	1761920.23	14554086.52	40°04'27.487"N	80°33'56.402"W	6.31	215.692	2.93	2.91	16.60
2233.00	2.780	347.010	2262.93	-1.65	-3.85	-4.09	1761919.82	14554087.79	40°04'27.500"N	80°33'56.407"W	5.62	226.700	2.75	2.34	34.59
2244.00	3.090	354.380	2293.89	-0.14	-2.29	-4.34	1761919.57	14554089.35	40°04'27.516"N	80°33'56.410"W	4.90	242.188	1.59	1.00	24.10
2323.00	5.200	1.880	2324.84	1.36	-0.60	-4.30	1761919.61	14554091.04	40°04'27.532"N	80°33'56.410"W	4.34	262.070	2.38	0.35	43.06
2353.00	4.260	1.260	2352.79	2.63	0.95	-4.02	1761919.89	14554092.59	40°04'27.548"N	80°33'56.406"W	4.13	283.329	0.92	0.21	15.96
2386.00	3.940	1.650	2385.74	4.12	2.85	-3.54	1761920.37	14554094.49	40°04'27.566"N	80°33'56.400"W	4.55	308.803	1.07	0.85	10.97
2420.00	2.960	3.040	2419.68	5.46	4.65	-2.92	1761920.99	14554096.29	40°04'27.584"N	80°33'56.392"W	5.49	327.882	2.22	-1.88	20.94
2450.00	2.240	3.580	2449.65	6.30	5.86	-2.34	1761921.57	14554097.50	40°04'27.596"N	80°33'56.384"W	6.31	338.229	2.35	-2.20	18.47
2482.00	1.740	3.190	2481.63	6.85	6.78	-1.74	1761922.17	14554098.42	40°04'27.605"N	80°33'56.376"W	7.00	345.617	2.02	-1.66	34.09
2518.00	1.430	3.440	2517.62	7.14	7.45	-1.03	1761922.88	14554099.09	40°04'27.612"N	80°33'56.367"W	7.52	352.148	1.43	-0.78	44.31
2613.00	0.790	7.850	2612.60	7.21	8.32	0.57	1761924.48	14554099.96	40°04'27.620"N	80°33'56.346"W	8.34	3.937	0.75	-0.67	17.80
2708.00	0.860	7.780	2707.59	6.94	8.67	1.89	1761925.80	14554100.31	40°04'27.623"N	80°33'56.329"W	8.88	12.319	0.11	0.07	5.72
2803.00	0.240	96.280	2802.59	6.66	8.80	2.79	1761926.70	14554100.44	40°04'27.625"N	80°33'56.318"W	9.23	17.579	0.67	-0.65	19.47
2897.00	0.180	125.180	2896.59	6.43	8.69	3.10	1761927.01	14554100.33	40°04'27.624"N	80°33'56.314"W	9.23	19.652	0.13	-0.06	30.74



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot 5H
SOUTHWESTERN ENERGY	Well	GW Rentals LLC OHI 5H
Area	Wellbore	GW Rentals LLC OHI 5H AWB
Field		
Facility		

