

SOUTHWESTERN ENERGY

Location: Ohio County, WV
 Field: Ohio
 Facility: Shawn Couch OHI Pad 1

Slot: Slot #06
 Well: Shawn Couch OHI 6H
 Wellbore: Shawn Couch OHI 6H PWB

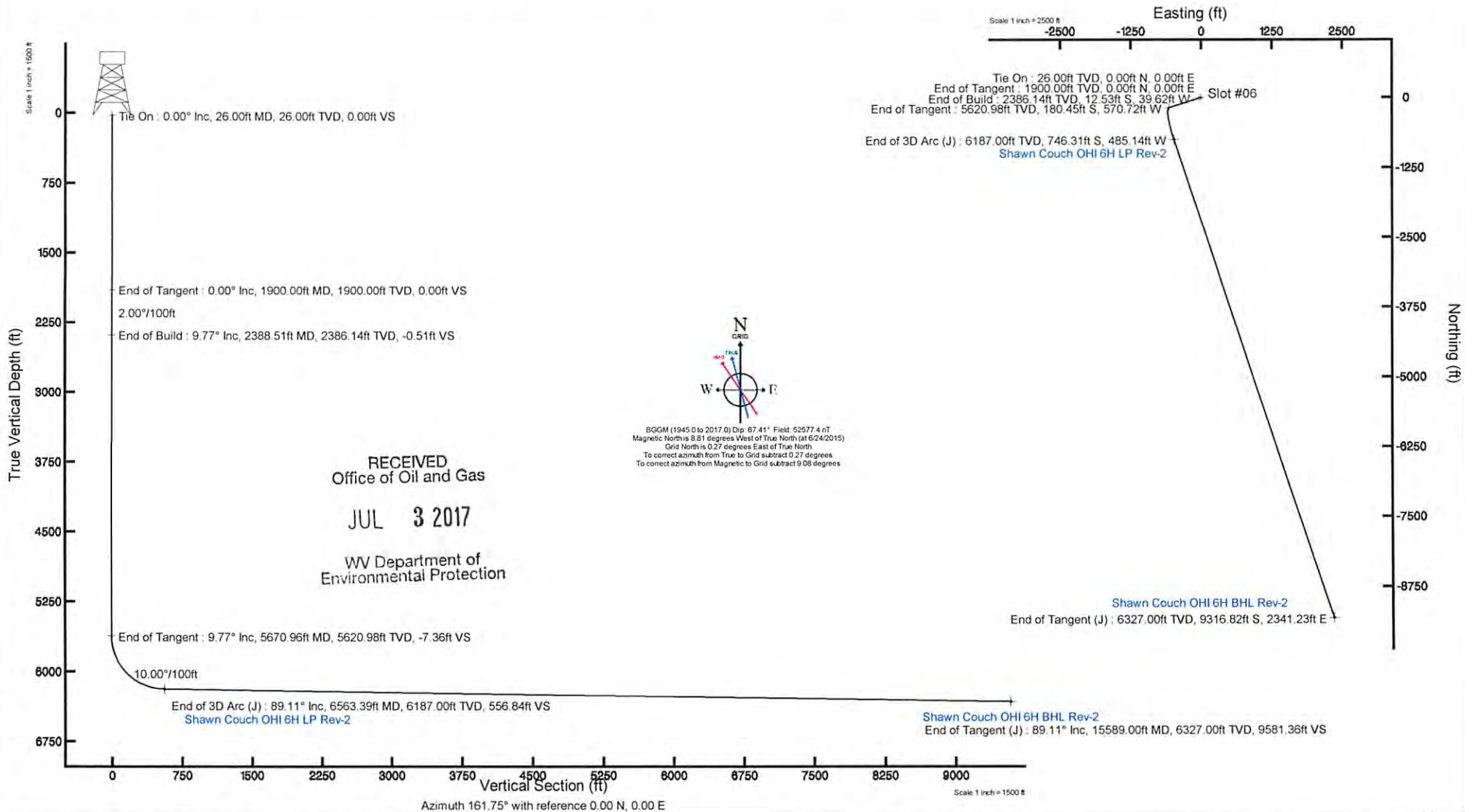


Plot reference wellpath is Shawn Couch OHI 6H PWP Ex-01	
True vertical depths are referenced to Rig on Slot #06 (KB)	Grid System: NAD83 / UTM Zone 17 North, US feet
Measured depths are referenced to Rig on Slot #06 (KB)	North Reference: Grid north
Rig on Slot #06 (KB) to Mean Sea Level: 1272 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #06): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: thorsuzc on 8/27/2015

Targets								
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Shawn Couch OHI 6H LP Rev-2	6563.39	6187.00	-746.31	-485.14	1754877.89	14580074.66	40°08'44.734"N	80°35'25.456"W
Shawn Couch OHI 6H BHL Rev-2	15589.00	6327.00	-9316.82	2341.23	1757703.17	14571507.67	40°07'19.910"N	80°34'49.612"W

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	26.00	0.000	252.454	26.00	0.00	0.00	0.00	0.00
End of Tangent	1900.00	0.000	252.454	1900.00	0.00	0.00	0.00	0.00
End of Build	2388.51	9.770	252.454	2386.14	-12.53	-39.62	2.00	-0.51
End of Tangent	5670.96	9.770	252.454	5620.98	-180.45	-570.72	0.00	-7.36
End of 3D Arc (J)	6563.39	89.111	161.749	6187.00	-746.31	-485.14	10.00	556.84
End of Tangent (J)	15589.00	89.111	161.749	6327.00	-9316.82	2341.23	0.00	9581.36

