



Actual Wellpath Report

SHR-40F-HS AWP Proj: 16181'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY	Slot	Slot F
Area	Tyler County, WV	Well	SHR-40F-HS
Field	Tyler	Wellbore	SHR-40F-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	0.999947	Report Generated	14/Jul/2015 at 17:03
Convergence at slot	0.85° West	Database/Source file	WellArchitectEasternDB/SHR-40F-HS_AWB.xml

	Local coordinates			Grid coordinates			Geographic coordinates		
	North [ft]	East [ft]	Easting [US ft]	Northing [US ft]	Latitude	Longitude			
Slot Location	-28.80	9.27	1622931.86	336013.66	39°24'53.517"N	80°50'04.746"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
Vertical Reference Pt	Precision 542 (RKB)
MD Reference Pt	Precision 542 (RKB)
Field Vertical Reference	Mean Sea Level
	Precision 542 (RKB) to Facility Vertical Datum
	Precision 542 (RKB) to Mean Sea Level
	Precision 542 (RKB) to Mud Line at Slot (Slot F)
	Section Origin
	Section Azimuth
	788.80ft
	788.80ft
	19.40ft
	N 0.00, E 0.00 ft
	160.00°



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WELLPATH DATA (180 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	209.140	0.00	0.00	0.00	0.00	1622931.86	336013.66	39°24'53.517"N	80°50'04.746"W	0.00	0.000	0.00	0.00	0.00
19.40	0.000	209.140	19.40	0.00	0.00	0.00	1622931.86	336013.66	39°24'53.517"N	80°50'04.746"W	0.00	0.000	0.00	0.00	0.00
119.40	0.280	209.140	119.40	0.16	-0.21	-0.12	1622931.74	336013.45	39°24'53.515"N	80°50'04.748"W	0.24	209.140	0.28	0.28	0.00
219.40	0.250	256.290	219.40	0.30	-0.48	-0.45	1622931.41	336013.18	39°24'53.512"N	80°50'04.752"W	0.66	223.234	0.21	-0.03	47.15
319.40	0.260	295.810	319.40	0.11	-0.43	-0.87	1622930.99	336013.23	39°24'53.512"N	80°50'04.757"W	0.97	243.519	0.17	0.01	39.52
419.40	0.280	110.570	419.40	0.11	-0.42	-0.84	1622931.02	336013.24	39°24'53.512"N	80°50'04.757"W	0.94	243.559	0.54	0.02	174.76
519.40	0.430	114.260	519.40	0.53	-0.66	-0.27	1622931.59	336013.00	39°24'53.510"N	80°50'04.750"W	0.71	202.348	0.15	0.15	3.69
619.40	0.600	132.050	619.39	1.25	-1.16	0.46	1622932.32	336012.50	39°24'53.505"N	80°50'04.740"W	1.25	158.420	0.23	0.17	17.79
719.40	0.700	146.210	719.39	2.31	-2.02	1.19	1622933.05	336011.64	39°24'53.497"N	80°50'04.731"W	2.35	149.547	0.19	0.10	14.16
819.40	0.800	142.370	819.38	3.56	-3.08	1.95	1622933.81	336010.58	39°24'53.487"N	80°50'04.721"W	3.65	147.619	0.11	0.10	-3.84
919.40	0.880	151.430	919.37	4.99	-4.31	2.75	1622934.61	336009.35	39°24'53.475"N	80°50'04.711"W	5.11	147.476	0.15	0.08	9.06
