

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot E
Area	Tyler County, WV	SHR-40E-HS
Field	Tyler	SHR-40E-HS AWB
Facility	SHR-40 Pad	

### REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Edsaryar
Scale	0.999948	Report Generated	22/Jul/2015 at 20:44
Convergence at slot	0.85° West	Database/Source file	WellArchitectEasternDB/SHR-40E-HS_AWB.xml

### WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-45.77	-1.28	1622921.31	335996.69	39°24'53.347"N	80°50'04.878"W
Facility Reference Pt			1622922.59	336042.46	39°24'53.800"N	80°50'04.870"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

### WELLPATH DATUM

Calculation method	Minimum curvature	
Horizontal Reference Pt	Slot	Precision 542 (RKB) to Facility Vertical Datum
Vertical Reference Pt	Precision 542 (RKB)	Precision 542 (RKB) to Mean Sea Level
MD Reference Pt	Precision 542 (RKB)	Precision 542 (RKB) to Mud Line at Slot (Slot E)
Field Vertical Reference	Mean Sea Level	Section Origin
		Section Azimuth
		788.73ft
		788.73ft
		19.40ft
		N 0.00, E 0.00 ft
		160.00°



# Actual Wellpath Report

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Area	Tyler County, WV	Well	SHR-40E-HS
Field	Tyler	Wellbore	SHR-40E-HS AWB
Facility	SHR-40 Pad		

## WELLPATH DATA (179 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	187.340	0.00	0.00	0.00	0.00	1622921.31	335996.69	39°24'53.347"N	80°50'04.878"W	0.00	0.000	0.00	0.00	0.00
19.40	0.000	187.340	19.40	0.00	0.00	0.00	1622921.31	335996.69	39°24'53.347"N	80°50'04.878"W	0.00	0.000	0.00	0.00	0.00
119.40	0.260	187.340	119.40	0.20	-0.23	-0.03	1622921.28	335996.46	39°24'53.345"N	80°50'04.878"W	0.23	187.340	0.26	0.26	0.00
219.40	0.540	180.950	219.40	0.84	-0.92	-0.07	1622921.24	335995.77	39°24'53.338"N	80°50'04.878"W	0.92	184.085	0.28	0.28	-6.39
319.40	0.540	164.610	319.39	1.75	-1.85	0.05	1622921.36	335994.84	39°24'53.329"N	80°50'04.877"W	1.85	178.404	0.15	0.00	-16.34
419.40	0.390	163.340	419.39	2.56	-2.63	0.27	1622921.58	335994.06	39°24'53.322"N	80°50'04.874"W	2.64	174.044	0.15	-0.15	-1.27
519.40	0.350	159.680	519.39	3.21	-3.24	0.48	1622921.79	335993.45	39°24'53.316"N	80°50'04.871"W	3.27	171.611	0.05	-0.04	-3.66
619.40	0.150	201.110	619.39	3.61	-3.65	0.54	1622921.85	335993.04	39°24'53.312"N	80°50'04.870"W	3.69	171.632	0.26	-0.20	41.43
719.40	0.390	238.020	719.39	3.78	-3.95	0.20	1622921.51	335992.74	39°24'53.308"N	80°50'04.874"W	3.96	177.090	0.28	0.24	36.91
819.40	0.470	214.010	819.38	4.09	-4.47	-0.32	1622920.99	335992.22	39°24'53.303"N	80°50'04.881"W	4.48	184.059	0.20	0.08	-24.01