## WELLPATH DATA (248 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]
2992.00	0.170	153.670	2991.59	6.16	8.48	3.29	1761927.20	14554100.12	40°04'27.622"N	80°33'56.312"W	9.10	21.196	0.09	-0.01	29.99
3087.00	0.100	118.820	3086.59	5.95	8.32	3.42	1761927.33	14554099.95	40°04'27.620"N	80°33'56.310"W	8.99	22.382	0.11	-0.07	-36.68
3182.00	0.170	171.280	3181.59	5.74	8.14	3.52	1761927.43	14554099.77	40°04'27.618"N	80°33'56.309"W	8.86	23.385	0.14	0.07	55.22
3277.00	0.100	175.610	3276.59	5.53	7.91	3.55	1761927.45	14554099.55	40°04'27.616"N	80°33'56.308"W	8.67	24.135	0.07	-0.07	4.56
3372.00	0.000	351.390	3371.59	5.46	7.83	3.55	1761927.46	14554099.47	40°04'27.615"N	80°33'56.308"W	8.60	24.399	0.11	-0.11	0.00
3467.00	0.050	1.760	3466.59	5.49	7.87	3.55	1761927.46	14554099.51	40°04'27.616"N	80°33'56.308"W	8.64	24.293	0.05	0.05	0.00
3562.00	0.550	327.870	3561.58	5.98	8.30	3.31	1761927.22	14554099.94	40°04'27.620"N	80°33'56.311"W	8.94	21.755	0.54	0.53	-35.67
3657.00	0.080	23.900	3656.58	6.48	8.75	3.10	1761927.01	14554100.38	40°04'27.624"N	80°33'56.314"W	9.28	19.495	0.54	-0.49	58.98
3751.00	0.070	14.640	3750.58	6.56	8.86	3.14	1761927.05	14554100.50	40°04'27.625"N	80°33'56.313"W	9.40	19.496	0.02	-0.01	-9.85
3847.00	0.370	58.390	3846.58	6.64	9.08	3.42	1761927.33	14554100.72	40°04'27.627"N	80°33'56.310"W	9.70	20.616	0.34	0.31	45.57
3942.00	0.930	87.080	3941.58	6.36	9.28	4.45	1761928.36	14554100.92	40°04'27.629"N	80°33'56.297"W	10.29	25.603	0.66	0.59	30.20
4036.00	2.800	109.130	4035.52	4.43	8.57	7.38	1761931.29	14554100.21	40°04'27.622"N	80°33'56.259"W	11.31	40.735	2.09	1.99	23.46
4132.00	4.030	116.760	4131.35	0.06	6.28	12.61	1761936.51	14554097.92	40°04'27.599"N	80°33'56.192"W	14.08	63.516	1.36	1.28	7.95
4227.00	5.590	113.670	4226.01	-6.14	2.92	19.83	1761943.73	14554094.56	40°04'27.566"N	80°33'56.099"W	20.04	81.621	1.66	1.64	-3.25
4322.00	7.530	117.520	4320.39	-14.70	-1.81	29.58	1761953.48	14554089.83	40°04'27.519"N	80°33'55.974"W	29.64	93.509	2.09	2.04	4.05
4417.00	8.930	121.430	4414.41	-25.95	-8.54	41.40	1761965.29	14554083.11	40°04'27.452"N	80°33'55.822"W	42.27	101.650	1.59	1.47	4.12
4511.00	10.670	127.430	4507.03	-39.91	-17.63	54.53	1761978.42	14554074.02	40°04'27.361"N	80°33'55.654"W	57.31	107.915	2.14	1.85	6.38
4606.00	12.620	131.590	4600.07	-57.42	-29.88	69.30	1761993.18	14554061.77	40°04'27.239"N	80°33'55.465"W	75.47	113.325	2.26	2.08	4.38
4701.00	14.080	133.840	4692.50	-77.92	-44.79	85.42	1762009.29	14554046.87	40°04'27.091"N	80°33'55.258"W	96.45	117.672	1.60	1.51	2.37
4795.00	13.920	134.750	4783.70	-99.29	-60.53	101.83	1762025.70	14554031.13	40°04'26.935"N	80°33'55.048"W	118.46	120.728	0.17	-0.17	-0.10
4890.00	13.610	135.180	4875.98	-120.62	-76.36	117.96	1762041.83	14554015.31	40°04'26.778"N	80°33'54.842"W	140.52	122.916	0.48	-0.33	1.51
4985.00	13.230	135.970	4968.38	-141.54	-92.05	133.45	1762057.31	14553999.62	40°04'26.622"N	80°33'54.644"W	162.12	124.597	0.41	-0.40	0.41
5079.00	13.930	137.240	5059.75	-162.28	-107.32	149.37	1762073.22	14553984.36	40°04'26.470"N	80°33'54.440"W	183.93	125.697	1.13	0.74	-3.65
5174.00	13.640	138.140	5151.78	-184.14	-123.02	167.00	1762090.85	14553968.67	40°04'26.314"N	80°33'54.214"W	207.42	126.376	0.99	0.96	-0.96
5268.00	14.250	139.040	5242.77	-205.91	-138.53	184.77	1762108.61	14553953.16	40°04'26.160"N	80°33'53.986"W	230.94	126.860	0.65	-0.65	-0.24
5363.00	13.520	139.030	5334.98	-226.80	-153.21	202.24	1762126.08	14553938.49	40°04'26.014"N	80°33'53.762"W	253.72	127.145	0.85	-0.69	-2.07
5457.00	12.820	139.850	5426.50	-246.27	-166.69	218.93	1762142.76	14553925.10	40°04'25.880"N	80°33'53.549"W	275.17	127.286	0.80	-0.80	-0.19
5553.00	14.240	140.790	5519.84	-266.63	-180.77	236.43	1762160.25	14553910.94	40°04'25.740"N	80°33'53.324"W	297.62	127.401	1.48	-1.48	-0.06
5647.00	16.050	129.670	5610.57	-288.97	-196.31	255.45	1762179.26	14553895.40	40°04'25.586"N	80°33'53.081"W	322.17	127.543	1.94	1.93	0.94
5717.00	16.100	129.400	5677.83	-306.65	-208.65	270.40	1762194.20	14553883.07	40°04'25.463"N	80°33'52.889"W	341.54	127.656	0.13	0.07	-0.39





# Actual Wellpath Report

GW Rentals LLC OHI 5H AWP Proj: 16375/  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot 5H
SOUTHWESTERN ENERGY	Well	GW Rentals LLC OHI 5H
Area	Wellbore	GW Rentals LLC OHI 5H AWB
Field		
Facility		

