

# NOBLE ENERGY

Location: Tyler County, WV  
 Field: Tyler  
 Facility: SHR-3 Pad

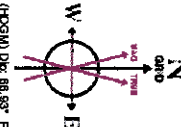
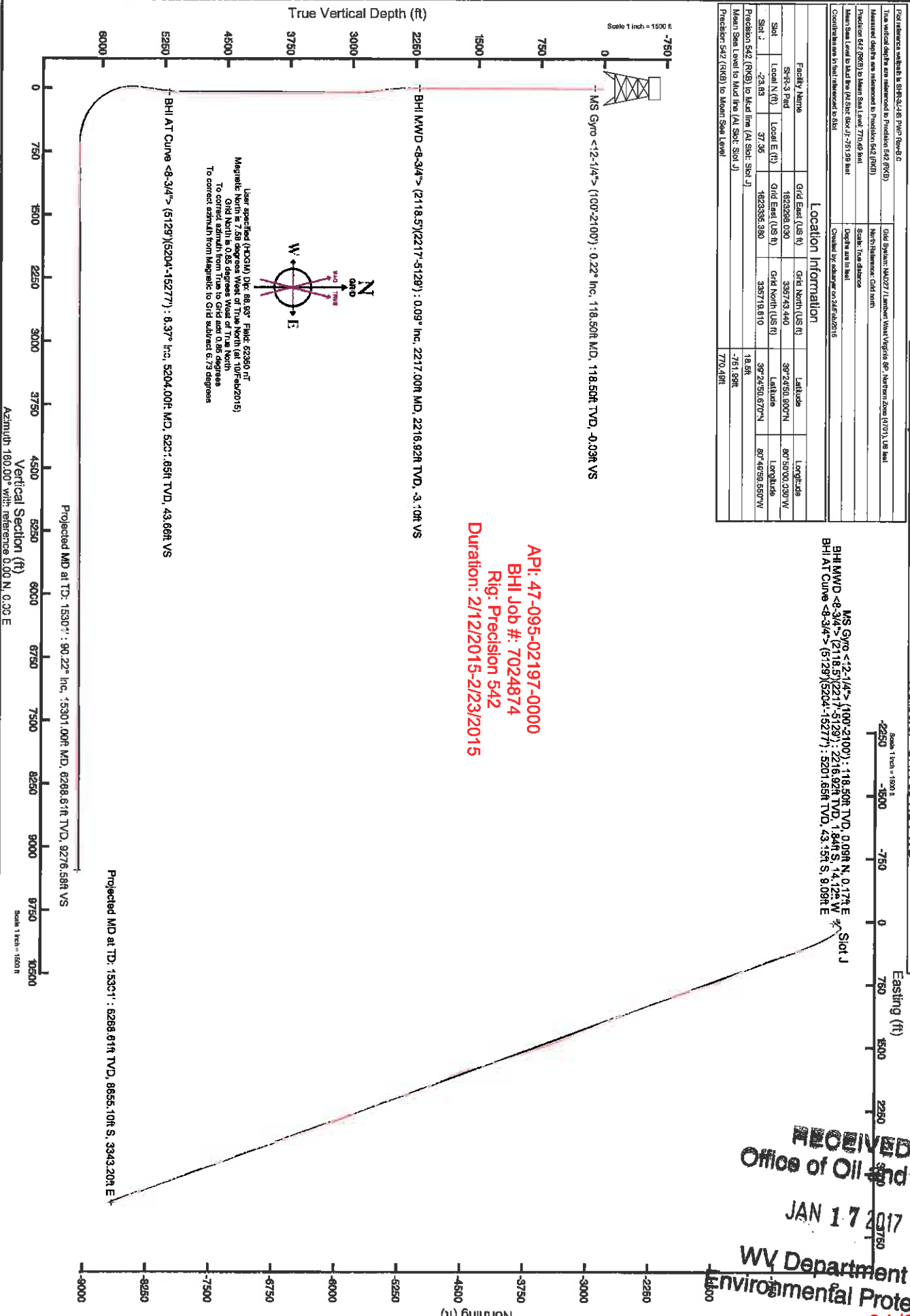
Wellbore: SHR-3LHS PWB