919.40	0.620	185.300	919.38	4.82	-5.35	-0.60	1622920.71	335991.34	39°24'53.295"N	80°50'04.884"W	5.38	186.364	0.31	0.15	-28.71
1019.40	0.680	161.940	1019.37	5.90	-6.45	-0.46	1622920.85	335990.24	39°24'53.284"N	80°50'04.882"W	6.47	184.102	0.27	0.06	-23.36
1119.40	0.520	169.260	1119.37	6.95	-7.46	-0.19	1622921.12	335989.23	39°24'53.274"N	80°50'04.879"W	7.46	181.490	0.18	-0.16	7.32
1219.40	0.310	146.050	1219.36	7.66	-8.13	0.04	1622921.35	335988.56	39°24'53.267"N	80°50'04.876"W	8.13	179.708	0.26	-0.21	-23.21
1319.40	0.380	232.760	1319.36	8.02	-8.56	-0.07	1622921.24	335988.13	39°24'53.263"N	80°50'04.877"W	8.56	180.478	0.48	0.07	86.71
1419.40	0.500	237.680	1419.36	8.21	-8.99	-0.70	1622920.61	335987.70	39°24'53.259"N	80°50'04.885"W	9.02	184.478	0.13	0.12	4.92
1519.40	0.570	201.660	1519.36	8.67	-9.69	-1.26	1622920.05	335987.00	39°24'53.252"N	80°50'04.892"W	9.77	187.390	0.34	0.07	-36.02
1619.40	0.560	167.990	1619.35	9.53	-10.63	-1.34	1622919.97	335986.06	39°24'53.242"N	80°50'04.893"W	10.71	187.178	0.33	-0.01	-33.67
1719.40	0.410	149.320	1719.35	10.36	-11.41	-1.05	1622920.26	335985.28	39°24'53.235"N	80°50'04.889"W	11.46	185.277	0.22	-0.15	-18.67
1819.40	0.180	150.070	1819.35	10.87	-11.86	-0.79	1622920.52	335984.83	39°24'53.230"N	80°50'04.885"W	11.88	183.827	0.23	-0.23	0.75
1919.40	0.050	310.490	1919.35	10.99	-11.96	-0.75	1622920.56	335984.73	39°24'53.229"N	80°50'04.885"W	11.99	183.577	0.23	-0.13	160.42
2019.40	0.330	239.490	2019.35	11.00	-12.08	-1.03	1622920.28	335984.61	39°24'53.228"N	80°50'04.888"W	12.13	184.869	0.32	0.28	-71.00
2119.40	0.660	202.610	2119.34	11.48	-12.76	-1.50	1622919.81	335983.93	39°24'53.221"N	80°50'04.894"W	12.85	186.699	0.44	0.33	-36.88
2273.00	0.040	178.220	2272.94	12.18	-13.63	-1.84	1622919.47	335983.06	39°24'53.213"N	80°50'04.898"W	13.75	187.677	0.41	-0.40	-15.88
2362.00	0.040	26.630	2361.94	12.19	-13.63	-1.82	1622919.49	335983.06	39°24'53.212"N	80°50'04.898"W	13.76	187.613	0.09	0.00	-170.33
2452.00	1.030	80.910	2451.93	12.32	-13.48	-1.01	1622920.30	335983.21	39°24'53.214"N	80°50'04.888"W	13.52	184.284	1.12	1.10	60.31
2542.00	4.160	64.200	2541.83	12.14	-11.93	2.73	1622924.04	335984.76	39°24'53.230"N	80°50'04.841"W	12.24	167.114	3.54	3.48	-18.57
2631.00	7.090	58.930	2630.39	10.76	-7.69	10.34	1622931.65	335989.00	39°24'53.273"N	80°50'04.744"W	12.89	126.629	3.34	3.29	-5.92
2721.00	8.730	68.290	2719.54	9.49	-2.30	21.45	1622942.75	335994.39	39°24'53.328"N	80°50'04.604"W	21.57	96.109	2.31	1.82	10.40
2811.00	12.930	74.800	2807.92	10.13	2.87	37.52	1622958.82	335999.56	39°24'53.381"N	80°50'04.400"W	37.63	85.620	4.85	4.67	7.23