## WELLPATH DATA (248 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]
5765.00	12.740	117.520	5724.32	-316.98	-215.32	280.24	1762204.04	14553876.40	40°04'25.397"N	80°33'52.763"W	353.41	127.537	9.29	-7.00	-24.75
5812.00	10.440	97.970	5770.38	-323.56	-218.31	289.05	1762212.85	14553873.41	40°04'25.367"N	80°33'52.650"W	362.23	127.062	9.62	-4.89	-41.60
5857.00	9.960	73.840	5814.69	-326.53	-217.79	296.83	1762220.63	14553873.93	40°04'25.371"N	80°33'52.550"W	368.16	126.268	9.49	-1.07	-53.62
5907.00	10.680	60.840	5863.88	-327.05	-214.33	305.03	1762228.83	14553877.39	40°04'25.405"N	80°33'52.444"W	372.80	125.094	4.86	3.72	-26.00
5957.00	11.440	46.070	5912.96	-325.30	-208.63	312.65	1762236.44	14553883.09	40°04'25.461"N	80°33'52.346"W	375.87	123.715	5.85	3.75	-29.54
6003.00	14.230	35.050	5957.82	-321.19	-200.84	319.19	1762242.97	14553890.88	40°04'25.538"N	80°33'52.261"W	377.11	122.179	8.04	6.07	-23.96
6049.00	17.290	26.790	6002.09	-314.36	-190.10	325.52	1762249.30	14553901.61	40°04'25.644"N	80°33'52.179"W	376.96	120.285	8.23	6.65	-17.96
6098.00	21.520	19.950	6048.30	-303.75	-175.14	331.87	1762255.65	14553916.56	40°04'25.791"N	80°33'52.096"W	375.25	117.823	9.79	8.63	-13.96
6146.00	24.870	11.410	6092.43	-289.65	-156.96	336.87	1762260.65	14553934.74	40°04'25.970"N	80°33'52.031"W	371.65	114.983	9.87	6.98	-17.79
6193.00	27.500	3.900	6134.61	-272.43	-136.44	339.57	1762263.35	14553953.25	40°04'26.173"N	80°33'51.995"W	365.95	111.891	8.99	5.60	-15.98
6241.00	30.460	357.250	6176.51	-251.67	-113.22	339.74	1762263.52	14553978.46	40°04'26.403"N	80°33'51.991"W	358.11	108.431	9.11	6.17	-13.85
6287.00	34.050	352.780	6215.51	-228.79	-88.79	337.56	1762261.34	14554002.89	40°04'26.614"N	80°33'52.018"W	349.04	104.737	9.37	7.80	-9.72
6333.00	39.010	350.140	6252.46	-202.71	-61.73	333.46	1762257.24	14554029.93	40°04'26.912"N	80°33'52.069"W	339.12	100.488	11.31	10.78	-5.74
6382.00	44.020	347.820	6289.14	-171.37	-29.87	327.22	1762251.00	14554061.78	40°04'27.227"N	80°33'52.147"W	328.58	95.216	10.69	10.22	-4.73
6427.00	48.110	348.150	6320.36	-139.96	1.82	320.48	1762244.27	14554093.46	40°04'27.540"N	80°33'52.232"W	320.48	89.675	9.10	9.09	0.73
6476.00	52.100	349.950	6351.78	-103.71	38.72	313.36	1762237.15	14554130.35	40°04'27.905"N	80°33'52.321"W	315.74	82.956	8.62	8.14	3.67
6525.00	56.460	351.320	6380.38	-65.65	77.96	306.90	1762230.69	14554169.57	40°04'28.294"N	80°33'52.402"W	316.65	75.746	9.18	8.90	2.80
6571.00	60.640	349.870	6404.38	-28.09	116.67	300.48	1762224.27	14554208.26	40°04'28.676"N	80°33'52.482"W	322.33	68.780	9.48	9.09	-3.15
6619.00	65.040	347.610	6426.29	13.16	158.53	292.12	1762215.92	14554250.11	40°04'29.090"N	80°33'52.587"W	332.37	61.512	10.08	9.17	-4.71
6666.00	68.380	346.000	6444.87	55.18	200.59	282.40	1762206.20	14554292.15	40°04'29.506"N	80°33'52.709"W	346.39	54.614	7.51	7.11	-2.64
6719.00	71.200	343.200	6462.72	103.97	248.96	270.17	1762193.98	14554340.50	40°04'29.985"N	80°33'52.863"W	367.39	47.340	7.54	7.28	-2.08
6761.00	74.460	340.800	6474.79	143.44	287.80	259.71	1762183.52	14554379.33	40°04'30.369"N	80°33'52.995"W	387.66	42.063	5.29	5.05	-1.64
6808.00	77.000	345.760	6486.38	188.24	331.61	247.29	1762171.10	14554423.13	40°04'30.803"N	80°33'53.153"W	413.66	36.712	6.05	5.81	-1.74
6855.00	79.820	342.820	6495.79	233.70	375.62	233.74	1762157.56	14554467.11	40°04'31.239"N	80°33'53.324"W	442.40	31.893	6.85	5.81	-3.70
6901.00	82.410	339.400	6502.89	278.81	418.51	218.72	1762142.55	14554509.99	40°04'31.665"N	80°33'53.515"W	472.21	27.593	7.96	5.63	-5.70
6950.00	84.790	336.280	6508.36	327.37	463.59	200.35	1762124.19	14554555.06	40°04'32.109"N	80°33'53.748"W	505.04	23.373	7.98	4.86	-6.37
6998.00	86.950	334.980	6510.98	375.26	507.24	180.58	1762104.42	14554598.69	40°04'32.542"N	80°33'54.000"W	538.43	19.596	9.08	8.67	-2.71
7044.00	89.260	335.910	6511.69	421.24	549.08	161.47	1762085.32	14554640.50	40°04'32.956"N	80°33'54.243"W	572.32	16.387	2.13	0.67	2.02
7138.00	91.890	334.520	6512.73	515.20	634.41	122.07	1762045.93	14554725.80	40°04'33.801"N	80°33'54.744"W	646.05	10.891	1.50	0.23	-1.48
7234.00	93.910	334.390	6513.24	611.19	721.02	80.67	1762004.55	14554812.39	40°04'34.659"N	80°33'55.271"W	725.52	6.384	0.47	0.45	-0.14