1019.40	0.930	175.370	1019.35	6.53	-5.79	3.18	1622935.04	336007.87	39°24'53.460"N	80°50'04.705"W	6.61	151.229	0.38	0.05	23.94
1119.40	1.010	184.700	1119.34	8.11	-7.48	3.17	1622935.03	336006.18	39°24'53.443"N	80°50'04.705"W	8.13	157.006	0.18	0.08	9.33
1219.40	0.930	192.160	1219.33	9.60	-9.15	2.93	1622934.79	336004.51	39°24'53.427"N	80°50'04.707"W	9.61	162.242	0.15	-0.08	7.46
1319.40	0.680	187.570	1319.32	10.82	-10.53	2.68	1622934.54	336003.13	39°24'53.413"N	80°50'04.710"W	10.87	165.716	0.26	-0.25	-4.59
1419.40	0.670	183.630	1419.31	11.88	-11.71	2.57	1622934.43	336001.96	39°24'53.401"N	80°50'04.712"W	11.98	167.632	0.05	-0.01	-3.94
1519.40	0.720	181.680	1519.30	13.00	-12.92	2.51	1622934.37	336000.74	39°24'53.389"N	80°50'04.712"W	13.16	168.998	0.06	0.05	-1.95
1619.40	0.840	170.750	1619.29	14.30	-14.27	2.61	1622934.47	335999.39	39°24'53.376"N	80°50'04.710"W	14.51	169.631	0.19	0.12	-10.93
1719.40	0.810	154.060	1719.28	15.72	-15.63	3.04	1622934.90	335998.03	39°24'53.363"N	80°50'04.705"W	15.92	169.000	0.24	-0.03	-16.69
1819.40	0.590	139.630	1819.27	16.91	-16.66	3.68	1622935.54	335997.01	39°24'53.353"N	80°50'04.696"W	17.06	167.539	0.28	-0.22	-14.43
1919.40	0.310	164.680	1919.27	17.66	-17.31	4.09	1622935.95	335996.35	39°24'53.346"N	80°50'04.691"W	17.78	166.719	0.34	-0.28	25.05
2019.40	0.830	176.010	2019.27	18.63	-18.29	4.21	1622936.07	335995.37	39°24'53.337"N	80°50'04.689"W	18.77	167.047	0.53	0.52	11.33
2119.40	0.810	163.760	2119.26	20.03	-19.69	4.46	1622936.32	335993.97	39°24'53.323"N	80°50'04.686"W	20.19	167.252	0.18	-0.02	-12.25
2264.00	0.750	172.930	2263.84	21.97	-21.61	4.86	1622936.72	335992.05	39°24'53.304"N	80°50'04.680"W	22.15	167.333	0.10	-0.04	6.34
2354.00	2.860	76.690	2353.80	22.81	-21.68	7.12	1622938.98	335991.98	39°24'53.304"N	80°50'04.652"W	22.82	161.831	3.37	2.34	-106.93
2443.00	6.090	66.200	2442.52	22.75	-19.26	13.60	1622945.46	335994.40	39°24'53.328"N	80°50'04.570"W	23.58	144.784	3.73	3.63	-11.79
2533.00	8.510	63.150	2531.79	21.64	-14.33	23.91	1622955.77	335999.33	39°24'53.379"N	80°50'04.439"W	27.87	120.936	2.72	2.69	-3.39
2623.00	9.910	68.710	2620.62	20.67	-8.51	37.07	1622968.92	336005.15	39°24'53.438"N	80°50'04.273"W	38.03	102.929	1.84	1.56	6.18
2712.00	13.150	72.750	2707.82	20.99	-2.72	53.88	1622985.73	336010.94	39°24'53.498"N	80°50'04.060"W	53.94	92.895	3.75	3.64	4.54
2802.00	16.920	74.900	2794.72	22.60	3.73	76.31	1623008.16	336017.39	39°24'53.565"N	80°50'03.775"W	76.40	87.205	4.23	4.19	2.39