Slot: Slot J  
 Well: SHR-3LHS

Production 542 (RKB) to Mean Sea Level (MSL) 770.48 ft		Grid System: NAD83 / Lambert Water Virginia 8P, NAD83 Zone 17(01), US Nat	
Production 542 (RKB) to Mean Sea Level (MSL) 770.48 ft		Northings: not used	
Mean Sea Level (MSL) to Mean Sea Level (MSL) 770.48 ft		Scale: True distance	
Mean Sea Level (MSL) to Mean Sea Level (MSL) 770.48 ft		Depth: not in feet	
Coordinates are in feet referenced to Slot			
Created by: adawp on 2/23/2015			
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude
SHR-3 Pad	1823298.030	385743.440	39°24'50.300"N
Slot	Local E (ft)	Grid East (US ft)	Latitude
Slot J	97.36	1823298.390	39°24'50.670"N
Production 542 (RKB) to Mud line (AI Slot: Slot J)			87°48'59.500"W
Mean Sea Level to Mud line (AI Slot: Slot J)			18.8ft
Production 542 (RKB) to Mean Sea Level			-751.89ft

MS Gyro <math>-12.1/4^\circ</math> (100°-2100') : 118.50ft TVD, 0.09ft N, 0.17ft E  
 BHI MWD <math>-8.3/4^\circ</math> (2118.5/2217°-5129') : 2216.92ft TVD, 1.84ft S, 14.12ft W  
 BHI AT Curve <math>-8.3/4^\circ</math> (5129/5204°-15277') : 5201.65ft TVD, 43.5ft S, 8.09ft E

API: 47-095-02197-0000  
 BHI Job #: 7024874  
 Rig: Precision 542  
 Duration: 2/12/2015-2/23/2015



User specified (KOGM) Dip: 88.88° FWD: 62380 ft  
 Magnetic North is 7.58 degrees West of True North (at 10/16/2015)  
 To correct azimuth from True to Grid add 0.85 degrees  
 To correct azimuth from Magnetic to Grid subtract 6.73 degrees

RECEIVED  
 Office of Oil and Gas  
 JAN 17 2017  
 WV Department  
 Environmental Protection  
 BAKER  
 HUGHES

01/27/2017

**REFERENCE WELLPATH IDENTIFICATION**

Operator	NOBLE ENERGY	Slot	Slot J
Area	Tyler County, WV	Well	SHR-3J-HS
Field	Tyler	Wellbore	SHR-3J-HS AWB
Facility	SHR-3 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	24/Feb/2015 at 10:31
Convergence at slot	0.85° West	Database/Source file	WellArchitect\EasternDB\SHR-3J-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	-23.83	37.35	16233335.38	335719.61	39°24'50.670"N	80°49'59.550"W
Facility Reference Pt			16233298.03	335743.44	39°24'50.900"N	80°50'00.030"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

**WELLPATH DATUM**

Calculation method	Minimum curvature	Precision 542 (RKB) to Facility Vertical Datum	770.49ft
Horizontal Reference Pt	Slot	Precision 542 (RKB) to Mean Sea Level	770.49ft
Vertical Reference Pt	Precision 542 (RKB)	Precision 542 (RKB) to Mud Line at Slot (Slot J)	18.50ft
MD Reference Pt	Precision 542 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	160.00°



# Actual Wellpath Report

SHR-3J-HS AWP Proj: 15301'  
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Office of Oil and Gas  
JAN 17 2015  
WV Department of Environmental Protection

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Operator	NOBLE ENERGY	Slot	Slot J
Area	Tyler County, WV	Well	SHR-3J-HS
Field	Tyler	Wellbore	SHR-3J-HS AWB
Facility	SHR-3 Pad		