Ohio Department of Natural Resources  
Division of Geological and Earth Sciences  
Geological Survey



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot 5H
SOUTHWESTERN ENERGY	Well	GW Rentals LLC OHI 5H
Ohio County, WV	Wellbore	GW Rentals LLC OHI 5H AWB
Ohio		
Facility		

## WELLPATH DATA (248 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]
7328.00	89.910	334.800	6513.39	705.18	805.93	40.34	1761964.24	14554897.26	40°04'35.500"N	80°33'55.785"W	806.94	2.866	0.44	0.00	0.44
7423.00	89.910	334.480	6513.54	800.17	891.78	-0.35	1761923.56	14554983.07	40°04'36.351"N	80°33'56.303"W	891.78	359.978	0.34	0.00	-0.34
7518.00	89.850	334.920	6513.73	895.16	977.67	-40.95	1761882.98	14555068.93	40°04'37.201"N	80°33'56.820"W	978.52	357.602	0.47	-0.06	0.46
7613.00	89.910	334.800	6513.93	990.14	1063.67	-81.30	1761842.64	14555154.90	40°04'38.053"N	80°33'57.333"W	1066.77	355.629	0.14	0.06	-0.13
7707.00	90.460	335.990	6513.63	1084.10	1149.13	-120.44	1761803.52	14555240.33	40°04'38.899"N	80°33'57.832"W	1155.42	354.017	1.39	0.59	1.27
7803.00	90.400	337.030	6512.91	1179.99	1237.17	-158.70	1761765.27	14555328.33	40°04'39.771"N	80°33'58.318"W	1247.31	352.690	1.09	-0.06	1.08
7898.00	90.430	337.560	6512.22	1274.81	1324.80	-195.37	1761728.61	14555415.93	40°04'40.639"N	80°33'58.784"W	1339.13	351.611	0.56	0.03	0.56
7994.00	90.400	337.490	6511.53	1370.60	1413.51	-232.07	1761691.93	14555504.61	40°04'41.518"N	80°33'59.251"W	1432.43	350.676	0.08	-0.03	-0.07
8088.00	90.460	336.690	6510.82	1464.44	1500.09	-268.66	1761655.35	14555591.16	40°04'42.375"N	80°33'59.716"W	1523.96	349.846	0.85	0.06	-0.85
8183.00	90.400	335.150	6510.11	1559.37	1586.82	-307.42	1761616.61	14555677.85	40°04'43.234"N	80°34'00.209"W	1616.33	349.036	1.62	-0.06	-1.62
8278.00	90.490	337.080	6509.37	1654.28	1673.68	-345.88	1761578.16	14555764.67	40°04'44.094"N	80°34'00.699"W	1709.04	348.324	2.03	0.09	2.03
8373.00	90.460	339.160	6508.58	1749.00	1761.83	-381.28	1761542.77	14555852.79	40°04'44.967"N	80°34'01.149"W	1802.61	347.789	2.19	-0.03	2.19
8469.00	90.370	339.490	6507.89	1844.55	1851.64	-415.18	1761508.89	14555942.57	40°04'45.856"N	80°34'01.579"W	1897.62	347.362	0.36	-0.09	0.34
8564.00	90.430	336.680	6507.22	1939.27	1939.77	-450.63	1761473.46	14556030.66	40°04'46.729"N	80°34'02.030"W	1991.42	346.922	2.96	0.06	-2.96
8659.00	90.460	336.380	6506.49	2034.16	2026.90	-488.46	1761435.64	14556117.76	40°04'47.591"N	80°34'02.511"W	2084.93	346.451	0.32	0.03	-0.32
8753.00	90.430	336.150	6505.76	2128.06	2112.95	-526.30	1761397.82	14556203.78	40°04'48.444"N	80°34'02.992"W	2177.51	346.013	0.25	-0.03	-0.24
8848.00	90.550	336.580	6504.94	2222.96	2199.98	-564.38	1761359.75	14556290.77	40°04'49.305"N	80°34'03.477"W	2271.22	345.612	0.47	0.13	0.45
8942.00	90.520	336.570	6504.07	2316.85	2286.23	-601.75	1761322.39	14556376.99	40°04'50.160"N	80°34'03.952"W	2364.09	345.254	0.03	-0.03	-0.01
9037.00	90.430	335.480	6503.28	2411.77	2373.03	-640.35	1761283.81	14556463.75	40°04'51.019"N	80°34'04.443"W	2457.91	344.899	1.15	-0.09	-1.15
9132.00	90.550	333.720	6502.47	2506.75	2458.84	-681.10	1761243.08	14556549.53	40°04'51.869"N	80°34'04.962"W	2551.43	344.517	1.86	0.13	-1.85
9226.00	90.430	334.970	6501.66	2600.74	2543.57	-721.79	1761202.40	14556634.23	40°04'52.708"N	80°34'05.480"W	2643.99	344.158	1.34	-0.13	1.33
9320.00	90.490	333.540	6500.91	2694.74	2628.23	-762.62	1761161.58	14556718.86	40°04'53.547"N	80°34'06.000"W	2736.64	343.819	1.52	0.06	-1.52
9414.00	90.460	334.460	6500.13	2788.73	2712.71	-803.82	1761120.40	14556803.31	40°04'54.384"N	80°34'06.525"W	2829.30	343.495	0.98	-0.03	0.98
9509.00	90.400	335.670	6499.41	2883.70	2798.85	-843.87	1761080.36	14556889.42	40°04'55.237"N	80°34'07.035"W	2923.30	343.222	1.28	-0.06	1.27
9604.00	90.550	335.720	6498.63	2978.65	2885.43	-882.97	1761041.28	14556975.96	40°04'56.094"N	80°34'07.533"W	3017.51	342.985	0.17	0.16	0.05
9699.00	90.460	336.930	6497.79	3073.55	2972.43	-921.12	1761003.15	14557062.92	40°04'56.956"N	80°34'08.018"W	3111.88	342.782	1.28	-0.09	1.27
9794.00	90.430	335.610	6497.05	3168.45	3059.39	-959.35	1760964.93	14557149.85	40°04'57.817"N	80°34'08.504"W	3206.28	342.590	1.39	-0.03	-1.39
9889.00	90.370	331.640	6496.39	3263.43	3144.48	-1001.54	1760922.76	14557234.91	40°04'58.660"N	80°34'09.042"W	3300.13	342.333	4.18	-0.06	-4.18
9983.00	90.400	331.910	6495.76	3357.37	3227.31	-1046.00	1760878.32	14557317.70	40°04'59.481"N	80°34'09.609"W	3392.58	342.042	0.29	0.03	0.29
10079.00	90.460	331.470	6495.04	3453.30	3311.82	-1091.52	1760832.81	14557402.19	40°05'00.318"N	80°34'10.189"W	3487.06	341.759	0.46	0.06	-0.46