Location Information						
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Shawn Couch OHI Pad 1	1755367.233	14580844.955	40°08'52.325"N	80°35'19.136"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #06	-24.08	-4.39	1755362.842	14580820.880	40°08'52.087"N	80°35'19.194"W
Rig on Slot #06 (KB) to Mud line (At Slot: Slot #06)			1272ft			
Mean Sea Level to Mud line (At Slot: Slot #06)			0ft			
Rig on Slot #06 (KB) to Mean Sea Level			1272ft			





Planned Wellpath Report

Shawn Couch OHI 6H PWP Ex-01

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Ohio County, WV	Well	Shawn Couch OHI 6H
Field	Ohio	Wellbore	Shawn Couch OHI 6H PWB
Facility	Shawn Couch OHI Pad 1		

REPORT SETUP INFORMATION

Projection System	NAD83 / UTM Zone 17 North, US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Thomsuzc
Scale	0.999615	Report Generated	8/27/2015 at 10:00:49 AM
Convergence at slot	0.27° East	Database/Source file	WA_Eastern_US/Shawn_Couch_OHI_6H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-24.08	-4.39	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W
Facility Reference Pt			1755367.23	14580844.96	40°08'52.325"N	80°35'19.136"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.478"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Slot #06 (KB) to Facility Vertical Datum	1272.00ft
Horizontal Reference Pt	Slot	Rig on Slot #06 (KB) to Mean Sea Level	1272.00ft
Vertical Reference Pt	Rig on Slot #06 (KB)	Rig on Slot #06 (KB) to Mud Line at Slot (Slot #06)	1272.00ft
MD Reference Pt	Rig on Slot #06 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.75°



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Planned Wellpath Report

Shawn Cough OHI 6H PWP Ex-01

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Southwestern Energy



REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06
Area	Ohio County, WV	Well	Shawn Cough OHI 6H
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Facility	Shawn Cough OHI Pad 1		

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WELLPATH DATA (162 stations) † = interpolated/extrapolated station

MD	Inclination Azimuth	TVD	Vert	North	East	Grid East	Grid North	Latitude	Longitude	Closure	Dir	DLS	Build	Turn
[ft]	[°]	[ft]	Sec	[ft]	[ft]	[US ft]	[US ft]	[ft]	[ft]	[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]
0.00†	0.000	252.454	0.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
26.00	0.000	252.454	26.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
126.00†	0.000	252.454	126.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
226.00†	0.000	252.454	226.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
326.00†	0.000	252.454	326.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
426.00†	0.000	252.454	426.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
526.00†	0.000	252.454	526.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
626.00†	0.000	252.454	626.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
726.00†	0.000	252.454	726.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
826.00†	0.000	252.454	826.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
926.00†	0.000	252.454	926.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1026.00†	0.000	252.454	1026.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1126.00†	0.000	252.454	1126.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1226.00†	0.000	252.454	1226.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1326.00†	0.000	252.454	1326.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1426.00†	0.000	252.454	1426.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1526.00†	0.000	252.454	1526.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1626.00†	0.000	252.454	1626.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1726.00†	0.000	252.454	1726.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1826.00†	0.000	252.454	1826.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1900.00	0.000	252.454	1900.00	0.00	0.00	1755362.84	14580820.88	40°08'52.087"N	80°35'19.194"W	0.00	0.00	0.000	0.00	0.00
1926.00†	0.520	252.454	1926.00	0.00	-0.04	-0.11	1755362.73	14580820.84	40°08'52.087"N	80°35'19.195"W	0.12	252.454	2.00	0.00
2026.00†	2.520	252.454	2025.96	-0.03	-0.84	-2.64	1755360.20	14580820.05	40°08'52.079"N	80°35'19.228"W	2.77	252.454	2.00	0.00
2126.00†	4.520	252.454	2125.77	-0.11	-2.69	-8.50	1755354.35	14580818.20	40°08'52.061"N	80°35'19.304"W	8.91	252.454	2.00	0.00
2226.00†	6.520	252.454	2225.30	-0.23	-5.59	-17.67	1755345.18	14580815.30	40°08'52.033"N	80°35'19.422"W	18.53	252.454	2.00	0.00
2326.00†	8.520	252.454	2324.43	-0.39	-9.53	-30.14	1755332.71	14580811.35	40°08'51.994"N	80°35'19.583"W	31.62	252.454	2.00	0.00
2388.51	9.770	252.454	2386.14	-0.51	-12.53	-39.62	1755323.24	14580808.36	40°08'51.965"N	80°35'19.705"W	41.55	252.454	2.00	0.00
2426.00†	9.770	252.454	2423.09	-0.59	-14.44	-45.68	1755317.18	14580806.44	40°08'51.947"N	80°35'19.783"W	47.91	252.454	0.00	0.00
2526.00†	9.770	252.454	2521.64	-0.80	-19.56	-61.86	1755301.00	14580801.33	40°08'51.897"N	80°35'19.992"W	64.88	252.454	0.00	0.00
2626.00†	9.770	252.454	2620.19	-1.01	-24.68	-78.04	1755284.83	14580796.21	40°08'51.847"N	80°35'20.200"W	81.85	252.454	0.00	0.00