## WELLPATH DATA (182 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	60.350	0.00	0.00	0.00	0.00	1623335.38	335719.61	39°24'50.670"N	80°49'59.550"W	0.00	0.000	0.00	0.00	0.00
18.50	0.000	60.350	18.50	0.00	0.00	0.00	1623335.38	335719.61	39°24'50.670"N	80°49'59.550"W	0.00	0.000	0.00	0.00	0.00
118.50	0.220	60.350	118.50	-0.03	0.09	0.17	1623335.55	335719.70	39°24'50.671"N	80°49'59.548"W	0.19	60.350	0.22	0.22	0.00
218.50	1.140	264.200	218.49	-0.31	0.09	-0.66	1623334.72	335719.70	39°24'50.671"N	80°49'59.558"W	0.66	277.762	1.34	0.92	-156.15
318.50	0.300	219.150	318.49	-0.42	-0.21	-1.81	1623333.57	335719.40	39°24'50.668"N	80°49'59.573"W	1.82	263.257	0.95	-0.84	-45.05
418.50	0.230	32.430	418.49	-0.41	-0.25	-1.87	1623333.51	335719.36	39°24'50.667"N	80°49'59.574"W	1.89	262.448	0.53	-0.07	173.28
518.50	0.420	269.150	518.48	-0.65	-0.08	-2.13	1623333.25	335719.53	39°24'50.669"N	80°49'59.577"W	2.13	267.745	0.58	0.19	-123.28
618.50	0.810	265.190	618.48	-0.95	-0.15	-3.20	1623332.18	335719.46	39°24'50.668"N	80°49'59.580"W	3.20	267.342	0.39	0.39	-3.96
718.50	0.940	254.710	718.47	-1.21	-0.42	-4.69	1623330.69	335719.19	39°24'50.665"N	80°49'59.609"W	4.71	264.838	0.21	0.13	-10.48
818.50	0.900	264.980	818.45	-1.48	-0.71	-6.27	1623329.11	335718.90	39°24'50.662"N	80°49'59.629"W	6.31	263.545	0.17	-0.04	10.27
918.50	0.570	246.180	918.45	-1.65	-0.98	-7.50	1623327.88	335718.63	39°24'50.659"N	80°49'59.645"W	7.57	262.570	0.40	-0.33	-18.80
1018.50	0.500	232.940	1018.44	-1.49	-1.44	-8.31	1623327.07	335718.17	39°24'50.654"N	80°49'59.655"W	8.43	260.150	0.14	-0.07	-13.24
1118.50	0.450	242.180	1118.44	-1.30	-1.89	-9.00	1623326.38	335717.72	39°24'50.650"N	80°49'59.664"W	9.20	258.152	0.09	-0.05	9.24
1218.50	0.570	238.440	1218.43	-1.15	-2.33	-9.77	1623325.61	335717.28	39°24'50.645"N	80°49'59.674"W	10.05	256.580	0.12	0.12	-3.74
1318.50	0.370	247.840	1318.43	-1.04	-2.71	-10.50	1623324.88	335716.94	39°24'50.642"N	80°49'59.683"W	10.84	255.580	0.21	-0.20	9.40