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot 5H
SOUTHWESTERN ENERGY	Well	GW Rentals LLC OHI 5H
Ohio County, WV	Wellbore	GW Rentals LLC OHI 5H AWB
Ohio		
GW Rentals LLC OHI Pad		

## WELLPATH DATA (248 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]
10174.00	90.680	336.610	6494.09	3548.27	3397.20	-1133.09	1760791.26	14557487.53	40°05'01.164"N	80°34'10.718"W	3581.18	341.555	5.42	0.23	5.41
10265.00	90.770	336.490	6492.94	3639.15	3480.68	-1169.30	1760755.06	14557570.98	40°05'01.990"N	80°34'11.179"W	3671.84	341.431	0.16	0.10	-0.13
10357.00	90.680	337.470	6491.77	3731.00	3565.35	-1205.27	1760719.10	14557655.61	40°05'02.829"N	80°34'11.637"W	3763.56	341.322	1.07	-0.10	1.07
10449.00	90.680	339.190	6490.68	3822.70	3650.84	-1239.24	1760685.14	14557741.07	40°05'03.675"N	80°34'12.068"W	3855.43	341.251	1.87	0.00	1.87
10540.00	90.710	337.960	6489.58	3913.37	3735.54	-1272.48	1760651.92	14557825.74	40°05'04.514"N	80°34'12.491"W	3946.32	341.189	1.35	0.03	-1.35
10631.00	90.710	336.540	6488.45	4004.20	3819.45	-1307.67	1760616.75	14557909.62	40°05'05.345"N	80°34'12.938"W	4037.10	341.100	1.56	0.00	-1.56
10723.00	90.770	335.370	6487.26	4096.12	3903.46	-1345.15	1760579.28	14557993.60	40°05'06.177"N	80°34'13.415"W	4128.73	340.986	1.27	0.07	-1.27
10819.00	90.740	337.350	6486.00	4192.01	3991.39	-1383.64	1760540.80	14558081.49	40°05'07.047"N	80°34'13.905"W	4224.41	340.881	2.06	-0.03	2.06
10913.00	90.680	337.270	6484.83	4285.83	4078.11	-1419.90	1760504.56	14558168.18	40°05'07.906"N	80°34'14.366"W	4318.23	340.803	0.11	-0.06	-0.09
11008.00	90.620	338.500	6483.76	4380.57	4166.11	-1455.66	1760468.81	14558256.15	40°05'08.778"N	80°34'14.821"W	4413.10	340.740	1.30	-0.06	1.29
11103.00	90.550	337.820	6482.79	4475.29	4254.29	-1491.00	1760433.49	14558344.29	40°05'09.651"N	80°34'15.270"W	4508.00	340.686	0.72	-0.07	-0.72
11198.00	90.680	334.650	6481.77	4570.19	4341.22	-1529.27	1760395.22	14558431.19	40°05'10.511"N	80°34'15.757"W	4602.70	340.594	3.34	0.14	-3.34
11293.00	90.620	333.340	6480.69	4665.18	4426.59	-1570.92	1760353.59	14558516.53	40°05'11.357"N	80°34'16.287"W	4697.08	340.461	1.38	-0.06	-1.38
11389.00	90.770	334.890	6479.52	4761.17	4512.95	-1612.83	1760311.70	14558602.85	40°05'12.212"N	80°34'16.821"W	4792.49	340.334	1.62	0.16	1.61
11484.00	90.770	337.490	6478.25	4856.07	4599.85	-1651.17	1760273.37	14558689.72	40°05'13.073"N	80°34'17.309"W	4887.23	340.254	2.74	0.00	2.74