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

WELLPATH DATA (180 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]
2891.00	20.890	76.570	2878.91	25.52	10.79	104.25	1623036.11	336024.45	39°24'53.639"N	80°50'03.420"W	104.81	84.093	4.50	4.46	1.88
2981.00	25.100	74.270	2961.74	28.78	19.69	138.25	1623070.10	336033.35	39°24'53.732"N	80°50'02.989"W	139.65	81.893	4.78	4.68	-2.56
3071.00	28.880	71.300	3041.92	30.69	31.84	177.23	1623109.08	336045.50	39°24'53.857"N	80°50'02.495"W	180.07	79.815	4.46	4.20	-3.30
3161.00	31.890	71.960	3119.55	32.00	46.18	220.43	1623152.28	336059.83	39°24'54.005"N	80°50'01.947"W	225.21	78.169	3.36	3.34	0.73
3250.00	34.960	73.900	3193.83	34.54	60.53	267.29	1623199.14	336074.19	39°24'54.154"N	80°50'01.353"W	274.06	77.240	3.65	3.45	2.18
3340.00	38.500	76.520	3265.95	39.48	74.22	319.33	1623251.17	336087.87	39°24'54.297"N	80°50'00.692"W	327.84	76.916	4.30	3.93	2.91
3430.00	43.050	75.690	3334.09	45.71	88.35	376.37	1623308.21	336102.00	39°24'54.445"N	80°49'59.968"W	386.60	76.790	5.09	5.06	-0.92
3519.00	45.760	72.750	3397.67	50.25	105.31	436.27	1623368.10	336118.97	39°24'54.622"N	80°49'59.208"W	448.80	76.429	3.82	3.04	-3.30
3609.00	46.300	68.160	3460.18	50.75	126.98	497.27	1623429.10	336140.64	39°24'54.845"N	80°49'58.435"W	513.23	75.675	3.72	0.60	-5.10
3789.00	30.550	62.670	3600.79	42.77	172.49	598.98	1623530.80	336186.14	39°24'55.309"N	80°49'57.148"W	623.32	73.935	8.95	-8.75	-3.05
3878.00	30.960	63.270	3677.27	37.20	193.17	639.52	1623571.34	336206.82	39°24'55.520"N	80°49'56.636"W	668.06	73.192	0.58	0.46	0.67
3967.00	31.710	64.520	3753.29	32.29	213.53	681.08	1623612.90	336227.18	39°24'55.727"N	80°49'56.110"W	713.77	72.593	1.12	0.84	1.40
4057.00	31.550	69.520	3829.93	29.83	231.95	724.50	1623656.32	336245.60	39°24'55.915"N	80°49'55.560"W	760.72	72.247	2.92	-0.18	5.56
4147.00	30.420	72.380	3907.09	30.58	247.09	768.28	1623700.09	336260.73	39°24'56.071"N	80°49'55.005"W	807.03	72.172	2.06	-1.26	3.18
4236.00	30.890	67.630	3983.67	30.57	262.60	810.88	1623742.70	336276.25	39°24'56.231"N	80°49'54.466"W	852.35	72.055	2.77	0.53	-5.34
4326.00	33.220	68.530	4059.94	28.98	280.42	855.20	1623787.01	336294.07	39°24'56.413"N	80°49'53.904"W	900.00	71.845	2.64	2.59	1.00
4415.00	36.680	69.780	4132.88	28.26	298.54	902.84	1623834.65	336312.18	39°24'56.599"N	80°49'53.301"W	950.92	71.703	3.97	3.89	1.40
4505.00	37.740	69.930	4204.56	28.12	317.28	953.94	1623885.75	336330.93	39°24'56.792"N	80°49'52.653"W	1005.32	71.603	1.18	1.18	0.17
4594.00	37.010	70.230	4275.28	28.19	335.69	1004.73	1623936.54	336349.33	39°24'56.982"N	80°49'52.010"W	1059.33	71.525	0.85	-0.82	0.34
4684.00	35.710	72.990	4347.77	29.67	352.54	1055.35	1623987.15	336366.18	39°24'57.155"N	80°49'51.368"W	1112.67	71.528	2.32	-1.44	3.07
4773.00	36.420	72.820	4419.71	32.33	367.94	1105.42	1624037.22	336381.58	39°24'57.315"N	80°49'50.733"W	1165.05	71.590	0.81	0.80	-0.19
4863.00	36.040	69.310	4492.31	33.32	385.19	1155.72	1624087.52	336398.83	39°24'57.493"N	80°49'50.095"W	1218.22	71.567	2.34	-0.42	-3.90
4952.00	34.380	67.270	4565.03	31.81	404.15	1203.40	1624135.19	336417.79	39°24'57.687"N	80°49'49.492"W	1269.45	71.436	2.29	-1.87	-2.29
5042.00	31.700	67.160	4640.47	29.43	423.15	1248.64	1624180.43	336436.79	39°24'57.882"N	80°49'48.919"W	1318.39	71.279	2.98	-2.98	-0.12
5132.00	32.040	71.510	4716.91	28.88	439.90	1293.07	1624224.86	336453.54	39°24'58.054"N	80°49'48.356"W	1365.85	71.212	2.58	0.38	4.83
5221.00	31.400	78.040	4792.64	32.75	452.20	1338.16	1624269.95	336465.83	39°24'58.182"N	80°49'47.784"W	1412.50	71.329	3.92	-0.72	7.34
5311.00	32.220	80.380	4869.13	40.35	461.07	1384.75	1624316.54	336474.70	39°24'58.276"N	80°49'47.192"W	1459.49	71.584	1.65	0.91	2.60
5400.00	34.200	75.640	4943.60	47.09	471.24	1432.39	1624364.17	336484.87	39°24'58.384"N	80°49'46.587"W	1507.91	71.789	3.67	2.22	-5.33
5490.00	35.510	68.770	5017.48	49.01	486.98	1481.28	1624413.06	336500.62	39°24'58.546"N	80°49'45.967"W	1559.27	71.801	4.60	1.46	-7.63
5580.00	37.560	66.310	5089.79	46.69	507.47	1530.77	1624462.55	336521.10	39°24'58.756"N	80°49'45.340"W	1612.70	71.659	2.80	2.28	-2.73