1418.50	0.300	289.910	1418.43	-1.20	-2.75	-11.04	1623324.34	335716.86	39°24'50.641"N	80°49'59.690"W	11.38	256.030	0.25	-0.07	42.07
1518.50	0.310	284.520	1518.43	-1.52	-2.59	-11.55	1623323.83	335717.02	39°24'50.643"N	80°49'59.696"W	11.84	257.361	0.03	0.01	-5.39
1618.50	0.300	272.030	1618.43	-1.77	-2.51	-12.07	1623323.31	335717.10	39°24'50.643"N	80°49'59.703"W	12.33	258.243	0.07	-0.01	-12.49
1718.50	0.160	283.800	1718.43	-1.94	-2.47	-12.47	1623322.91	335717.14	39°24'50.644"N	80°49'59.708"W	12.71	258.795	0.15	-0.14	11.77
1818.50	0.200	308.160	1818.43	-2.17	-2.33	-12.74	1623322.64	335717.28	39°24'50.645"N	80°49'59.712"W	12.96	259.642	0.09	0.04	24.36
1918.50	0.340	275.630	1918.42	-2.45	-2.19	-13.18	1623322.20	335717.42	39°24'50.646"N	80°49'59.717"W	13.36	260.554	0.20	0.14	-32.53
2018.50	0.290	284.880	2018.42	-2.72	-2.10	-13.72	1623321.66	335717.51	39°24'50.647"N	80°49'59.724"W	13.88	261.303	0.07	-0.05	9.25
2118.50	0.180	311.810	2118.42	-3.00	-1.93	-14.08	1623321.30	335717.68	39°24'50.649"N	80°49'59.729"W	14.21	262.200	0.15	-0.11	26.93
2217.00	0.090	102.190	2216.92	-3.10	-1.84	-14.12	1623321.26	335717.77	39°24'50.650"N	80°49'59.729"W	14.24	262.567	0.27	-0.09	152.67
2262.00	0.550	183.260	2261.92	-2.88	-2.06	-14.10	1623321.48	335717.55	39°24'50.647"N	80°49'59.726"W	14.25	261.666	1.21	1.02	180.16
2307.00	2.830	169.100	2306.90	-1.59	-3.37	-13.90	1623321.48	335716.24	39°24'50.635"N	80°49'59.726"W	14.30	256.364	5.11	5.07	-31.47
2352.00	3.760	162.010	2351.82	0.99	-5.87	-13.23	1623322.15	335713.74	39°24'50.610"N	80°49'59.717"W	14.47	246.093	2.25	2.07	-15.76
2397.00	5.110	161.510	2396.69	4.46	-9.17	-12.14	1623323.24	335710.44	39°24'50.577"N	80°49'59.703"W	15.21	232.937	3.00	3.00	-1.11
2441.00	4.840	161.320	2440.52	8.28	-12.79	-10.93	1623324.46	335706.82	39°24'50.542"N	80°49'59.687"W	16.82	220.511	0.61	-0.61	-0.43
2486.00	4.210	162.880	2485.38	11.83	-16.16	-9.83	1623325.55	335703.45	39°24'50.509"N	80°49'59.672"W	18.92	211.308	1.43	-1.40	3.47