11579.00	90.770	336.250	6476.97	4950.92	4687.20	-1688.49	1760236.07	14558777.04	40°05'13.938"N	80°34'17.784"W	4982.06	340.189	1.31	0.00	-1.31
11674.00	90.800	335.850	6475.67	5045.83	4774.02	-1727.05	1760197.53	14558863.82	40°05'14.798"N	80°34'18.275"W	5076.80	340.112	0.42	0.03	-0.42
11769.00	90.860	335.970	6474.29	5140.76	4860.73	-1765.82	1760158.77	14558950.50	40°05'15.657"N	80°34'18.768"W	5171.54	340.035	0.14	0.06	0.13
11864.00	90.890	335.220	6472.84	5235.70	4947.23	-1805.07	1760119.54	14559036.97	40°05'16.513"N	80°34'19.268"W	5266.25	339.955	0.79	0.03	-0.79
11959.00	90.680	335.170	6471.54	5330.66	5033.46	-1844.92	1760079.70	14559123.16	40°05'17.367"N	80°34'19.775"W	5360.92	339.871	0.23	-0.22	-0.05
12054.00	90.580	334.930	6470.51	5424.63	5118.70	-1884.52	1760040.11	14559208.37	40°05'18.212"N	80°34'20.279"W	5454.59	339.788	0.22	-0.11	-0.19
12149.00	90.680	334.820	6469.46	5519.61	5204.70	-1924.89	1759999.76	14559294.33	40°05'19.063"N	80°34'20.793"W	5549.24	339.704	0.30	0.11	-0.28
12244.00	90.620	334.810	6468.26	5614.59	5290.51	-1965.63	1759959.03	14559380.11	40°05'19.913"N	80°34'21.312"W	5643.86	339.618	0.27	0.09	-0.25
12339.00	90.490	335.000	6467.18	5710.56	5377.55	-2006.10	1759918.58	14559467.12	40°05'20.775"N	80°34'21.828"W	5739.56	339.542	1.25	-0.26	1.22
12434.00	90.490	335.000	6466.35	5804.52	5462.98	-2045.30	1759879.40	14559552.52	40°05'21.621"N	80°34'22.327"W	5833.31	339.474	0.63	-0.03	-0.63
12528.00	90.490	335.000	6465.59	5899.42	5549.94	-2083.54	1759841.17	14559639.44	40°05'22.482"N	80°34'22.813"W	5928.15	339.423	2.53	-0.06	2.53
12623.00	90.460	338.990	6464.85	5994.15	5638.06	-2119.01	1759805.71	14559727.53	40°05'23.355"N	80°34'23.264"W	6023.12	339.402	1.30	0.03	1.29
12718.00	90.550	339.880	6464.01	6088.75	5726.74	-2153.08	1759771.66	14559816.17	40°05'24.233"N	80°34'23.697"W	6118.11	339.395	0.63	0.09	0.62
12812.00	90.430	338.430	6463.21	6182.38	5814.41	-2186.99	1759737.77	14559903.81	40°05'25.101"N	80°34'24.128"W	6212.10	339.387	0.91	-0.13	-0.90
12907.00	90.460	336.770	6462.47	6277.16	5902.23	-2223.18	1759701.58	14559991.60	40°05'25.970"N	80°34'24.588"W	6307.05	339.360	1.75	0.03	-1.75

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# Actual Wellpath Report

GW Rentals LLC OHI 5H AWP Proj: 16375'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 5H
Area	Ohio County, WV	Well	GW Rentals LLC OHI 5H
Field	Ohio	Wellbore	GW Rentals LLC OHI 5H AWB
Facility	GW Rentals LLC OHI Pad		