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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]
5669.00	37.580	67.800	5160.34	43.90	528.63	1580.74	1624512.51	336542.26	39°24'58.972"N	80°49'44.708"W	1666.79	71.509	1.02	0.02	1.67
5759.00	36.900	69.740	5231.99	42.72	548.35	1631.50	1624563.27	336561.98	39°24'59.175"N	80°49'44.065"W	1721.19	71.422	1.51	-0.76	2.16
5848.00	35.550	65.250	5303.80	40.46	568.44	1680.07	1624611.84	336582.07	39°24'59.380"N	80°49'43.450"W	1773.63	71.307	3.34	-1.52	-5.04
5938.00	33.350	64.310	5378.01	35.84	590.12	1726.13	1624657.90	336603.75	39°24'59.601"N	80°49'42.867"W	1824.22	71.126	2.51	-2.44	-1.04
6027.00	29.390	67.780	5453.99	32.57	608.99	1768.41	1624700.18	336622.62	39°24'59.794"N	80°49'42.332"W	1870.34	70.998	4.89	-4.45	3.90
6085.00	28.220	69.930	5504.81	32.00	619.08	1794.47	1624726.23	336632.71	39°24'59.898"N	80°49'42.002"W	1898.26	70.966	2.69	-2.02	3.71
6127.00	28.360	70.250	5541.80	32.03	625.86	1813.19	1624744.95	336639.49	39°24'59.967"N	80°49'41.765"W	1918.16	70.957	0.49	0.33	0.76
6216.00	34.130	67.960	5617.86	31.23	642.39	1856.26	1624788.02	336656.01	39°25'00.137"W	80°49'41.219"W	1964.27	70.911	6.62	6.48	-2.57
6306.00	39.470	70.200	5689.90	30.43	661.57	1906.62	1624838.37	336675.19	39°25'00.334"N	80°49'40.581"W	2018.13	70.864	6.12	5.93	2.49
6395.00	39.810	70.920	5758.44	30.99	680.46	1960.16	1624891.91	336694.09	39°25'00.528"N	80°49'39.902"W	2074.91	70.856	0.64	0.38	0.81
6485.00	39.890	71.430	5827.53	32.17	699.07	2014.75	1624946.50	336712.69	39°25'00.720"N	80°49'39.211"W	2132.58	70.864	0.37	0.09	0.57
6575.00	40.920	79.800	5896.12	37.91	713.49	2071.15	1625002.90	336727.11	39°25'00.871"N	80°49'38.495"W	2190.61	70.992	6.13	1.14	9.30
6665.00	41.490	87.500	5963.87	51.90	720.02	2129.99	1625061.73	336733.64	39°25'00.944"N	80°49'37.746"W	2248.39	71.323	5.67	0.63	8.56
6754.00	44.870	93.370	6028.79	73.24	719.46	2190.82	1625122.56	336733.08	39°25'00.947"N	80°49'36.971"W	2305.93	71.820	5.90	3.80	6.60
6844.00	50.420	94.380	6089.40	100.17	714.94	2257.15	1625188.89	336728.56	39°25'00.912"N	80°49'36.125"W	2367.67	72.425	6.22	6.17	1.12
6934.00	52.280	97.490	6145.62	130.92	707.65	2327.04	1625258.77	336721.27	39°25'00.851"N	80°49'35.233"W	2432.26	73.086	3.40	2.07	3.46
7023.00	54.250	106.020	6198.91	168.46	693.07	2396.74	1625328.47	336706.70	39°25'00.717"N	80°49'34.343"W	2494.94	73.872	7.99	2.21	9.58
7113.00	59.340	116.190	6248.27	217.99	665.84	2466.75	1625398.48	336679.47	39°25'00.458"N	80°49'33.446"W	2555.04	74.894	11.01	5.66	11.30
7203.00	66.760	123.200	6289.07	279.18	626.02	2536.25	1625467.98	336639.65	39°25'00.075"N	80°49'32.553"W	2612.37	76.135	10.77	8.24	7.79
7292.00	72.470	130.210	6320.10	348.88	576.14	2603.00	1625534.72	336589.77	39°24'59.591"N	80°49'31.693"W	2666.00	77.520	9.78	6.42	7.88
7382.00	74.640	135.540	6345.59	425.68	517.42	2666.21	1625597.93	336531.05	39°24'59.020"N	80°49'30.877"W	2715.96	79.017	6.17	2.41	5.92
7471.00	78.660	143.110	6366.16	506.63	451.78	2722.56	1625654.27	336465.42	39°24'58.380"N	80°49'30.146"W	2759.79	80.578	9.43	4.52	8.51
7561.00	83.430	151.110	6380.19	593.21	377.19	2770.75	1625702.46	336390.83	39°24'57.650"N	80°49'29.518"W	2796.31	82.248	10.25	5.30	8.89
7650.00	87.070	156.580	6387.57	681.34	297.62	2809.81	1625741.52	336311.26	39°24'56.869"N	80°49'29.006"W	2825.53	83.954	7.36	4.09	6.15
7740.00	90.150	158.940	6389.75	771.23	214.35	2843.86	1625775.57	336228.00	39°24'56.051"N	80°49'28.556"W	2851.93	85.690	4.31	3.42	2.62
7830.00	90.150	162.570	6389.51	861.21	129.40	2873.52	1625805.22	336143.05	39°24'55.216"N	80°49'28.163"W	2876.43	87.422	4.03	0.00	4.03
7919.00	90.150	163.440	6389.28	950.08	44.29	2899.53	1625831.24	336057.94	39°24'54.379"N	80°49'27.815"W	2899.87	89.125	0.98	0.00	0.98
8009.00	89.910	161.570	6389.23	1039.99	-41.55	2926.59	1625858.29	335972.12	39°24'53.534"N	80°49'27.454"W	2926.88	90.813	2.09	-0.27	-2.08
8098.00	89.750	160.700	6389.50	1128.97	-125.76	2955.36	1625887.06	335887.90	39°24'52.706"N	80°49'27.072"W	2958.04	92.437	0.99	-0.18	-0.98
8188.00	89.750	160.100	6389.89	1218.97	-210.55	2985.55	1625917.25	335803.12	39°24'51.873"N	80°49'26.671"W	2992.97	94.034	0.67	0.00	-0.67