# Actual Wellpath Report

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Field	Tyler	Wellbore	SHR-40E-HS AWB
Facility	SHR-40 Pad		

## WELLPATH DATA (179 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]
2900.00	17.130	73.110	2893.85	11.68	9.30	59.68	1622980.98	336005.99	39°24'53.448"N	80°50'04.119"W	60.40	81.147	4.74	4.72	-1.90
2900.00	20.630	70.710	2979.00	12.59	18.39	87.33	1623008.64	336015.08	39°24'53.542"N	80°50'03.768"W	89.25	78.111	3.98	3.89	-2.67
3079.00	24.940	70.740	3061.04	13.03	29.76	119.86	1623041.16	336026.45	39°24'53.659"N	80°50'03.356"W	123.50	76.056	4.84	4.84	0.03
3169.00	29.250	73.620	3141.14	14.66	42.23	158.89	1623080.19	336038.92	39°24'53.788"N	80°50'02.861"W	164.41	75.117	5.00	4.79	3.20
3259.00	32.220	76.570	3218.50	18.80	54.00	203.33	1623124.63	336050.69	39°24'53.911"N	80°50'02.297"W	210.38	75.126	3.70	3.30	3.28
3348.00	34.180	76.740	3292.97	24.45	65.25	250.75	1623172.05	336061.94	39°24'54.029"N	80°50'01.695"W	259.10	75.414	2.20	2.20	0.19
3438.00	33.930	75.130	3367.53	29.66	77.49	299.63	1623220.93	336074.18	39°24'54.157"N	80°50'01.075"W	309.49	75.499	1.04	-0.28	-1.79
3528.00	34.010	73.350	3442.17	33.38	91.15	348.03	1623269.32	336087.84	39°24'54.299"N	80°50'00.461"W	359.77	75.323	1.11	0.09	-1.98
3617.00	33.680	71.740	3516.09	35.58	106.02	395.31	1623316.60	336102.70	39°24'54.453"N	80°49'59.861"W	409.28	74.987	1.07	-0.37	-1.81
3707.00	34.160	71.170	3590.78	36.85	121.99	442.92	1623364.21	336118.68	39°24'54.618"N	80°49'59.258"W	459.42	74.601	0.64	0.53	-0.63
3797.00	34.180	69.790	3665.24	37.28	138.88	490.57	1623411.85	336135.56	39°24'54.792"N	80°49'58.654"W	509.85	74.193	0.86	0.02	-1.53
3886.00	33.780	69.930	3739.04	37.16	156.01	537.27	1623458.55	336152.69	39°24'54.968"N	80°49'58.062"W	559.46	73.808	0.46	-0.45	0.16
3976.00	32.650	70.480	3814.34	37.33	172.71	583.65	1623504.93	336169.39	39°24'55.140"N	80°49'57.475"W	608.67	73.516	1.30	-1.26	0.61
4066.00	32.990	72.350	3889.97	38.54	188.25	629.88	1623551.16	336184.93	39°24'55.300"N	80°49'56.889"W	657.41	73.361	1.19	0.38	2.08
4155.00	33.620	71.530	3964.36	40.19	203.40	676.34	1623597.62	336200.08	39°24'55.457"N	80°49'56.300"W	706.27	73.262	0.87	0.71	-0.92
4245.00	33.100	72.120	4039.53	41.76	218.84	723.36	1623644.63	336215.52	39°24'55.616"N	80°49'55.703"W	755.74	73.168	0.68	-0.58	0.66
4335.00	34.480	75.040	4114.33	44.91	232.96	771.37	1623692.64	336229.64	39°24'55.763"N	80°49'55.095"W	805.78	73.195	2.37	1.53	3.24
4424.00	34.160	75.340	4187.83	49.45	245.79	819.88	1623741.15	336242.47	39°24'55.897"N	80°49'54.479"W	855.93	73.312	0.41	-0.36	0.34
4513.00	34.740	73.990	4261.23	53.54	259.11	868.43	1623789.69	336255.78	39°24'56.035"N	80°49'53.863"W	906.26	73.387	1.08	0.65	-1.52
4603.00	34.320	70.910	4335.38	55.73	274.48	917.06	1623838.32	336271.16	39°24'56.195"N	80°49'53.246"W	957.26	73.337	2.00	-0.47	-3.42
4692.00	33.940	70.280	4409.05	56.25	291.07	964.16	1623885.42	336287.74	39°24'56.365"N	80°49'52.649"W	1007.14	73.201	0.58	-0.43	-0.71
4782.00	34.810	68.500	4483.33	55.70	308.96	1011.71	1623932.97	336305.64	39°24'56.549"N	80°49'52.047"W	1057.84	73.018	1.48	0.97	-1.98
4871.00	34.290	67.740	4556.63	54.04	327.77	1058.55	1623979.80	336324.44	39°24'56.742"N	80°49'51.454"W	1108.13	72.795	0.76	-0.58	-0.85
4961.00	34.930	71.230	4630.71	53.60	345.67	1106.41	1624027.66	336342.34	39°24'56.926"N	80°49'50.847"W	1159.15	72.650	2.31	0.71	3.88
5051.00	34.830	73.440	4704.55	55.69	361.28	1155.45	1624076.69	336357.95	39°24'57.087"N	80°49'50.226"W	1210.61	72.637	1.41	-0.11	2.46
5140.00	34.590	70.770	4777.72	57.56	376.85	1203.66	1624124.91	336373.52	39°24'57.248"N	80°49'49.614"W	1261.28	72.615	1.73	-0.27	-3.00
5230.00	34.840	72.090	4851.70	58.84	393.17	1252.25	1624173.49	336389.84	39°24'57.417"N	80°49'48.998"W	1312.52	72.569	0.88	0.28	1.47
5320.00	34.630	72.020	4925.66	60.68	408.97	1301.03	1624222.27	336405.64	39°24'57.580"N	80°49'48.380"W	1363.80	72.550	0.24	-0.23	-0.08
5409.00	34.570	71.950	4998.92	62.43	424.60	1349.10	1624270.33	336421.26	39°24'57.741"N	80°49'47.770"W	1414.33	72.530	0.08	-0.07	-0.08
5499.00	34.810	74.790	5072.92	65.44	439.25	1398.16	1624319.40	336435.92	39°24'57.893"N	80°49'47.148"W	1465.54	72.559	1.82	0.27	3.16