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Facility	SHR-3 Pad		

WELLPATH DATA (182 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]
2531.00	4.300	161.510	2530.26	15.16	-19.34	-8.81	1623326.57	335700.27	39°24'50.477"N	80°49'59.658"W	21.25	204.487	0.30	0.20	-3.04
2576.00	4.870	159.520	2575.11	18.76	-22.73	-7.61	1623327.77	335696.88	39°24'50.444"N	80°49'59.642"W	23.97	198.501	1.31	1.27	-4.42
2621.00	4.670	157.980	2619.96	22.50	-26.22	-6.25	1623329.13	335693.39	39°24'50.410"N	80°49'59.624"W	26.95	193.410	0.53	-0.44	-3.42
2665.00	3.790	154.660	2663.84	25.74	-29.19	-4.96	1623330.42	335690.42	39°24'50.381"N	80°49'59.607"W	29.61	189.637	2.08	-2.00	-7.55
2711.00	3.170	156.910	2709.75	28.52	-31.74	-3.81	1623331.57	335687.87	39°24'50.356"N	80°49'59.592"W	31.97	186.841	1.38	-1.35	-4.89
2755.00	3.220	156.350	2753.68	30.97	-33.99	-2.83	1623332.55	335685.62	39°24'50.334"N	80°49'59.579"W	34.11	184.768	0.13	0.11	-1.27
2800.00	4.600	156.860	2798.58	34.03	-36.81	-1.62	1623333.76	335682.81	39°24'50.306"N	80°49'59.563"W	36.84	182.518	3.07	3.07	1.13
2845.00	4.410	153.070	2843.44	37.55	-40.01	-0.13	1623335.25	335679.60	39°24'50.274"N	80°49'59.544"W	40.01	180.180	0.78	-0.42	-8.42
2890.00	3.800	150.590	2888.32	40.74	-42.85	1.39	1623336.77	335676.76	39°24'50.247"N	80°49'59.524"W	42.87	178.142	1.41	-1.36	-5.51
2934.00	2.940	151.810	2932.25	43.30	-45.11	2.64	1623338.02	335674.50	39°24'50.224"N	80°49'59.508"W	45.19	176.652	1.96	-1.95	-2.77
2979.00	1.760	170.780	2977.21	45.12	-46.81	3.29	1623338.67	335672.80	39°24'50.208"N	80°49'59.499"W	46.93	175.974	3.11	-2.62	42.16
3069.00	0.800	166.130	3067.19	47.10	-48.79	3.67	1623339.05	335670.82	39°24'50.188"N	80°49'59.494"W	48.93	175.702	1.07	-1.07	5.17
3158.00	0.460	145.810	3156.18	48.06	-49.69	4.02	1623339.40	335669.93	39°24'50.179"N	80°49'59.489"W	49.85	175.378	0.45	-0.38	-22.83
3248.00	0.460	192.560	3246.18	48.72	-50.34	4.14	1623339.52	335669.27	39°24'50.173"N	80°49'59.488"W	50.51	175.297	0.41	0.00	51.94
3338.00	0.480	202.620	3336.18	49.25	-50.98	3.94	1623339.32	335668.63	39°24'50.167"N	80°49'59.490"W	51.13	175.933	0.11	-0.07	31.01
3427.00	0.280	230.220	3425.17	49.56	-51.41	3.66	1623339.03	335668.21	39°24'50.162"N	80°49'59.498"W	51.84	176.390	0.10	0.10	-0.44
3517.00	0.370	229.820	3515.17	49.73	-51.73	3.26	1623338.64	335667.88	39°24'50.159"N	80°49'59.498"W	52.30	176.890	0.17	0.11	-17.21
3606.00	0.470	214.500	3604.17	50.04	-52.22	2.84	1623338.22	335667.39	39°24'50.154"N	80°49'59.504"W	52.86	177.238	0.19	-0.12	-19.68
3696.00	0.360	196.790	3694.17	50.48	-52.80	2.55	1623337.93	335666.82	39°24'50.149"N	80°49'59.507"W	53.18	177.139	0.90	-0.12	-103.35
3785.00	0.280	104.810	3783.17	50.82	-53.11	2.65	1623338.03	335666.50	39°24'50.145"N	80°49'59.506"W	53.36	176.710	0.09	0.07	12.56
3875.00	0.310	116.110	3873.17	51.11	-53.27	3.06	1623338.44	335666.34	39°24'50.144"N	80°49'59.501"W	53.59	176.239	0.03	0.01	-5.08
3965.00	0.320	111.540	3963.16	51.45	-53.47	3.51	1623338.89	335666.14	39°24'50.142"N	80°49'59.495"W	53.64	175.819	0.25	-0.10	-49.64
4054.00	0.230	67.360	4052.16	51.60	-53.49	3.91	1623339.29	335666.12	39°24'50.142"N	80°49'59.490"W	53.70	175.747	0.46	-0.03	166.70
4144.00	0.200	217.390	4142.16	51.68	-53.55	3.98	1623339.36	335666.07	39°24'50.141"N	80°49'59.489"W	53.92	175.935	0.05	0.04	-7.17
4234.00	0.160	210.940	4232.16	51.84	-53.78	3.82	1623339.20	335665.83	39°24'50.139"N	80°49'59.491"W	54.09	176.104	0.05	-0.01	16.39
4323.00	0.150	225.530	4321.16	51.97	-53.97	3.68	1623339.05	335665.64	39°24'50.137"N	80°49'59.493"W	54.28	176.572	0.38	0.36	26.68
4413.00	0.470	249.540	4411.16	52.02	-54.18	3.25	1623338.63	335665.43	39°24'50.135"N	80°49'59.498"W	54.49	177.273	0.05	-0.04	-1.16
4502.00	0.430	248.510	4500.16	52.03	-54.43	2.59	1623337.97	335665.18	39°24'50.132"N	80°49'59.506"W	54.62	177.838	0.19	-0.17	14.81
4592.00	0.280	261.840	4590.16	52.00	-54.59	2.06	1623337.44	335665.03	39°24'50.131"N	80°49'59.513"W	54.80	178.258	0.20	0.03	-37.93
4681.00	0.310	228.080	4679.16	52.04	-54.78	1.67	1623337.05	335664.84	39°24'50.129"N	80°49'59.518"W					