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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (180 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]
8278.00	89.570	156.990	6390.42	1308.93	-294.30	3018.47	1625950.17	335719.38	39°24'51.050"N	80°49'26.236"W	3032.78	95.569	3.46	-0.20	-3.46
8367.00	89.480	156.420	6391.16	1397.78	-376.04	3053.66	1625985.36	335637.64	39°24'50.247"N	80°49'25.773"W	3076.73	97.020	0.65	-0.10	-0.64
8457.00	89.780	160.810	6391.74	1487.73	-459.82	3086.47	1626018.16	335553.86	39°24'49.424"N	80°49'25.339"W	3120.54	98.474	4.89	0.33	4.88
8546.00	89.910	162.910	6391.98	1576.68	-544.39	3114.18	1626045.87	335469.29	39°24'48.592"N	80°49'24.970"W	3161.41	99.916	2.36	0.15	2.36
8636.00	89.850	168.200	6392.17	1666.22	-631.52	3136.62	1626068.31	335382.18	39°24'47.734"N	80°49'24.668"W	3199.57	101.384	5.88	-0.07	5.88
8725.00	90.400	166.930	6391.98	1754.44	-718.43	3155.79	1626087.48	335295.27	39°24'46.878"N	80°49'24.407"W	3236.53	102.825	1.56	0.62	-1.43
8815.00	90.280	156.960	6391.44	1844.28	-803.89	3183.65	1626115.33	335209.82	39°24'46.038"N	80°49'24.036"W	3283.57	104.171	11.08	-0.13	-11.08
8904.00	90.370	155.480	6390.94	1933.08	-885.33	3219.53	1626151.22	335128.38	39°24'45.238"N	80°49'23.564"W	3339.04	105.376	1.67	0.10	-1.66
8994.00	90.000	159.100	6390.65	2022.96	-968.34	3254.27	1626185.95	335045.38	39°24'44.423"N	80°49'23.106"W	3395.28	106.571	4.04	-0.41	4.02
9084.00	89.780	156.560	6390.82	2112.89	-1051.67	3288.23	1626219.91	334962.04	39°24'43.604"N	80°49'22.658"W	3452.31	107.736	2.83	-0.24	-2.82
9173.00	89.750	157.750	6391.19	2201.78	-1133.69	3322.78	1626254.46	334880.03	39°24'42.799"N	80°49'22.202"W	3510.86	108.839	1.34	-0.03	1.34
9262.00	89.750	159.320	6391.57	2290.75	-1216.51	3355.35	1626287.03	334797.21	39°24'41.985"N	80°49'21.772"W	3569.07	109.929	1.76	0.00	1.76
9352.00	89.940	163.830	6391.82	2380.69	-1301.88	3383.79	1626315.46	334711.85	39°24'41.146"N	80°49'21.393"W	3625.59	111.044	5.02	0.21	5.01
9441.00	90.620	162.940	6391.38	2469.53	-1387.16	3409.23	1626340.91	334626.57	39°24'40.307"N	80°49'21.053"W	3680.64	112.141	1.26	0.76	-1.00
9531.00	90.120	159.110	6390.80	2559.50	-1472.25	3438.49	1626370.17	334541.49	39°24'39.470"N	80°49'20.664"W	3740.42	113.179	4.29	-0.56	-4.26
9620.00	90.180	158.170	6390.57	2648.47	-1555.14	3470.91	1626402.58	334458.61	39°24'38.635"N	80°49'20.236"W	3803.37	114.135	1.06	0.07	-1.06
9710.00	90.150	157.860	6390.31	2738.42	-1638.59	3504.60	1626436.27	334375.16	39°24'37.836"N	80°49'19.791"W	3868.75	115.059	0.35	-0.03	-0.34
9799.00	90.150	158.880	6390.08	2827.38	-1721.32	3537.41	1626469.07	334292.43	39°24'37.023"N	80°49'19.358"W	3933.98	115.948	1.15	0.00	1.15
9889.00	90.180	158.880	6389.82	2917.36	-1805.28	3569.84	1626501.50	334208.48	39°24'36.198"N	80°49'18.929"W	4000.34	116.826	0.03	0.03	0.00
9978.00	90.220	158.670	6389.51	3006.34	-1888.24	3602.06	1626533.72	334125.52	39°24'35.383"N	80°49'18.503"W	4066.97	117.664	0.24	0.04	-0.24
10068.00	90.180	159.850	6389.19	3096.33	-1972.41	3633.93	1626565.59	334041.36	39°24'34.556"N	80°49'18.081"W	4134.71	118.492	1.31	-0.04	1.31
10157.00	90.150	160.330	6388.94	3185.33	-2056.09	3664.24	1626595.90	333957.69	39°24'33.733"N	80°49'17.679"W	4201.68	119.298	0.54	-0.03	0.54
10247.00	90.150	158.210	6388.70	3275.32	-2140.25	3696.09	1626627.75	333873.52	39°24'32.906"N	80°49'17.258"W	4271.04	120.073	2.36	0.00	-2.36
10336.00	89.880	159.070	6388.68	3364.29	-2223.14	3728.51	1626660.16	333790.64	39°24'32.091"N	80°49'16.829"W	4340.98	120.806	1.01	-0.30	0.97
10426.00	89.820	160.430	6388.91	3454.29	-2307.57	3759.66	1626691.31	333706.21	39°24'31.262"N	80°49'16.417"W	4411.34	121.540	1.51	-0.07	1.51
10515.00	89.970	160.820	6389.08	3543.28	-2391.53	3789.18	1626720.83	333622.26	39°24'30.436"N	80°49'16.025"W	4480.77	122.258	0.47	0.17	0.44
10605.00	89.720	160.230	6389.32	3633.28	-2476.38	3819.19	1626750.84	333537.41	39°24'29.602"N	80°49'15.627"W	4551.78	122.960	0.71	-0.28	-0.66
10695.00	89.660	158.250	6389.81	3723.27	-2560.54	3851.09	1626782.74	333453.26	39°24'28.775"N	80°49'15.205"W	4624.63	123.619	2.20	-0.07	-2.20
10785.00	89.630	156.310	6390.36	3813.16	-2643.55	3885.84	1626817.49	333370.26	39°24'27.960"N	80°49'14.746"W	4699.80	124.228	2.16	-0.03	-2.16
10874.00	89.850	158.130	6390.77	3902.05	-2725.60	3920.30	1626851.95	333288.21	39°24'27.154"N	80°49'14.292"W	4774.69	124.809	2.06	0.25	2.04