Planned Wellpath Report

Shawn Couch OHI 6H PWP Ex-01

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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06	RECEIVED Office of Oil and Gas JUL 3 2017
Area	Ohio County, WV	Well	Shawn Couch OHI 6H	
Field	Ohio	Wellbore	Shawn Couch OHI 6H PWB	WV Department of Environmental Protection
Facility	Shawn Couch OHI Pad 1			

WELLPATH DATA (162 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]
2726.00†	9.770	252.454	2718.74	-1.21	-29.79	-94.22	1755268.66	14580791.10	40°08'51.797"N	80°35'20.409"W	98.82	252.454	0.00	0.00	0.00
2826.00†	9.770	252.454	2817.29	-1.42	-34.91	-110.40	1755252.48	14580785.99	40°08'51.747"N	80°35'20.618"W	115.79	252.454	0.00	0.00	0.00
2926.00†	9.770	252.454	2915.84	-1.63	-40.02	-126.58	1755236.31	14580780.87	40°08'51.697"N	80°35'20.826"W	132.76	252.454	0.00	0.00	0.00
3026.00†	9.770	252.454	3014.39	-1.84	-45.14	-142.76	1755220.13	14580775.76	40°08'51.648"N	80°35'21.035"W	149.73	252.454	0.00	0.00	0.00
3126.00†	9.770	252.454	3112.94	-2.05	-50.25	-158.94	1755203.96	14580770.65	40°08'51.598"N	80°35'21.244"W	166.70	252.454	0.00	0.00	0.00
3226.00†	9.770	252.454	3211.49	-2.26	-55.37	-175.12	1755187.79	14580765.53	40°08'51.548"N	80°35'21.452"W	183.67	252.454	0.00	0.00	0.00
3326.00†	9.770	252.454	3310.04	-2.47	-60.49	-191.30	1755171.61	14580760.42	40°08'51.498"N	80°35'21.661"W	200.64	252.454	0.00	0.00	0.00
3426.00†	9.770	252.454	3408.59	-2.68	-65.60	-207.48	1755155.44	14580755.30	40°08'51.448"N	80°35'21.870"W	217.61	252.454	0.00	0.00	0.00
3526.00†	9.770	252.454	3507.14	-2.88	-70.72	-223.66	1755139.26	14580750.19	40°08'51.399"N	80°35'22.078"W	234.58	252.454	0.00	0.00	0.00
3626.00†	9.770	252.454	3605.69	-3.09	-75.83	-239.84	1755123.09	14580745.08	40°08'51.349"N	80°35'22.287"W	251.55	252.454	0.00	0.00	0.00
3726.00†	9.770	252.454	3704.24	-3.30	-80.95	-256.02	1755106.92	14580739.96	40°08'51.299"N	80°35'22.496"W	268.52	252.454	0.00	0.00	0.00
3826.00†	9.770	252.454	3802.79	-3.51	-86.06	-272.20	1755090.74	14580734.85	40°08'51.249"N	80°35'22.704"W	285.49	252.454	0.00	0.00	0.00
3926.00†	9.770	252.454	3901.34	-3.72	-91.18	-288.39	1755074.57	14580729.74	40°08'51.199"N	80°35'22.913"W	302.46	252.454	0.00	0.00	0.00
4026.00†	9.770	252.454	3999.89	-3.93	-96.30	-304.57	1755058.40	14580724.62	40°08'51.150"N	80°35'23.122"W	319.43	252.454	0.00	0.00	0.00
4126.00†	9.770	252.454	4098.44	-4.14	-101.41	-320.75	1755042.22	14580719.51	40°08'51.100"N	80°35'23.330"W	336.40	252.454	0.00	0.00	0.00
4226.00†	9.770	252.454	4196.99	-4.34	-106.53	-336.93	1755026.05	14580714.39	40°08'51.050"N	80°35'23.539"W	353.37	252.454	0.00	0.00	0.00
4326.00†	9.770	252.454	4295.54	-4.55	-111.64	-353.11	1755009.87	14580709.28	40°08'51.000"N	80°35'23.748"W	370.33	252.454	0.00	0.00	0.00
4426.00†	9.770	252.454	4394.09	-4.76	-116.76	-369.29	1754993.70	14580704.17	40°08'50.950"N	80°35'23.956"W	387.30	252.454	0.00	0.00	0.00
4526.00†	9.770	252.454	4492.63	-4.97	-121.87	-385.47	1754977.53	14580699.05	40°08'50.900"N	80°35'24.165"W	404.27	252.454	0.00	0.00	0.00
4626.00†	9.770	252.454	4591.18	-5.18	-126.99	-401.65	1754961.35	14580693.94	40°08'50.851"N	80°35'24.374"W	421.24	252.454	0.00	0.00	0.00
4726.00†	9.770	252.454	4689.73	-5.39	-132.11	-417.83	1754945.18	14580688.83	40°08'50.801"N	80°35'24.582"W	438.21	252.454	0.00	0.00	0.00
4826.00†	9.770	252.454	4788.28	-5.60	-137.22	-434.01	1754929.00	14580683.71	40°08'50.751"N	80°35'24.791"W	455.18	252.454	0.00	0.00	0.00
4926.00†	9.770	252.454	4886.83	-5.80	-142.34	-450.19	1754912.83	14580678.60	40°08'50.701"N	80°35'25.000"W	472.15	252.454	0.00	0.00	0.00
5026.00†	9.770	252.454	4985.38	-6.01	-147.45	-466.37	1754896.66	14580673.48	40°08'50.651"N	80°35'25.208"W	489.12	252.454	0.00	0.00	0.00
5126.00†	9.770	252.454	5083.93	-6.22	-152.57	-482.55	1754880.48	14580668.37	40°08'50.602"N	80°35'25.417"W	506.09	252.454	0.00	0.00	0.00
5226.00†	9.770	252.454	5182.48	-6.43	-157.68	-498.73	1754864.31	14580663.26	40°08'50.552"N	80°35'25.626"W	523.06	252.454	0.00	0.00	0.00
5326.00†	9.770	252.454	5281.03	-6.64	-162.80	-514.91	1754848.13	14580658.14	40°08'50.502"N	80°35'25.834"W	540.03	252.454	0.00	0.00	0.00
5426.00†	9.770	252.454	5379.58	-6.85	-167.92	-531.09	1754831.96	14580653.03	40°08'50.452"N	80°35'26.043"W	557.00	252.454	0.00	0.00	0.00
5526.00†	9.770	252.454	5478.13	-7.06	-173.03	-547.27	1754815.79	14580647.92	40°08'50.402"N	80°35'26.252"W	573.97	252.454	0.00	0.00	0.00
5626.00†	9.770	252.454	5576.68	-7.26	-178.15	-563.45	1754799.61	14580642.80	40°08'50.352"N	80°35'26.460"W	590.94	252.454	0.00	0.00	0.00

REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06	RECEIVED Office of Oil and Gas JUL 3 2017
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Field	Ohio	Wellbore	Shawn Couch OHI 6H PWB	
Facility	Shawn Couch OHI Pad 1			

WV Department of
Environmental Protection

WELLPATH DATA (162 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]
5670.96	9.770	252.454	5620.98	-7.36	-180.45	-570.72	1754792.34	14580640.50	40°08'50.330"N	80°35'26.554"W	598.57	252.454	0.00	0.00	0.00
5726.00†	11.130	222.661	5675.15	-4.83	-185.77	-578.78	1754784.29	14580635.19	40°08'50.278"N	80°35'26.658"W	607.86	252.205	10.00	2.47	-54.13
5826.00†	18.139	193.301	5771.97	13.17	-208.07	-588.93	1754774.14	14580612.89	40°08'50.058"N	80°35'26.790"W	624.60	250.542	10.00	7.01	-29.36
5926.00†	27.059	181.293	5864.25	47.96	-246.05	-593.03	1754770.04	14580574.92	40°08'49.683"N	80°35'26.845"W	642.05	247.466	10.00	8.92	-12.01
6026.00†	36.513	175.044	5949.18	98.48	-298.57	-590.97	1754772.10	14580522.43	40°08'49.164"N	80°35'26.822"W	662.11	243.197	10.00	9.45	-6.25
6126.00†	46.174	171.108	6024.18	163.19	-364.01	-582.80	1754780.26	14580457.01	40°08'48.517"N	80°35'26.721"W	687.14	238.012	10.00	9.66	-3.94
6226.00†	55.931	168.282	6086.97	240.12	-440.40	-568.78	1754794.28	14580380.65	40°08'47.761"N	80°35'26.544"W	719.35	232.250	10.00	9.76	-2.83
6326.00†	65.739	166.046	6135.65	326.95	-525.41	-549.33	1754813.73	14580295.68	40°08'46.920"N	80°35'26.299"W	760.14	226.275	10.00	9.81	-2.24
6426.00†	75.576	164.134	6168.73	421.03	-616.46	-525.03	1754838.01	14580204.66	40°08'46.019"N	80°35'25.992"W	809.74	220.421	10.00	9.84	-1.91
6526.00†	85.426	162.385	6185.22	519.50	-710.78	-496.64	1754866.39	14580110.38	40°08'45.086"N	80°35'25.632"W	867.10	214.943	10.00	9.85	-1.75
6563.39	89.111	161.749	6187.00 ¹	556.84	-746.31	-485.14	1754877.89	14580074.86	40°08'44.734"N	80°35'25.486"W	890.13	213.026	10.00	9.85	-1.70
6626.00†	89.111	161.749	6187.97	619.44	-805.76	-465.54	1754897.49	14580015.43	40°08'44.146"N	80°35'25.237"W	930.58	210.018	0.00	0.00	0.00
6726.00†	89.111	161.749	6189.52	719.43	-900.72	-434.22	1754928.79	14579920.51	40°08'43.206"N	80°35'24.839"W	999.92	205.738	0.00	0.00	0.00
6826.00†	89.111	161.749	6191.07	819.41	-995.67	-402.91	1754960.09	14579825.59	40°08'42.266"N	80°35'24.441"W	1074.10	202.031	0.00	0.00	0.00
6926.00†	89.111	161.749	6192.62	919.40	-1090.63	-371.59	1754991.40	14579730.67	40°08'41.327"N	80°35'24.044"W	1152.20	198.815	0.00	0.00	0.00