# Actual Wellpath Report

SHR-40E-HS AWP Proj: 16046'

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Facility	SHR-40 Pad		

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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
5588.00	34.220	76.170	5146.26	70.25	451.90	1446.98	1624368.21	336448.56	39°24'58.025"N	80°49'46.529"W	1515.90	72.656	1.10	-0.66	1.55
5678.00	33.750	74.050	5220.89	74.74	464.82	1495.59	1624416.82	336461.48	39°24'58.160"N	80°49'45.912"W	1566.16	72.735	1.42	-0.52	-2.36
5767.00	34.220	76.410	5294.69	79.28	477.49	1543.69	1624464.92	336474.16	39°24'58.292"N	80°49'45.301"W	1615.85	72.812	1.57	0.53	2.65
5857.00	34.220	75.750	5369.11	84.64	489.67	1592.82	1624514.04	336486.33	39°24'58.420"N	80°49'44.678"W	1666.39	72.911	0.41	0.00	-0.73
5947.00	33.390	73.070	5443.90	88.50	503.11	1641.04	1624562.26	336499.77	39°24'58.560"N	80°49'44.066"W	1716.43	72.956	1.90	-0.92	-2.98
6036.00	33.900	72.980	5517.99	91.10	517.51	1688.20	1624609.42	336514.17	39°24'58.709"N	80°49'43.468"W	1765.74	72.957	0.58	0.57	-0.10
6126.00	34.140	72.020	5592.58	93.30	532.65	1736.22	1624657.44	336529.31	39°24'58.866"N	80°49'42.859"W	1816.09	72.945	0.65	0.27	-1.07
6215.00	34.060	71.800	5666.28	94.96	548.14	1783.65	1624704.87	336544.80	39°24'59.026"N	80°49'42.257"W	1865.98	72.917	0.17	-0.09	-0.25
6305.00	34.070	72.080	5740.84	96.67	563.77	1831.58	1624752.79	336560.43	39°24'59.187"N	80°49'41.650"W	1916.38	72.891	0.17	0.51	0.31
6394.00	34.520	75.900	5814.37	100.16	577.59	1879.77	1624800.97	336574.24	39°24'59.331"N	80°49'41.039"W	1966.50	72.920	2.47	0.01	4.29
6484.00	38.010	82.060	5886.95	108.58	587.63	1931.98	1624853.18	336584.29	39°24'59.438"N	80°49'40.375"W	2019.37	73.082	5.60	3.88	6.84
6574.00	45.550	85.870	5954.03	123.18	593.78	1991.56	1624912.76	336590.44	39°24'59.507"N	80°49'39.617"W	2078.19	73.398	8.84	8.38	4.23
6663.00	50.630	91.320	6013.48	144.40	595.28	2057.71	1624978.90	336591.94	39°24'59.532"N	80°49'38.775"W	2142.08	73.865	7.30	5.71	6.12
6753.00	56.560	104.160	6067.02	178.25	585.26	2129.15	1625050.35	336581.92	39°24'59.443"N	80°49'37.863"W	2208.12	74.630	13.22	6.59	14.27
6843.00	60.410	110.240	6114.08	224.66	562.51	2202.35	1625123.54	336559.17	39°24'59.229"N	80°49'36.926"W	2273.06	75.672	7.17	4.28	6.76
6933.00	63.910	117.070	6156.15	279.60	530.54	2275.15	1625196.33	336527.20	39°24'58.924"N	80°49'35.992"W	2336.19	76.874	7.75	3.89	7.59
7022.00	64.930	125.280	6194.63	342.08	489.01	2343.74	1625264.92	336485.68	39°24'58.523"N	80°49'35.111"W	2394.21	78.214	8.40	1.15	9.22
7112.00	70.090	131.540	6229.07	412.89	437.34	2408.78	1625329.96	336434.00	39°24'58.022"N	80°49'34.272"W	2448.16	79.710	8.61	5.73	6.96
7201.00	74.770	138.640	6255.96	489.79	377.26	2468.57	1625389.75	336373.93	39°24'57.437"N	80°49'33.499"W	2497.23	81.311	9.24	5.26	7.98
7291.00	78.600	147.790	6276.73	573.54	307.18	2520.90	1625442.07	336303.85	39°24'56.752"N	80°49'32.820"W	2539.55	83.053	10.77	4.26	10.17
7381.00	83.180	154.280	6290.99	661.26	229.48	2563.87	1625485.04	336226.16	39°24'55.990"N	80°49'32.258"W	2574.12	84.885	8.75	5.09	7.21
7470.00	86.980	157.420	6298.62	749.67	148.59	2600.13	1625521.30	336145.27	39°24'55.196"N	80°49'31.780"W	2604.37	86.729	5.53	4.27	3.53
7560.00	87.840	160.650	6302.69	839.55	64.64	2632.29	1625553.46	336061.33	39°24'54.371"N	80°49'31.355"W	2633.09	88.593	3.71	0.96	3.59
7649.00	87.880	160.910	6306.01	928.48	-19.34	2661.57	1625582.74	335977.35	39°24'53.546"N	80°49'30.966"W	2661.64	90.416	0.30	0.04	0.29
7739.00	88.890	161.590	6308.55	1018.42	-104.52	2690.49	1625611.65	335892.17	39°24'52.708"N	80°49'30.582"W	2692.52	92.225	1.35	1.12	0.76
7828.00	90.000	161.560	6309.41	1107.38	-188.96	2718.62	1625639.78	335807.74	39°24'51.878"N	80°49'30.207"W	2725.18	93.976	1.25	1.25	-0.03
7918.00	90.000	160.230	6309.41	1197.37	-274.00	2748.07	1625669.23	335722.71	39°24'51.042"N	80°49'29.816"W	2761.70	95.694	1.48	0.00	-1.48
8007.00	89.940	157.470	6309.46	1286.34	-356.99	2780.18	1625701.34	335639.71	39°24'50.226"N	80°49'29.392"W	2803.01	97.317	3.10	-0.07	-3.10
8097.00	89.940	155.410	6309.55	1376.17	-439.49	2816.15	1625737.31	335557.23	39°24'49.416"N	80°49'28.918"W	2850.24	98.870	2.29	0.00	-2.29
8187.00	89.970	157.040	6309.62	1465.97	-521.85	2852.44	1625773.59	335474.87	39°24'48.608"N	80°49'28.440"W	2899.78	100.367	1.81	0.03	1.81



# Actual Wellpath Report

SHR-40E-HS AWP Proj: 16046'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Tyler County, WV	Well	SHR-40E-HS
Field	Tyler	Wellbore	SHR-40E-HS AWB
Facility	SHR-40 Pad		