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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (180 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]
10963.00	89.820	159.850	6391.02	3991.03	-2808.68	3952.21	1626883.85	333205.13	39°24'26.337"N	80°49'13.870"W	4848.57	125.400	1.93	-0.03	1.93
11053.00	89.720	160.820	6391.39	4081.03	-2893.43	3982.50	1626914.14	333120.39	39°24'25.504"N	80°49'13.468"W	4922.62	126.000	1.08	-0.11	1.08
11143.00	89.780	162.900	6391.78	4170.97	-2978.95	4010.51	1626942.16	333034.87	39°24'24.663"N	80°49'13.095"W	4995.84	126.604	2.31	0.07	2.31
11232.00	89.780	159.270	6392.12	4259.94	-3063.13	4039.36	1626971.00	332950.70	39°24'23.835"N	80°49'12.712"W	5069.44	127.174	4.08	0.00	-4.08
11321.00	89.780	158.960	6392.46	4348.93	-3146.28	4071.09	1627002.73	332867.55	39°24'23.018"N	80°49'12.292"W	5145.18	127.698	0.35	0.00	-0.35
11411.00	89.720	158.170	6392.85	4438.90	-3230.05	4103.98	1627035.61	332783.78	39°24'22.195"N	80°49'11.858"W	5222.63	128.205	0.88	-0.07	-0.88
11501.00	89.720	158.780	6393.29	4528.87	-3313.78	4137.00	1627068.63	332700.06	39°24'21.373"N	80°49'11.421"W	5300.55	128.695	0.68	0.00	0.68
11591.00	89.750	159.290	6393.71	4618.85	-3397.82	4169.20	1627100.83	332616.03	39°24'20.547"N	80°49'10.996"W	5378.42	129.179	0.57	0.03	0.57
11680.00	89.660	161.440	6394.17	4707.85	-3481.64	4199.10	1627130.74	332532.21	39°24'19.723"N	80°49'10.599"W	5454.75	129.663	2.42	-0.10	2.42
11770.00	89.750	163.620	6394.63	4797.75	-3567.48	4226.12	1627157.75	332446.38	39°24'18.878"N	80°49'10.239"W	5530.55	130.169	2.42	0.10	2.42
11859.00	89.780	164.230	6395.00	4886.54	-3653.00	4250.76	1627182.39	332360.86	39°24'18.037"N	80°49'09.909"W	5604.76	130.675	0.69	0.03	0.69
11949.00	90.220	163.000	6395.00	4976.36	-3739.34	4276.15	1627207.78	332274.52	39°24'17.187"N	80°49'09.569"W	5680.51	131.169	1.45	0.49	-1.37
12038.00	90.340	158.830	6394.56	5065.33	-3823.43	4305.25	1627236.87	332190.44	39°24'16.360"N	80°49'09.183"W	5757.93	131.608	4.69	0.13	-4.69
12128.00	90.310	156.940	6394.05	5155.26	-3906.80	4339.13	1627270.75	332107.07	39°24'15.541"N	80°49'08.736"W	5838.76	131.999	2.10	-0.03	-2.10
12217.00	89.910	159.360	6393.88	5244.21	-3989.40	4372.25	1627303.87	332024.48	39°24'14.730"N	80°49'08.298"W	5918.77	132.379	2.76	-0.45	2.72
12307.00	89.880	158.960	6394.05	5334.20	-4073.51	4404.26	1627335.88	331940.37	39°24'13.903"N	80°49'07.875"W	5999.26	132.766	0.45	-0.03	-0.44
12397.00	89.820	158.660	6394.28	5424.18	-4157.43	4436.80	1627368.41	331856.46	39°24'13.079"N	80°49'07.445"W	6080.24	133.138	0.34	-0.07	-0.33
12486.00	89.780	160.420	6394.59	5513.17	-4240.81	4467.91	1627399.52	331773.08	39°24'12.259"N	80°49'07.033"W	6160.09	133.506	1.98	-0.04	1.98
12576.00	89.820	161.830	6394.91	5603.15	-4325.97	4497.02	1627428.63	331687.93	39°24'11.422"N	80°49'06.646"W	6239.97	133.889	1.57	0.04	1.57
12666.00	89.880	163.410	6395.14	5693.05	-4411.86	4523.90	1627455.52	331602.04	39°24'10.577"N	80°49'06.288"W	6319.03	134.282	1.76	0.07	1.76
12755.00	89.940	164.250	6395.28	5781.85	-4497.33	4548.39	1627480.30	331516.57	39°24'09.736"N	80°49'05.956"W	6396.61	134.675	0.95	0.07	0.94
12845.00	89.910	162.560	6395.40	5871.69	-4583.58	4574.39	1627506.00	331430.33	39°24'08.887"N	80°49'05.612"W	6475.67	135.058	1.88	-0.03	-1.88
12934.00	89.850	159.570	6395.59	5960.67	-4667.76	4603.27	1627534.88	331346.16	39°24'08.060"N	80°49'05.229"W	6555.76	135.399	3.36	-0.07	-3.36
13024.00	89.880	157.220	6395.80	6050.62	-4751.43	4636.40	1627568.01	331262.49	39°24'07.238"N	80°49'04.791"W	6638.70	135.702	2.61	0.03	-2.61
13114.00	89.910	158.670	6395.96	6140.56	-4834.84	4670.20	1627601.80	331179.08	39°24'06.418"N	80°49'04.345"W	6722.08	135.992	1.61	0.03	1.61
13203.00	90.310	163.370	6395.79	6229.52	-4918.98	4699.14	1627630.74	331094.95	39°24'05.591"N	80°49'03.961"W	6802.81	136.309	5.30	0.45	5.28
13293.00	90.460	158.680	6395.19	6319.48	-5004.06	4728.39	1627659.99	331009.87	39°24'04.754"N	80°49'03.572"W	6884.64	136.622	5.21	0.17	-5.21
13382.00	90.340	158.880	6394.57	6408.46	-5087.02	4760.60	1627692.20	330926.91	39°24'03.939"N	80°49'03.147"W	6967.15	136.898	0.26	-0.13	0.22
13472.00	90.460	157.240	6393.94	6498.40	-5170.50	4794.23	1627725.83	330843.44	39°24'03.119"N	80°49'02.703"W	7051.15	137.162	1.83	0.13	-1.82
13562.00	90.340	157.810	6393.31	6588.32	-5253.66	4828.63	1627760.23	330760.28	39°24'02.302"N	80°49'02.249"W	7135.59	137.414	0.65	-0.13	0.63