7026.00†	89.111	161.749	6194.18	1019.39	-1185.59	-340.28	1755022.70	14579635.75	40°08'40.387"N	80°35'23.646"W	1233.45	196.014	0.00	0.00	0.00
7126.00†	89.111	161.749	6195.73	1119.38	-1280.55	-308.96	1755054.00	14579540.83	40°08'39.447"N	80°35'23.249"W	1317.29	193.565	0.00	0.00	0.00
7226.00†	89.111	161.749	6197.28	1219.37	-1375.50	-277.65	1755085.30	14579445.91	40°08'38.507"N	80°35'22.851"W	1403.25	191.412	0.00	0.00	0.00
7326.00†	89.111	161.749	6198.83	1319.35	-1470.46	-246.33	1755116.61	14579350.99	40°08'37.567"N	80°35'22.454"W	1490.95	189.510	0.00	0.00	0.00
7426.00†	89.111	161.749	6200.38	1419.34	-1565.42	-215.02	1755147.91	14579256.07	40°08'36.628"N	80°35'22.056"W	1580.12	187.821	0.00	0.00	0.00
7526.00†	89.111	161.749	6201.93	1519.33	-1660.38	-183.70	1755179.21	14579161.15	40°08'35.688"N	80°35'21.658"W	1670.51	186.313	0.00	0.00	0.00
7626.00†	89.111	161.749	6203.48	1619.32	-1755.33	-152.39	1755210.52	14579066.22	40°08'34.748"N	80°35'21.261"W	1761.94	184.962	0.00	0.00	0.00
7726.00†	89.111	161.749	6205.03	1719.31	-1850.29	-121.07	1755241.82	14578971.30	40°08'33.808"N	80°35'20.863"W	1854.25	183.744	0.00	0.00	0.00
7826.00†	89.111	161.749	6206.58	1819.29	-1945.25	-89.76	1755273.12	14578876.38	40°08'32.868"N	80°35'20.466"W	1947.32	182.642	0.00	0.00	0.00
7926.00†	89.111	161.749	6208.14	1919.28	-2040.21	-58.44	1755304.42	14578781.46	40°08'31.929"N	80°35'20.068"W	2041.04	181.641	0.00	0.00	0.00
8026.00†	89.111	161.749	6209.69	2019.27	-2135.17	-27.13	1755335.73	14578686.54	40°08'30.989"N	80°35'19.671"W	2135.34	180.728	0.00	0.00	0.00
8126.00†	89.111	161.749	6211.24	2119.26	-2230.12	4.19	1755367.03	14578591.62	40°08'30.049"N	80°35'19.273"W	2230.13	179.892	0.00	0.00	0.00
8226.00†	89.111	161.749	6212.79	2219.25	-2325.08	35.50	1755398.33	14578496.70	40°08'29.109"N	80°35'18.875"W	2325.35	179.125	0.00	0.00	0.00
8326.00†	89.111	161.749	6214.34	2319.23	-2420.04	66.82	1755429.64	14578401.78	40°08'28.169"N	80°35'18.478"W	2420.96	178.418	0.00	0.00	0.00
8426.00†	89.111	161.749	6215.89	2419.22	-2515.00	98.13	1755460.94	14578306.86	40°08'27.230"N	80°35'18.080"W	2516.91	177.765	0.00	0.00	0.00



Planned Wellpath Report

Shawn Couch OHI 6H PWP Ex-01
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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06	RECEIVED Office of Oil and Gas JUL 3 2017 WV Department of Environmental Protection
Area	Ohio County, WV	Well	Shawn Couch OHI 6H	
Field	Ohio	Wellbore	Shawn Couch OHI 6H PWB	
Facility	Shawn Couch OHI Pad 1			