## WELLPATH DATA (179 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]
8276.00	90.030	157.010	6309.62	1554.85	-603.79	2887.18	1625808.33	335392.94	39°24'47.803"N	80°49'27.982"W	2949.63	101.812	0.08	0.07	-0.03
8366.00	89.970	156.590	6309.62	1644.71	-686.51	2922.63	1625843.78	335310.22	39°24'46.991"N	80°49'27.515"W	3002.18	103.219	0.47	-0.07	-0.47
8456.00	89.940	162.020	6309.69	1734.67	-770.67	2954.42	1625875.57	335226.06	39°24'46.163"N	80°49'27.094"W	3053.29	104.620	6.03	-0.03	6.03
8545.00	89.940	166.740	6309.79	1823.38	-856.36	2978.38	1625899.53	335140.38	39°24'45.320"N	80°49'26.773"W	3099.05	106.041	5.30	0.00	5.30
8636.00	90.000	165.690	6309.84	1913.84	-944.74	3000.06	1625921.21	335052.00	39°24'44.450"N	80°49'26.480"W	3145.30	107.480	1.16	0.07	-1.15
8724.00	90.250	162.500	6309.64	2001.61	-1029.36	3024.18	1625945.32	334967.39	39°24'43.617"N	80°49'26.157"W	3194.56	108.797	3.64	0.28	-3.63
8814.00	90.180	161.940	6309.31	2091.54	-1115.06	3051.66	1625972.80	334881.69	39°24'42.774"N	80°49'25.791"W	3249.00	110.072	0.63	-0.08	-0.62
8903.00	90.180	162.320	6309.03	2180.48	-1199.76	3078.97	1626000.11	334796.99	39°24'41.941"N	80°49'25.427"W	3304.46	111.289	0.43	0.00	0.43
8993.00	90.180	159.010	6308.74	2270.46	-1284.67	3108.76	1626029.90	334712.09	39°24'41.106"N	80°49'25.031"W	3363.75	112.453	3.68	0.00	-3.68
9082.00	90.150	157.680	6308.49	2359.42	-1367.39	3141.60	1626062.74	334629.37	39°24'40.294"N	80°49'24.597"W	3426.29	113.521	1.49	-0.03	-1.49
9172.00	90.120	160.470	6308.28	2449.40	-1451.45	3173.74	1626094.88	334545.32	39°24'39.468"N	80°49'24.172"W	3489.89	114.576	3.10	-0.03	3.10
9261.00	90.180	161.670	6308.04	2538.38	-1535.63	3202.62	1626123.75	334461.14	39°24'38.640"N	80°49'23.789"W	3551.75	115.617	1.35	0.07	1.35
9351.00	90.180	159.210	6307.76	2628.37	-1620.43	3232.75	1626153.88	334376.35	39°24'37.806"N	80°49'23.389"W	3616.14	116.623	2.73	0.00	-2.73
9440.00	90.250	157.510	6307.43	2717.33	-1703.15	3265.57	1626186.70	334293.63	39°24'36.994"N	80°49'22.955"W	3683.02	117.544	1.91	0.08	-1.91
9530.00	90.180	157.270	6307.09	2807.24	-1786.24	3300.17	1626221.30	334210.55	39°24'36.178"N	80°49'22.499"W	3752.56	118.425	0.28	-0.08	-0.27
9619.00	90.180	156.510	6306.81	2896.10	-1868.09	3335.10	1626256.23	334128.70	39°24'35.374"N	80°49'22.039"W	3822.65	119.255	0.85	0.00	-0.85
9709.00	90.280	156.870	6306.45	2985.95	-1950.75	3370.71	1626291.84	334046.05	39°24'34.562"N	80°49'21.569"W	3894.50	120.059	0.42	0.11	0.40
9798.00	90.250	157.440	6306.04	3074.84	-2032.76	3405.26	1626326.39	333964.04	39°24'33.757"N	80°49'21.114"W	3965.85	120.835	0.64	-0.03	0.64
9888.00	90.280	159.650	6305.62	3164.81	-2116.52	3438.18	1626359.30	333880.28	39°24'32.934"N	80°49'20.679"W	4037.42	121.616	2.46	0.03	2.46
9977.00	90.220	161.690	6305.23	3253.80	-2200.50	3467.64	1626388.76	333796.31	39°24'32.108"N	80°49'20.288"W	4106.91	122.398	2.29	-0.07	2.29
10067.00	90.180	162.640	6304.92	3343.73	-2286.17	3495.20	1626416.32	333710.64	39°24'31.265"N	80°49'19.921"W	4176.49	123.188	1.06	-0.04	1.06
10156.00	90.060	161.650	6304.73	3432.67	-2370.88	3522.49	1626443.61	333625.93	39°24'30.432"N	80°49'19.557"W	4246.06	123.943	1.12	-0.13	-1.11
10246.00	90.120	157.820	6304.59	3522.65	-2455.30	3553.66	1626474.77	333541.53	39°24'29.602"N	80°49'19.144"W	4319.37	124.641	4.26	0.07	-4.26
10335.00	90.120	159.930	6304.40	3611.63	-2538.31	3585.73	1626506.85	333458.52	39°24'28.787"N	80°49'18.720"W	4393.23	125.294	2.37	0.00	2.37
10424.00	89.880	160.150	6304.40	3700.63	-2621.97	3616.11	1626537.23	333374.87	39°24'27.964"N	80°49'18.317"W	4466.65	125.945	0.37	-0.27	0.25
10514.00	89.970	160.060	6304.52	3790.63	-2706.59	3646.74	1626567.85	333290.24	39°24'27.133"N	80°49'17.911"W	4541.41	126.583	0.14	0.10	-0.10
10604.00	89.910	158.880	6304.61	3880.62	-2790.88	3678.30	1626599.41	333205.97	39°24'26.304"N	80°49'17.494"W	4617.24	127.189	1.31	-0.07	-1.31
10694.00	89.780	158.930	6304.86	3970.60	-2874.84	3710.69	1626631.80	333122.00	39°24'25.479"N	80°49'17.065"W	4694.04	127.767	0.15	-0.14	0.06
10783.00	89.850	160.740	6305.14	4059.60	-2958.39	3741.37	1626662.48	333038.47	39°24'24.658"N	80°49'16.659"W	4769.69	128.334	2.04	0.08	2.03
10873.00	89.780	161.660	6305.44	4149.58	-3043.58	3770.38	1626691.48	332953.27	39°24'23.820"N	80°49'16.273"W	4845.53	128.912	1.03	-0.08	1.02



# Actual Wellpath Report

SHR-40E-HS AWP Proj: 16046'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Tyler County, WV	Well	SHR-40E-HS
Field	Tyler	Wellbore	SHR-40E-HS AWB
Facility	SHR-40 Pad		