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REFERENCE WELLPATH IDENTIFICATION

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

WELLPATH DATA (180 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]
13651.00	90.400	160.740	6392.73	6677.30	-5336.89	4860.12	1627791.72	330677.06	39°24'01.484"N	80°49'01.832"W	7218.26	137.677	3.29	0.07	3.29
13741.00	90.800	164.270	6391.79	6767.19	-5422.71	4887.17	1627818.77	330591.24	39°24'00.640"N	80°49'01.472"W	7300.02	137.973	3.95	0.44	3.92
13830.00	90.920	164.910	6390.46	6855.90	-5508.50	4910.82	1627842.41	330505.46	39°23'59.796"N	80°49'01.154"W	7379.69	138.283	0.73	0.13	0.72
13919.00	91.050	161.610	6388.93	6944.73	-5593.70	4936.45	1627868.04	330420.26	39°23'58.957"N	80°49'00.812"W	7460.43	138.572	3.71	0.15	-3.71
14009.00	91.390	163.350	6387.01	7034.62	-5679.51	4963.54	1627895.12	330334.46	39°23'58.113"N	80°49'00.451"W	7542.78	138.849	1.97	0.38	1.93
14099.00	90.830	157.130	6385.26	7124.56	-5764.15	4993.94	1627925.53	330249.82	39°23'57.281"N	80°49'00.048"W	7626.59	139.095	6.94	-0.62	-6.91
14189.00	90.770	155.870	6384.01	7214.38	-5846.68	5029.83	1627961.41	330167.30	39°23'56.471"N	80°48'59.576"W	7712.51	139.295	1.40	-0.07	-1.40
14278.00	90.740	155.460	6382.83	7303.12	-5927.76	5066.50	1627998.08	330086.22	39°23'55.675"N	80°48'59.093"W	7797.93	139.479	0.46	-0.03	-0.46
14367.00	90.830	157.860	6381.61	7391.95	-6009.46	5101.75	1628033.33	330004.52	39°23'54.873"N	80°48'58.629"W	7882.99	139.670	2.70	0.10	2.70
14457.00	90.740	159.300	6380.38	7481.91	-6093.24	5134.62	1628066.20	329920.75	39°23'54.049"N	80°48'58.195"W	7968.18	139.880	1.60	-0.10	1.60
14547.00	90.370	158.870	6379.51	7571.90	-6177.30	5166.74	1628098.32	329836.69	39°23'53.223"N	80°48'57.770"W	8053.22	140.091	0.63	-0.41	-0.48
14636.00	90.460	159.900	6378.87	7660.89	-6260.60	5198.08	1628129.65	329753.40	39°23'52.405"N	80°48'57.355"W	8137.27	140.298	1.16	0.10	1.16
14726.00	90.950	161.630	6377.76	7750.87	-6345.57	5227.72	1628159.30	329668.44	39°23'51.569"N	80°48'56.962"W	8221.64	140.517	2.00	0.54	1.92
14816.00	90.250	159.800	6376.82	7840.85	-6430.51	5257.44	1628189.02	329583.50	39°23'50.734"N	80°48'56.567"W	8306.15	140.731	2.18	-0.78	-2.03
14905.00	89.140	152.210	6377.29	7929.57	-6511.75	5293.61	1628225.18	329502.26	39°23'49.936"N	80°48'56.092"W	8391.98	140.891	8.62	-1.25	-8.53
14995.00	89.750	153.090	6378.16	8018.82	-6591.69	5334.95	1628266.52	329422.33	39°23'49.152"N	80°48'55.550"W	8480.10	141.015	1.19	0.68	0.98
15085.00	88.580	159.240	6379.47	8108.57	-6673.96	5371.30	1628302.87	329340.06	39°23'48.345"N	80°48'55.072"W	8566.95	141.172	6.96	-1.30	6.83
15174.00	89.050	162.770	6381.32	8197.52	-6758.09	5400.26	1628331.83	329255.94	39°23'47.517"N	80°48'54.687"W	8650.70	141.372	4.00	0.53	3.97
15265.00	89.320	168.240	6382.61	8288.06	-6846.15	5423.03	1628354.59	329167.89	39°23'46.651"N	80°48'54.381"W	8733.78	141.616	6.02	0.30	6.01
15353.00	89.350	165.290	6383.63	8375.43	-6931.79	5443.17	1628374.73	329082.24	39°23'45.807"N	80°48'54.108"W	8813.50	141.859	3.35	0.03	-3.35
15443.00	89.720	163.140	6384.36	8465.18	-7018.39	5467.65	1628399.21	328995.65	39°23'44.955"N	80°48'53.781"W	8896.80	142.080	2.42	0.41	-2.39
15533.00	89.780	161.150	6384.76	8555.11	-7104.05	5495.24	1628426.80	328909.99	39°23'44.112"N	80°48'53.413"W	8981.38	142.277	2.21	0.07	-2.21
15622.00	89.820	158.550	6385.07	8644.10	-7187.60	5525.90	1628457.46	328826.45	39°23'43.291"N	80°48'53.007"W	9066.26	142.447	2.92	0.04	-2.92
15712.00	89.750	158.800	6385.40	8734.08	-7271.43	5558.63	1628490.18	328742.62	39°23'42.467"N	80°48'52.575"W	9152.71	142.604	0.29	-0.08	0.28
15801.00	89.750	158.860	6385.79	8823.06	-7354.43	5590.77	1628522.32	328659.63	39°23'41.652"N	80°48'52.150"W	9238.20	142.758	0.07	0.00	0.07
15891.00	89.970	160.100	6386.01	8913.05	-7438.72	5622.32	1628553.87	328575.35	39°23'40.823"N	80°48'51.732"W	9324.43	142.917	1.40	0.24	1.38
15980.00	90.310	162.760	6385.79	9002.01	-7523.07	5650.66	1628582.21	328491.00	39°23'39.994"N	80°48'51.356"W	9408.85	143.089	3.01	0.38	2.99
16070.00	90.220	160.070	6385.38	9091.98	-7608.37	5679.34	1628610.89	328405.70	39°23'39.155"N	80°48'50.974"W	9494.32	143.260	2.99	-0.10	-2.99
16157.00	90.310	159.280	6384.98	9178.97	-7689.95	5709.56	1628641.10	328324.13	39°23'38.353"N	80°48'50.574"W	9577.81	143.407	0.91	0.10	-0.91
16181.00	90.310	159.280	6384.85	9202.97	-7712.40	5718.05	1628649.59	328301.68	39°23'38.132"N	80°48'50.462"W	9600.89	143.446	0.00	0.00	0.00