WELLPATH DATA (162 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]
8526.00†	89.111	161.749	6217.44	2519.21	-2609.95	129.45	1755492.24	14578211.94	40°08'26.290"N	80°35'17.683"W	2613.16	177.161	0.00	0.00	0.00
8626.00†	89.111	161.749	6218.99	2619.20	-2704.91	160.76	1755523.55	14578117.02	40°08'25.350"N	80°35'17.285"W	2709.68	176.599	0.00	0.00	0.00
8726.00†	89.111	161.749	6220.55	2719.19	-2799.87	192.08	1755554.85	14578022.09	40°08'24.410"N	80°35'16.888"W	2806.45	176.075	0.00	0.00	0.00
8826.00†	89.111	161.749	6222.10	2819.17	-2894.83	223.40	1755586.15	14577927.17	40°08'23.470"N	80°35'16.490"W	2903.43	175.587	0.00	0.00	0.00
8926.00†	89.111	161.749	6223.65	2919.16	-2989.78	254.71	1755617.45	14577832.25	40°08'22.531"N	80°35'16.093"W	3000.61	175.131	0.00	0.00	0.00
9026.00†	89.111	161.749	6225.20	3019.15	-3084.74	286.03	1755648.76	14577737.33	40°08'21.591"N	80°35'15.695"W	3097.97	174.703	0.00	0.00	0.00
9126.00†	89.111	161.749	6226.75	3119.14	-3179.70	317.34	1755680.06	14577642.41	40°08'20.651"N	80°35'15.298"W	3195.50	174.301	0.00	0.00	0.00
9226.00†	89.111	161.749	6228.30	3219.13	-3274.66	348.66	1755711.36	14577547.49	40°08'19.711"N	80°35'14.900"W	3293.17	173.923	0.00	0.00	0.00
9326.00†	89.111	161.749	6229.85	3319.11	-3369.62	379.97	1755742.67	14577452.57	40°08'18.771"N	80°35'14.502"W	3390.97	173.566	0.00	0.00	0.00
9426.00†	89.111	161.749	6231.40	3419.10	-3464.57	411.29	1755773.97	14577357.65	40°08'17.832"N	80°35'14.105"W	3488.90	173.230	0.00	0.00	0.00
9526.00†	89.111	161.749	6232.95	3519.09	-3559.53	442.60	1755805.27	14577262.73	40°08'16.892"N	80°35'13.707"W	3586.94	172.912	0.00	0.00	0.00
9626.00†	89.111	161.749	6234.51	3619.08	-3654.49	473.92	1755836.57	14577167.81	40°08'15.952"N	80°35'13.310"W	3685.09	172.611	0.00	0.00	0.00
9726.00†	89.111	161.749	6236.06	3719.07	-3749.45	505.23	1755867.88	14577072.88	40°08'15.012"N	80°35'12.912"W	3783.33	172.326	0.00	0.00	0.00
9826.00†	89.111	161.749	6237.61	3819.05	-3844.40	536.55	1755899.18	14576977.96	40°08'14.072"N	80°35'12.515"W	3881.66	172.055	0.00	0.00	0.00
9926.00†	89.111	161.749	6239.16	3919.04	-3939.36	567.86	1755930.48	14576883.04	40°08'13.133"N	80°35'12.117"W	3980.08	171.797	0.00	0.00	0.00
10026.00†	89.111	161.749	6240.71	4019.03	-4034.32	599.18	1755961.79	14576788.12	40°08'12.193"N	80°35'11.720"W	4078.57	171.552	0.00	0.00	0.00
10126.00†	89.111	161.749	6242.26	4119.02	-4129.28	630.49	1755993.09	14576693.20	40°08'11.253"N	80°35'11.322"W	4177.13	171.319	0.00	0.00	0.00
10226.00†	89.111	161.749	6243.81	4219.01	-4224.23	661.81	1756024.39	14576598.28	40°08'10.313"N	80°35'10.925"W	4275.76	171.096	0.00	0.00	0.00
10326.00†	89.111	161.749	6245.36	4318.99	-4319.19	693.12	1756055.70	14576503.36	40°08'09.373"N	80°35'10.527"W	4374.45	170.883	0.00	0.00	0.00
10426.00†	89.111	161.749	6246.91	4418.98	-4414.15	724.44	1756087.00	14576408.44	40°08'08.433"N	80°35'10.130"W	4473.20	170.680	0.00	0.00	0.00
10526.00†	89.111	161.749	6248.47	4518.97	-4509.11	755.75	1756118.30	14576313.52	40°08'07.494"N	80°35'09.732"W	4572.00	170.485	0.00	0.00	0.00
10626.00†	89.111	161.749	6250.02	4618.96	-4604.07	787.07	1756149.60	14576218.60	40°08'06.554"N	80°35'09.335"W	4670.86	170.299	0.00	0.00	0.00
10726.00†	89.111	161.749	6251.57	4718.95	-4699.02	818.38	1756180.91	14576123.68	40°08'05.614"N	80°35'08.937"W	4769.76	170.120	0.00	0.00	0.00
10826.00†	89.111	161.749	6253.12	4818.93	-4793.98	849.70	1756212.21	14576028.75	40°08'04.674"N	80°35'08.540"W	4868.70	169.949	0.00	0.00	0.00
10926.00†	89.111	161.749	6254.67	4918.92	-4888.94	881.01	1756243.51	14575933.83	40°08'03.734"N	80°35'08.143"W	4967.69	169.785	0.00	0.00	0.00
11026.00†	89.111	161.749	6256.22	5018.91	-4983.90	912.33	1756274.82	14575838.91	40°08'02.795"N	80°35'07.745"W	5066.71	169.627	0.00	0.00	0.00
11126.00†	89.111	161.749	6257.77	5118.90	-5078.85	943.64	1756306.12	14575743.99	40°08'01.855"N	80°35'07.348"W	5165.77	169.475	0.00	0.00	0.00
11226.00†	89.111	161.749	6259.32	5218.89	-5173.81	974.96	1756337.42	14575649.07	40°08'00.915"N	80°35'06.950"W	5264.87	169.328	0.00	0.00	0.00
11326.00†	89.111	161.749	6260.87	5318.87	-5268.77	1006.27	1756368.72	14575554.15	40°07'59.975"N	80°35'06.553"W	5364.00	169.187	0.00	0.00	0.00
11426.00†	89.111	161.749	6262.43	5418.86	-5363.73	1037.59	1756400.03	14575459.23	40°07'59.035"N	80°35'06.155"W	5463.16	169.052	0.00	0.00	0.00



Planned Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION					
Operator	SOUTHWESTERN ENERGY		Slot	Slot #06	RECEIVED Office of Oil and Gas
Area	Ohio County, WV		Well	Shawn Couch OHI 6H	
Field	Ohio		Wellbore	Shawn Couch OHI 6H PWB	
Facility	Shawn Couch OHI Pad 1				JUL 3 2017
					WV Department of Environmental Protection