## WELLPATH DATA (179 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]
10962.00	89.750	162.190	6305.80	4238.53	-3128.19	3797.99	1626719.09	332868.67	39°24'22.988"N	80°49'15.906"W	4920.40	129.476	0.60	-0.03	0.60
11052.00	89.510	161.960	6306.38	4328.46	-3213.82	3825.69	1626746.79	332783.05	39°24'22.146"N	80°49'15.537"W	4996.45	130.032	0.37	-0.27	-0.26
11141.00	89.690	162.540	6307.00	4417.39	-3298.58	3852.82	1626773.92	332698.29	39°24'21.312"N	80°49'15.175"W	5071.97	130.568	0.68	0.20	0.65
11231.00	89.570	165.340	6307.58	4507.17	-3385.06	3877.72	1626798.81	332611.82	39°24'20.461"N	80°49'14.842"W	5147.36	131.119	3.11	-0.13	3.11
11320.00	89.600	159.850	6308.23	4596.04	-3469.95	3904.33	1626825.42	332526.93	39°24'19.626"N	80°49'14.487"W	5223.44	131.629	6.17	0.03	-6.17
11410.00	89.630	157.520	6308.83	4686.01	-3553.78	3937.04	1626858.13	332443.10	39°24'18.802"N	80°49'14.055"W	5303.74	132.071	2.59	0.13	-2.59
11500.00	89.750	158.240	6309.32	4775.95	-3637.16	3970.93	1626892.02	332359.73	39°24'17.983"N	80°49'13.608"W	5384.90	132.488	0.81	0.03	0.80
11589.00	89.880	159.280	6309.61	4864.92	-3720.11	4003.17	1626924.26	332276.78	39°24'17.168"N	80°49'13.181"W	5464.85	132.901	1.18	0.15	1.17
11679.00	89.910	159.750	6309.77	4954.92	-3804.42	4034.67	1626955.76	332192.48	39°24'16.340"N	80°49'12.764"W	5545.46	133.318	0.52	0.03	0.52
11768.00	90.000	159.510	6309.84	5043.92	-3887.85	4065.64	1626986.73	332109.05	39°24'15.520"N	80°49'12.354"W	5625.38	133.719	0.29	0.10	-0.27
11858.00	90.030	158.510	6309.82	5133.90	-3971.88	4097.89	1627018.98	332025.03	39°24'14.694"N	80°49'11.928"W	5706.88	134.105	1.12	0.03	-1.12
11948.00	90.000	157.700	6309.80	5223.85	-4055.38	4131.46	1627052.54	331941.53	39°24'13.874"N	80°49'11.484"W	5789.22	134.468	0.89	-0.03	-0.89
12037.00	89.940	157.560	6309.84	5312.78	-4137.68	4165.33	1627086.41	331859.23	39°24'13.065"N	80°49'11.038"W	5871.15	134.809	0.17	-0.07	-0.16
12127.00	89.880	157.620	6309.98	5402.70	-4220.89	4199.64	1627120.72	331776.03	39°24'12.248"N	80°49'10.585"W	5954.23	135.145	0.09	-0.07	0.07
12216.00	90.890	157.500	6309.39	5491.61	-4303.14	4233.61	1627154.69	331693.78	39°24'11.440"N	80°49'10.137"W	6036.60	135.467	1.14	1.13	-0.13
12306.00	89.910	158.410	6308.76	5581.55	-4386.56	4267.39	1627188.47	331610.37	39°24'10.621"N	80°49'09.691"W	6119.85	135.789	1.49	-1.09	1.01
12396.00	89.880	159.220	6308.92	5671.53	-4470.48	4299.92	1627220.99	331526.46	39°24'09.796"N	80°49'09.261"W	6202.78	136.114	0.90	-0.03	0.90
12485.00	90.000	161.040	6309.02	5760.53	-4554.18	4330.16	1627251.24	331442.76	39°24'08.973"N	80°49'08.860"W	6284.17	136.444	2.05	0.13	2.04
12575.00	89.940	162.680	6309.06	5850.48	-4639.70	4358.18	1627279.26	331357.24	39°24'08.132"N	80°49'08.487"W	6365.58	136.792	1.82	-0.07	1.82
12664.00	90.000	163.090	6309.11	5939.36	-4724.76	4384.38	1627305.45	331272.19	39°24'07.295"N	80°49'08.138"W	6445.63	137.140	0.47	0.07	0.46
12754.00	89.940	163.700	6309.16	6029.21	-4811.00	4410.10	1627331.16	331185.95	39°24'06.447"N	80°49'07.794"W	6526.46	137.490	0.68	-0.07	0.68
12844.00	89.910	164.280	6309.27	6118.99	-4897.51	4434.92	1627355.99	331099.44	39°24'05.595"N	80°49'07.462"W	6607.13	137.838	0.65	-0.03	0.64
12933.00	89.940	164.050	6309.39	6207.75	-4983.14	4459.20	1627380.27	331013.83	39°24'04.753"N	80°49'07.136"W	6687.01	138.176	0.26	0.03	-0.26
13023.00	89.910	162.340	6309.51	6297.61	-5069.29	4485.22	1627406.29	330927.68	39°24'03.905"N	80°49'06.789"W	6768.67	138.498	1.90	-0.03	-1.90
13113.00	89.970	159.370	6309.60	6387.59	-5154.30	4514.74	1627435.80	330842.67	39°24'03.069"N	80°49'06.397"W	6851.98	138.784	3.30	0.07	-3.30
13202.00	90.030	159.920	6309.60	6476.59	-5237.74	4545.69	1627466.75	330759.23	39°24'02.249"N	80°49'05.987"W	6935.22	139.046	0.62	0.07	0.62
13292.00	89.940	158.790	6309.63	6566.58	-5321.96	4577.42	1627498.48	330675.02	39°24'01.421"N	80°49'05.567"W	7019.69	139.301	1.26	-0.10	-1.26
13381.00	89.940	155.270	6309.72	6655.45	-5403.89	4612.15	1627533.21	330593.09	39°24'00.617"N	80°49'05.109"W	7104.50	139.520	3.96	0.00	-3.96
13471.00	89.880	153.130	6309.86	6744.98	-5484.92	4651.32	1627572.38	330512.07	39°23'59.822"N	80°49'04.595"W	7191.60	139.701	2.38	-0.07	-2.38
13560.00	89.940	153.540	6310.00	6833.38	-5564.45	4691.26	1627612.31	330432.54	39°23'59.042"N	80°49'04.072"W	7278.12	139.867	0.47	0.07	0.46