Actual Wellpath Report

SHR-40F-HS AWP Proj: 16181'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot F
Area	Tyler County, WV	Well	SHR-40F-HS
Field	Tyler	Wellbore	SHR-40F-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-40F-HS BHL Rev-1		6376.00	-7710.47	5720.81	1628652.36	328303.61	39°23'38.152"N	80°48'50.427"W	point
SHR-40F-HS LP Rev-1		6376.00	269.39	2816.37	1625748.08	336283.04	39°24'56.591"N	80°49'28.917"W	point
SHR-40F-HS BHL Rev-2		6378.18	-7710.47	5720.81	1628652.36	328303.61	39°23'38.152"N	80°48'50.427"W	point
SHR-40F-HS LP Rev-2		6393.00	269.39	2816.37	1625748.08	336283.04	39°24'56.591"N	80°49'28.917"W	point
SHR-40 Pad LL		6599.30	28.80	-9.27	1622922.59	336042.46	39°24'53.800"N	80°50'04.870"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: SHR-40F-HS AWB Ref Wellpath: SHR-40F-HS AWP Proj: 16181'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
19.40	2119.40	Generic gyro - continuous (Standard)	02_MS Rate Gyro <12-1/4"> (100'-2100')	SHR-40F-HS AWB
2119.40	6027.00	NaviTrak (MagCorr)	03_BHI MWD <8-3/4"> (2119.4')(2264'-6027')	SHR-40F-HS AWB
6027.00	16157.00	NaviTrak (MagCorr)	04_BHI AT Curve <8-1/2"> (6027')(6085'-16157')	SHR-40F-HS AWB
16157.00	16181.00	Blind Drilling (std)	Projection to bit	SHR-40F-HS AWB



Actual Wellpath Report

SHR-40F-HS AWP Proj: 16181'
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REFERENCE WELLPATH IDENTIFICATION

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

COMMENTS

Wellpath general comments
 API: 47-095-02214-0000
 BHI Job #: 7238988
 Rig: Precision 542
 Duration: 6/29/2015-7/9/2015
 MS Gyro <12-1/4"> (100'-2100')
 BHI MWD <8-3/4"> (2119.4')(2264'-6027')
 BHI AT Curve <8-1/2"> (6027')(6085'-16157')
 Projected MD at TD: 16181'