WELLPATH DATA (162 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]
11526.00†	89.111	161.749	6263.98	5518.85	-5458.68	1068.90	1756431.33	14575364.31	40°07'58.096"N	80°35'05.758"W	5562.35	168.921	0.00	0.00	0.00
11626.00†	89.111	161.749	6265.53	5618.84	-5553.64	1100.22	1756462.63	14575269.39	40°07'57.156"N	80°35'05.360"W	5661.57	168.794	0.00	0.00	0.00
11726.00†	89.111	161.749	6267.08	5718.83	-5648.60	1131.53	1756493.94	14575174.47	40°07'56.216"N	80°35'04.963"W	5760.82	168.672	0.00	0.00	0.00
11826.00†	89.111	161.749	6268.63	5818.81	-5743.56	1162.85	1756525.24	14575079.55	40°07'55.276"N	80°35'04.565"W	5860.09	168.555	0.00	0.00	0.00
11926.00†	89.111	161.749	6270.18	5918.80	-5838.52	1194.16	1756556.54	14574984.62	40°07'54.336"N	80°35'04.168"W	5959.39	168.441	0.00	0.00	0.00
12026.00†	89.111	161.749	6271.73	6018.79	-5933.47	1225.48	1756587.85	14574889.70	40°07'53.396"N	80°35'03.770"W	6058.70	168.330	0.00	0.00	0.00
12126.00†	89.111	161.749	6273.28	6118.78	-6028.43	1256.79	1756619.15	14574794.78	40°07'52.457"N	80°35'03.373"W	6158.04	168.224	0.00	0.00	0.00
12226.00†	89.111	161.749	6274.84	6218.76	-6123.39	1288.11	1756650.45	14574699.86	40°07'51.517"N	80°35'02.976"W	6257.40	168.121	0.00	0.00	0.00
12326.00†	89.111	161.749	6276.39	6318.75	-6218.35	1319.42	1756681.75	14574604.94	40°07'50.577"N	80°35'02.578"W	6356.78	168.021	0.00	0.00	0.00
12426.00†	89.111	161.749	6277.94	6418.74	-6313.30	1350.74	1756713.06	14574510.02	40°07'49.637"N	80°35'02.181"W	6456.18	167.924	0.00	0.00	0.00
12526.00†	89.111	161.749	6279.49	6518.73	-6408.26	1382.05	1756744.36	14574415.10	40°07'48.697"N	80°35'01.783"W	6555.60	167.830	0.00	0.00	0.00
12626.00†	89.111	161.749	6281.04	6618.72	-6503.22	1413.37	1756775.66	14574320.18	40°07'47.758"N	80°35'01.386"W	6655.03	167.738	0.00	0.00	0.00
12726.00†	89.111	161.749	6282.59	6718.70	-6598.18	1444.68	1756806.97	14574225.26	40°07'46.818"N	80°35'00.988"W	6754.48	167.650	0.00	0.00	0.00
12826.00†	89.111	161.749	6284.14	6818.69	-6693.13	1476.00	1756838.27	14574130.34	40°07'45.878"N	80°35'00.591"W	6853.95	167.564	0.00	0.00	0.00
12926.00†	89.111	161.749	6285.69	6918.68	-6788.09	1507.31	1756869.57	14574035.41	40°07'44.938"N	80°35'00.194"W	6953.43	167.480	0.00	0.00	0.00
13026.00†	89.111	161.749	6287.24	7018.67	-6883.05	1538.63	1756900.87	14573940.49	40°07'43.998"N	80°34'59.796"W	7052.92	167.399	0.00	0.00	0.00
13126.00†	89.111	161.749	6288.80	7118.66	-6978.01	1569.94	1756932.18	14573845.57	40°07'43.058"N	80°34'59.399"W	7152.43	167.320	0.00	0.00	0.00
13226.00†	89.111	161.749	6290.35	7218.64	-7072.96	1601.26	1756963.48	14573750.65	40°07'42.119"N	80°34'59.001"W	7251.96	167.244	0.00	0.00	0.00
13326.00†	89.111	161.749	6291.90	7318.63	-7167.92	1632.57	1756994.78	14573655.73	40°07'41.179"N	80°34'58.604"W	7351.49	167.169	0.00	0.00	0.00
13426.00†	89.111	161.749	6293.45	7418.62	-7262.88	1663.89	1757026.09	14573560.81	40°07'40.239"N	80°34'58.207"W	7451.04	167.097	0.00	0.00	0.00
13526.00†	89.111	161.749	6295.00	7518.61	-7357.84	1695.20	1757057.39	14573465.89	40°07'39.299"N	80°34'57.809"W	7550.60	167.026	0.00	0.00	0.00
13626.00†	89.111	161.749	6296.55	7618.60	-7452.80	1726.52	1757088.69	14573370.97	40°07'38.359"N	80°34'57.412"W	7650.17	166.957	0.00	0.00	0.00
13726.00†	89.111	161.749	6298.10	7718.58	-7547.75	1757.83	1757120.00	14573276.05	40°07'37.419"N	80°34'57.014"W	7749.75	166.890	0.00	0.00	0.00
13826.00†	89.111	161.749	6299.65	7818.57	-7642.71	1789.15	1757151.30	14573181.13	40°07'36.480"N	80°34'56.617"W	7849.34	166.824	0.00	0.00	0.00
13926.00†	89.111	161.749	6301.20	7918.56	-7737.67	1820.46	1757182.60	14573086.21	40°07'35.540"N	80°34'56.220"W	7948.94	166.761	0.00	0.00	0.00
14026.00†	89.111	161.749	6302.76	8018.55	-7832.63	1851.78	1757213.90	14572991.28	40°07'34.600"N	80°34'55.822"W	8048.55	166.698	0.00	0.00	0.00
14126.00†	89.111	161.749	6304.31	8118.54	-7927.58	1883.09	1757245.21	14572896.36	40°07'33.660"N	80°34'55.425"W	8148.17	166.638	0.00	0.00	0.00
14226.00†	89.111	161.749	6305.86	8218.52	-8022.54	1914.41	1757276.51	14572801.44	40°07'32.720"N	80°34'55.027"W	8247.80	166.579	0.00	0.00	0.00
14326.00†	89.111	161.749	6307.41	8318.51	-8117.50	1945.72	1757307.81	14572706.52	40°07'31.781"N	80°34'54.630"W	8347.43	166.521	0.00	0.00	0.00
14426.00†	89.111	161.749	6308.96	8418.50	-8212.46	1977.04	1757339.12	14572611.60	40°07'30.841"N	80°34'54.233"W	8447.08	166.464	0.00	0.00	0.00