# Actual Wellpath Report

SHR-40E-HS AWP Proj: 16046'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Tyler County, WV	Well	SHR-40E-HS
Field	Tyler	Wellbore	SHR-40E-HS AWB
Facility	SHR-40 Pad		

## WELLPATH DATA (179 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]
13650.00	89.940	160.680	6310.10	6923.21	-5647.31	4726.24	1627647.30	330349.69	39°23'58.228"N	80°49'03.611"W	7364.07	140.074	7.93	0.00	7.93
13739.00	89.600	162.050	6310.45	7012.18	-5731.64	4754.68	1627675.73	330265.36	39°23'57.399"N	80°49'03.233"W	7447.06	140.323	1.59	-0.38	1.54
13829.00	90.490	164.650	6310.38	7102.02	-5817.86	4780.47	1627701.52	330179.15	39°23'56.550"N	80°49'02.888"W	7529.96	140.590	3.05	0.99	2.89
13918.00	90.830	165.780	6309.36	7190.64	-5903.91	4803.18	1627724.22	330093.11	39°23'55.703"N	80°49'02.583"W	7610.95	140.870	1.33	0.38	1.27
14008.00	90.950	161.780	6307.96	7280.41	-5990.30	4828.31	1627749.35	330006.72	39°23'54.853"N	80°49'02.247"W	7693.91	141.130	4.45	0.13	-4.44
14098.00	90.650	163.060	6306.70	7370.32	-6076.08	4855.49	1627776.53	329920.94	39°23'54.009"N	80°49'01.884"W	7777.82	141.371	1.46	-0.33	1.42
14187.00	91.050	158.160	6305.38	7459.28	-6160.00	4885.02	1627806.07	329837.03	39°23'53.184"N	80°49'01.493"W	7861.87	141.585	5.52	0.45	-5.51
14277.00	90.950	157.370	6303.81	7549.20	-6243.29	4919.07	1627840.12	329753.74	39°23'52.366"N	80°49'01.043"W	7948.33	141.766	0.88	-0.11	-0.88
14366.00	90.520	156.110	6302.67	7638.05	-6325.05	4954.22	1627875.26	329671.98	39°23'51.563"N	80°49'00.580"W	8034.33	141.929	1.50	-0.48	-1.42
14456.00	90.580	158.280	6301.80	7727.93	-6408.01	4989.10	1627910.13	329589.03	39°23'50.748"N	80°49'00.121"W	8121.18	142.097	2.41	0.07	2.41
14546.00	90.710	160.290	6300.79	7817.91	-6492.18	5020.93	1627941.96	329504.87	39°23'49.921"N	80°48'59.700"W	8207.20	142.282	2.24	0.14	2.23
14635.00	90.710	161.490	6299.69	7906.89	-6576.27	5050.06	1627971.10	329420.78	39°23'49.094"N	80°48'59.313"W	8291.59	142.479	1.35	0.00	1.35
14725.00	90.680	160.840	6298.60	7996.87	-6661.44	5079.12	1628000.15	329335.61	39°23'48.257"N	80°48'58.927"W	8376.88	142.676	0.72	-0.03	-0.72
14814.00	90.620	161.090	6297.59	8085.85	-6745.57	5108.14	1628029.17	329251.49	39°23'47.430"N	80°48'58.542"W	8461.43	142.865	0.29	-0.07	0.28
14904.00	90.180	160.060	6296.96	8175.84	-6830.44	5138.07	1628059.10	329166.62	39°23'46.595"N	80°48'58.144"W	8547.20	143.048	1.24	-0.49	-1.14
14994.00	90.220	158.990	6296.64	8265.83	-6914.75	5169.55	1628090.58	329082.31	39°23'45.767"N	80°48'57.728"W	8633.54	143.218	1.19	0.04	-1.19
15083.00	90.180	159.420	6296.33	8354.82	-6997.96	5201.15	1628122.18	328999.12	39°23'44.949"N	80°48'57.310"W	8719.14	143.379	0.49	-0.04	0.48
15173.00	90.250	159.790	6296.00	8444.82	-7082.31	5232.51	1628153.54	328914.76	39°23'44.120"N	80°48'56.895"W	8805.59	143.542	0.42	0.08	0.41
15262.00	90.120	159.300	6295.71	8533.82	-7165.70	5263.62	1628184.64	328831.38	39°23'43.300"N	80°48'56.483"W	8891.17	143.701	0.57	-0.15	-0.55
15352.00	90.180	158.980	6295.47	8623.81	-7249.80	5295.66	1628216.69	328747.28	39°23'42.474"N	80°48'56.059"W	8977.95	143.853	0.36	0.07	-0.36
15442.00	90.120	159.890	6295.24	8713.80	-7334.06	5327.28	1628248.30	328663.03	39°23'41.646"N	80°48'55.641"W	9064.68	144.006	1.01	-0.07	1.01
15531.00	90.120	160.770	6295.05	8802.80	-7417.87	5357.23	1628278.25	328579.22	39°23'40.822"N	80°48'55.244"W	9150.12	144.163	0.99	0.00	0.99
15621.00	90.150	160.990	6294.84	8892.79	-7502.90	5386.71	1628307.73	328494.19	39°23'39.986"N	80°48'54.852"W	9236.36	144.324	0.25	0.03	0.24
15710.00	90.150	157.580	6294.61	8981.77	-7586.14	5418.19	1628339.20	328410.97	39°23'39.168"N	80°48'54.436"W	9322.35	144.465	3.83	0.00	-3.83
15800.00	89.850	153.900	6294.61	9071.50	-7668.18	5455.16	1628376.18	328328.93	39°23'38.362"N	80°48'53.950"W	9410.62	144.572	4.10	-0.33	-4.09
15890.00	89.880	155.580	6294.82	9161.12	-7749.57	5493.57	1628414.58	328247.55	39°23'37.563"N	80°48'53.445"W	9499.21	144.668	1.87	0.03	1.87
15979.00	90.030	159.000	6294.89	9250.01	-7831.65	5527.92	1628448.93	328165.46	39°23'36.757"N	80°48'52.993"W	9586.07	144.784	3.85	0.17	3.84
16023.00	89.880	159.070	6294.92	9294.00	-7872.74	5543.66	1628464.67	328124.38	39°23'36.353"N	80°48'52.784"W	9628.72	144.848	0.38	-0.34	0.16
16046.00	89.880	159.070	6294.97	9317.00	-7894.22	5551.88	1628472.89	328102.90	39°23'36.142"N	80°48'52.676"W	9651.02	144.882	0.00	0.00	0.00

### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Tyler County, WV	Well	SHR-40E-HS
Field	Tyler	Wellbore	SHR-40E-HS AWB
Facility	SHR-40 Pad		

### TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SHR-40E-HS BHL Rev-2		6303.00	-7902.63	5532.33	1628453.34	328094.49	39°23'36.056"N	80°48'52.923"W	point
SHR-40E-HS LP Rev-2		6303.00	141.14	2604.64	1625525.81	336137.82	39°24'55.123"N	80°49'31.721"W	point
SHR-40 Pad LL		6599.23	45.77	1.28	1622922.59	336042.46	39°24'53.800"N	80°50'04.870"W	polygon

### WELLPATH COMPOSITION - Ref Wellbore: SHR-40E-HS AWB

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
19.40	2119.40	Generic gyro - continuous (Standard)		SHR-40E-HS AWB
2119.40	2452.00	NaviTrak (MagCorr)	01_MS Rate Gyro <12-1/4"> (100'-2100')	SHR-40E-HS AWB
2452.00	16023.00	NaviTrak (AT Curve Short Spaced)	02_BHL AT Curve MagCorr <8-3/4"> (2119.4')(2273'-2452')	SHR-40E-HS AWB
16023.00	16046.00	Blind Drilling (std)	03_BHL AT Curve SS <8-3/4"> (2452')(2542'-16023') Projection to bit	SHR-40E-HS AWB





# Actual Wellpath Report

SHR-40E-HS AWP Proj: 16046'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot E
Area	Tyler County, WV	Well	SHR-40E-HS
Field	Tyler	Wellbore	SHR-40E-HS AWB
Facility	SHR-40 Pad		

## COMMENTS

**Wellpath general comments**  
 API: 47-095-02213-0000  
 BHI Job #: 7366893  
 Rig: Precision 542  
 Duration: 7/14/2015-7/21/2015  
 MS Gyro <12-1/4"> (100'-2100')  
 BHI AT Curve <8-3/4"> (2119.4')(2273'-16023')  
 Projected MD at TD: 16046'

Location: Tyler County, WV  
 Field: Tyler  
 Facility: SHR-40 Pad

Slot: Slot E  
 Well: SHR-40E-HS  
 Wellbore: SHR-40E-HS PWB

**Location Information**

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SHR-40 Pad	1622922.589	338042.458	39°24'53.800"N	80°50'04.870"W
Slot	Local E (ft)	Local N (ft)	Latitude	Longitude
Slot E	-45.77	1622921.310	39°24'53.347"N	80°50'04.878"W
Precision 542 (RKB) to Mud line (At Slot: Slot E)			19.4ft	
Mean Sea Level to Mud line (At Slot: Slot E)			-769.33ft	
Precision 542 (RKB) to Mean Sea Level			788.73ft	

Plot reference northings are referenced to Precision 542 (RKB)  
 True vertical depths are referenced to Precision 542 (RKB)  
 Measured depths are referenced to Precision 542 (RKB)  
 Precision 542 (RKB) to Mean Sea Level: 788.73 feet  
 Mean Sea Level to Mud line (At Slot: Slot E): -769.33 feet  
 Depths are in feet  
 Coordinates are in feet referenced to SHK  
 Created by: edelmar on 2/24/2015