## WELLPATH DATA (248 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]
13002.00	90.460	335.730	6461.71	6372.07	5989.18	-2261.44	1759663.34	14560078.52	40°05'26.831"N	80°34'25.075"W	6401.91	339.314	1.09	0.00	-1.09
13097.00	90.490	333.510	6460.92	6467.05	6075.01	-2302.16	1759622.64	14560164.31	40°05'27.682"N	80°34'25.594"W	6496.59	339.246	2.34	0.03	-2.34
13192.00	90.430	335.080	6460.16	6562.04	6160.60	-2343.36	1759581.45	14560249.87	40°05'28.529"N	80°34'26.119"W	6591.23	339.174	1.65	-0.06	1.65
13286.00	90.460	335.570	6459.43	6656.00	6246.01	-2382.60	1759542.23	14560335.25	40°05'29.375"N	80°34'26.618"W	6685.02	339.120	0.52	0.03	0.52
13381.00	90.490	334.970	6458.64	6750.97	6332.30	-2422.34	1759502.50	14560421.50	40°05'30.230"N	80°34'27.124"W	6779.80	339.066	0.63	0.03	-0.63
13476.00	90.430	333.400	6457.88	6845.96	6417.81	-2463.71	1759461.15	14560506.98	40°05'31.077"N	80°34'27.651"W	6874.46	338.999	1.65	-0.06	-1.65
13572.00	90.370	333.320	6457.21	6941.95	6503.62	-2506.75	1759418.12	14560592.75	40°05'31.927"N	80°34'28.200"W	6970.00	338.921	0.10	-0.06	-0.08
13666.00	90.370	336.440	6456.60	7035.92	6588.71	-2546.65	1759378.24	14560677.82	40°05'32.770"N	80°34'28.708"W	7063.75	338.868	3.32	0.00	3.32
13761.00	90.460	340.240	6455.91	7130.60	6676.99	-2581.71	1759343.19	14560766.06	40°05'33.644"N	80°34'29.154"W	7158.73	338.861	4.00	0.09	4.00
13856.00	90.490	339.320	6455.12	7225.08	6766.13	-2614.54	1759310.37	14560855.16	40°05'34.526"N	80°34'29.571"W	7253.71	338.873	0.97	0.03	-0.97
13951.00	90.520	340.920	6454.29	7319.49	6855.46	-2646.85	1759278.08	14560944.46	40°05'35.410"N	80°34'29.981"W	7348.68	338.889	1.68	0.03	1.68
14046.00	90.430	336.740	6453.50	7414.10	6944.03	-2681.14	1759243.80	14561032.99	40°05'36.287"N	80°34'30.417"W	7443.66	338.888	4.40	-0.09	-4.40
14140.00	90.490	330.610	6452.74	7508.05	7028.24	-2722.81	1759202.15	14561117.17	40°05'37.121"N	80°34'30.948"W	7537.23	338.823	6.52	0.06	-6.52
14236.00	90.430	329.480	6451.97	7603.84	7111.41	-2770.74	1759154.24	14561200.31	40°05'37.945"N	80°34'31.559"W	7632.11	338.713	1.18	-0.06	-1.18
14331.00	90.430	326.840	6451.26	7698.37	7192.10	-2820.85	1759104.14	14561280.97	40°05'38.745"N	80°34'32.199"W	7725.51	338.584	2.78	0.00	-2.78
14425.00	90.490	326.940	6450.50	7791.69	7270.84	-2872.20	1759052.82	14561359.68	40°05'39.526"N	80°34'32.855"W	7817.58	338.445	0.12	0.06	0.11
14520.00	90.680	325.550	6449.53	7885.86	7349.82	-2924.98	1759000.06	14561438.63	40°05'40.309"N	80°34'33.529"W	7910.46	338.299	1.48	0.20	-1.46
14615.00	90.680	323.760	6448.41	7979.65	7427.30	-2979.93	1758945.13	14561516.08	40°05'41.077"N	80°34'34.231"W	8002.80	338.139	1.88	0.00	-1.88
14709.00	90.650	323.320	6447.32	8072.15	7502.89	-3035.79	1758889.29	14561591.65	40°05'41.827"N	80°34'34.946"W	8093.79	337.971	0.47	-0.03	-0.47
14805.00	90.650	323.000	6446.23	8166.50	7579.72	-3093.34	1758831.76	14561668.44	40°05'42.589"N	80°34'35.681"W	8186.63	337.799	0.33	0.00	-0.33
14900.00	90.710	321.310	6445.10	8259.54	7654.73	-3151.62	1758773.50	14561743.42	40°05'43.333"N	80°34'36.427"W	8278.14	337.622	1.78	0.06	-1.78
14995.00	91.050	318.850	6443.64	8351.82	7727.58	-3212.57	1758712.57	14561816.24	40°05'44.055"N	80°34'37.207"W	8368.76	337.426	2.61	0.36	-2.59
15090.00	91.080	318.660	6441.87	8443.08	7797.83	-3276.49	1758648.68	14561886.47	40°05'44.753"N	80°34'38.025"W	8458.22	337.209	2.41	0.03	-2.41
15185.00	91.050	314.590	6440.13	8533.25	7865.54	-3343.09	1758582.11	14561954.15	40°05'45.425"N	80°34'38.878"W	8546.52	336.973	2.28	-0.06	-2.28
15278.00	91.050	311.890	6438.45	8620.26	7929.12	-3410.93	1758514.29	14562017.71	40°05'46.056"N	80°34'39.747"W	8631.65	336.724	2.69	0.03	-2.69
15374.00	91.020	308.520	6436.72	8708.22	7991.07	-3484.23	1758441.02	14562079.63	40°05'46.672"N	80°34'40.686"W	8717.63	336.442	3.51	-0.03	-3.51
15468.00	91.080	303.540	6435.00	8792.87	8048.97	-3558.26	1758367.02	14562137.51	40°05'47.248"N	80°34'41.635"W	8800.41	336.151	1.04	0.06	-1.04
15564.00	91.080	302.600	6433.27	8879.05	8107.60	-3634.26	1758291.05	14562196.12	40°05'47.830"N	80°34'42.609"W	8884.88	335.856	0.25	-0.10	0.23
15658.00	91.080	308.490	6431.63	8963.77	8165.63	-3708.19	1758217.15	14562254.12	40°05'48.407"N	80°34'43.557"W	8968.17	335.576	0.78	0.04	0.78
15753.00	91.080	309.790	6429.89	9050.10	8225.58	-3781.86	1758143.51	14562314.05	40°05'49.003"N	80°34'44.502"W	9053.32	335.309	1.37	0.06	1.37



### REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot 5H
Area	Ohio County, WV	Well	GW Rentals LLC OHI 5H
Field	Ohio	Wellbore	GW Rentals LLC OHI 5H AWB
Facility	GW Rentals LLC OHI Pad		

### WELLPATH DATA (248 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]
15847.00	90.990	308.660	6428.19	9135.58	8285.01	-3854.67	1758070.73	14562373.46	40°05'49.594"N	80°34'45.435"W	9137.83	335.049	1.21	-0.10	-1.20
15944.00	91.080	310.430	6426.44	9224.02	8346.76	-3929.45	1757995.97	14562435.19	40°05'50.208"N	80°34'46.393"W	9225.45	334.790	1.83	0.09	1.82
16039.00	91.080	311.620	6424.65	9311.61	8409.10	-4001.11	1757924.35	14562497.51	40°05'50.827"N	80°34'47.312"W	9312.46	334.555	1.25	0.00	1.25
16134.00	91.020	309.960	6422.91	9399.04	8471.15	-4073.02	1757852.46	14562559.53	40°05'51.444"N	80°34'48.233"W	9399.46	334.321	1.75	-0.06	-1.75
16228.00	90.490	308.590	6421.67	9484.57	8550.65	-4145.77	1757779.73	14562619.01	40°05'52.035"N	80°34'49.166"W	9484.70	334.081	1.56	-0.36	-1.46
16324.00	90.580	308.410	6420.77	9571.37	8590.41	-4220.90	1757704.63	14562678.74	40°05'52.629"N	80°34'50.129"W	9571.37	333.833	0.21	0.09	-0.19
16350.00	90.580	308.380	6420.51	9594.86	8606.56	-4241.28	1757684.27	14562694.88	40°05'52.790"N	80°34'50.390"W	9594.86	333.766	0.12	0.00	-0.12
16375.00	90.580	308.380	6420.26	9617.44	8622.08	-4260.87	1757664.68	14562710.40	40°05'52.944"N	80°34'50.641"W	9617.45	333.702	0.00	0.00	0.00

### TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
GW Rentals LLC OHI 5H BHL Rev-4		6491.28	8614.70	-4242.09	1757683.45	14562703.02	40°05'52.870"N	80°34'50.400"W	point
GW Rentals LLC OHI 5H LP Rev-2		6506.00	444.67	201.56	1762125.39	14554536.14	40°04'31.922"N	80°33'53.734"W	point

### WELLPATH COMPOSITION - Ref Wellbore: GW Rentals LLC OHI 5H AWB Ref Wellpath: GW Rentals LLC OHI 5H AWP Proj: 16375'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	570.00	Generic gyro - northseeking (Standard)	01_17-1/2" Gyro <30'-570'>	GW Rentals LLC OHI 5H AWB
570.00	2136.00	NavITrak (MagCorr)	02 12-3/4" BHI APS EM <600'-2136'>	GW Rentals LLC OHI 5H AWB
2136.00	5647.00	NavITrak (MagCorr)	03 8-3/4" BHI APS EM <2172'-5647'>	GW Rentals LLC OHI 5H AWB
5647.00	16350.00	NavITrak (MagCorr)	04 8-1/2" BHI AT Curve <5717'-16350'>	GW Rentals LLC OHI 5H AWB
16350.00	16375.00	Blind Drilling (std)	Projection to bit	GW Rentals LLC OHI 5H AWB



**REFERENCE WELLPATH IDENTIFICATION**

Operator	SOUTHWESTERN ENERGY	Slot	Slot 5H
Area	Ohio County, WV	Well	GW Rentals LLC OHI 5H
Field	Ohio	Wellbore	GW Rentals LLC OHI 5H AWB
Facility	GW Rentals LLC OHI Pad		

**COMMENTS**

Wellpath general comments  
 API: 47-069-00195-0000  
 BHI Job #: 7585890  
 Rig: SDC 41  
 Duration: 10/29/2015-11/8/2015  
 Gyro <17-1/2"> (30'-570')  
 APS EM <12-3/4"> (570')(600'-2136')  
 APS EM <8-3/4"> (2136')(2172'-5647')  
 BHI AT Curve <8-1/2"> (5647')(5717'-16350')  
 Projected MD at TD: 16375'

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 Office of Oil and Gas  
 JAN 26 2017  
 WV Department of  
 Environmental Protection