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REFERENCE WELLPATH IDENTIFICATION

Operator	SOUTHWESTERN ENERGY	Slot	Slot #06	RECEIVED Office of Oil and Gas JUL 3 2017 WV Department of Environmental Protection
Area	Ohio County, WV	Well	Shawn Couch OHI 6H	
Field	Ohio	Wellbore	Shawn Couch OHI 6H PWB	
Facility	Shawn Couch OHI Pad 1			

WELLPATH DATA (162 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]
14526.00†	89.111	161.749	6310.51	8518.49	-8307.41	2008.35	1757370.42	14572516.68	40°07'29.901"N	80°34'53.835"W	8546.73	166.409	0.00	0.00	0.00
14626.00†	89.111	161.749	6312.06	8618.48	-8402.37	2039.67	1757401.72	14572421.76	40°07'28.961"N	80°34'53.438"W	8646.39	166.355	0.00	0.00	0.00
14726.00†	89.111	161.749	6313.61	8718.46	-8497.33	2070.98	1757433.03	14572326.84	40°07'28.021"N	80°34'53.041"W	8746.06	166.303	0.00	0.00	0.00
14826.00†	89.111	161.749	6315.16	8818.45	-8592.29	2102.30	1757464.33	14572231.92	40°07'27.081"N	80°34'52.643"W	8845.74	166.251	0.00	0.00	0.00
14926.00†	89.111	161.749	6316.72	8918.44	-8687.25	2133.61	1757495.63	14572137.00	40°07'26.142"N	80°34'52.246"W	8945.42	166.201	0.00	0.00	0.00
15026.00†	89.111	161.749	6318.27	9018.43	-8782.20	2164.93	1757526.93	14572042.07	40°07'25.202"N	80°34'51.849"W	9045.11	166.152	0.00	0.00	0.00
15126.00†	89.111	161.749	6319.82	9118.42	-8877.16	2196.24	1757558.24	14571947.15	40°07'24.262"N	80°34'51.451"W	9144.81	166.104	0.00	0.00	0.00
15226.00†	89.111	161.749	6321.37	9218.40	-8972.12	2227.56	1757589.54	14571852.23	40°07'23.322"N	80°34'51.054"W	9244.51	166.057	0.00	0.00	0.00
15326.00†	89.111	161.749	6322.92	9318.39	-9067.08	2258.87	1757620.84	14571757.31	40°07'22.382"N	80°34'50.657"W	9344.22	166.011	0.00	0.00	0.00
15426.00†	89.111	161.749	6324.47	9418.38	-9162.03	2290.19	1757652.15	14571662.39	40°07'21.442"N	80°34'50.259"W	9443.93	165.966	0.00	0.00	0.00
15526.00†	89.111	161.749	6326.02	9518.37	-9256.99	2321.50	1757683.45	14571567.47	40°07'20.503"N	80°34'49.862"W	9543.65	165.921	0.00	0.00	0.00
15589.00	89.111	161.749	6327.00 ²	9581.36	-9316.82	2341.23	1757703.17	14571507.67	40°07'19.910"N	80°34'49.612"W	9606.48	165.894	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
1) Shawn Couch OHI 6H LP Rev-2	6563.39	6187.00	-746.31	-485.14	1754877.89	14580074.86	40°08'44.734"N	80°35'25.486"W	point
2) Shawn Couch OHI 6H BHL Rev-2	15589.00	6327.00	-9316.82	2341.23	1757703.17	14571507.67	40°07'19.910"N	80°34'49.612"W	point

SURVEY PROGRAM - Ref Wellbore: Shawn Couch OHI 6H PWB Ref Wellpath: Shawn Couch OHI 6H PWP Ex-01

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	1000.00	Generic gyro - continuous (Standard)		Shawn Couch OHI 6H PWB
1000.00	15589.00	ISCWSA MWD, Rev. 2 (Standard)		Shawn Couch OHI 6H PWB