# Actual Wellpath Report

SHR-3J-HS AWP Proj: 15301'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator: NOBLE ENERGY  
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Field: Tyler  
Facility: SHR-3 Pad

Slot: Slot J  
Well: SHR-3J-HS  
Wellbore: SHR-3J-HS AWP

## WELLPATH DATA (182 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]
4771.00	0.170	270.310	4769.15	52.09	-54.94	1.35	1623336.73	335664.67	39°24'50.127"N	80°49'59.522"W	54.96	178.591	0.24	-0.16	46.92
4860.00	0.260	282.700	4858.15	51.93	-54.89	1.02	1623336.40	335664.72	39°24'50.128"N	80°49'59.526"W	54.90	178.933	0.11	0.10	13.92
4950.00	0.280	353.190	4948.15	51.61	-54.63	0.80	1623336.18	335664.98	39°24'50.130"N	80°49'59.529"W	54.64	179.164	0.35	0.02	78.32
5039.00	2.510	41.030	5037.12	50.45	-52.94	2.05	1623337.43	335666.67	39°24'50.147"N	80°49'59.514"W	52.98	177.782	2.62	2.51	53.75
5129.00	4.140	31.860	5126.97	47.49	-48.70	5.06	1623340.44	335670.91	39°24'50.189"N	80°49'59.476"W	48.96	174.068	1.90	1.81	10.19
5204.00	6.370	38.680	5201.65	43.66	-43.15	9.09	1623344.47	335676.46	39°24'50.245"N	80°49'59.426"W	44.10	168.105	3.08	2.97	9.09
5231.00	6.930	38.710	5228.47	42.03	-40.71	11.04	1623346.42	335678.90	39°24'50.269"N	80°49'59.401"W	42.18	164.821	2.07	2.07	0.11
5275.00	10.880	32.070	5271.93	38.10	-35.12	14.91	1623350.29	335684.50	39°24'50.325"N	80°49'59.353"W	38.15	156.994	9.26	8.98	-15.09
5320.00	12.770	29.150	5315.97	32.23	-27.17	19.59	1623354.97	335692.44	39°24'50.404"N	80°49'59.295"W	33.50	144.214	4.40	4.20	-6.49
5410.00	12.650	28.110	5403.77	19.15	-9.79	29.08	1623364.46	335709.82	39°24'50.577"N	80°49'59.177"W	30.68	108.616	0.29	-0.13	-1.16
5499.00	12.600	28.710	5490.62	6.24	7.32	38.33	1623373.71	335726.92	39°24'50.748"N	80°49'59.063"W	39.02	79.195	0.16	-0.06	0.67
5589.00	12.820	40.320	5578.42	-5.19	23.54	49.51	1623384.89	335743.15	39°24'50.910"N	80°49'58.923"W	54.82	64.570	2.84	0.24	12.90
5678.00	12.890	79.770	5665.36	-8.40	32.85	65.70	1623401.08	335752.46	39°24'51.004"N	80°49'58.719"W	73.45	63.435	9.68	0.08	44.33
5768.00	14.920	116.530	5752.88	1.73	29.45	85.98	1623421.36	335749.06	39°24'50.974"N	80°49'58.460"W	90.89	71.093	9.89	2.26	40.84
5858.00	22.680	132.180	5838.07	25.54	12.59	109.26	1623444.63	335732.20	39°24'50.810"N	80°49'58.600"W	109.98	83.428	10.21	8.62	17.39
5947.00	27.800	141.810	5918.58	60.47	-15.28	134.83	1623470.21	335704.34	39°24'50.539"N	80°49'57.829"W	135.70	96.463	7.36	5.75	10.82
6037.00	34.860	146.920	5995.42	105.53	-53.38	161.89	1623497.26	335666.24	39°24'50.166"N	80°49'57.477"W	170.46	108.248	8.38	7.84	5.68
6127.00	44.760	149.580	6064.48	161.89	-102.38	192.05	1623527.42	335617.24	39°24'49.686"N	80°49'57.084"W	217.63	118.062	11.16	11.00	2.96
6217.00	53.710	152.260	6123.19	229.14	-161.93	225.04	1623560.41	335557.69	39°24'49.103"N	80°49'56.652"W	277.25	125.737	10.20	9.94	2.98
6306.00	63.390	155.020	6169.58	304.50	-229.91	258.63	1623593.99	335489.71	39°24'48.436"N	80°49'56.212"W	346.05	131.637	11.19	10.88	3.10
6396.00	70.470	158.350	6204.83	387.10	-305.92	291.31	1623626.68	335413.71	39°24'47.689"N	80°49'55.781"W	422.43	136.401	8.57	7.87	3.70
6485.00	72.940	161.050	6232.77	471.59	-385.16	320.61	1623655.97	335334.47	39°24'46.911"N	80°49'55.395"W	501.14	140.226	4.00	2.78	3.03
6575.00	80.980	163.470	6253.06	559.16	-468.27	348.32	1623683.69	335251.37	39°24'46.093"N	80°49'55.024"W	583.61	143.356	9.00	8.93	1.11
6665.00	84.920	163.470	6264.10	648.36	-553.56	374.79	1623710.15	335166.08	39°24'45.254"N	80°49'54.671"W	668.50	145.900	4.65	4.38	1.58
6754.00	89.320	162.660	6268.57	737.10	-638.57	400.67	1623736.03	335085.08	39°24'44.514"N	80°49'54.325"W	753.86	147.894	5.03	4.94	0.91
6844.00	89.230	162.320	6269.71	827.10	-724.39	427.75	1623763.11	334995.26	39°24'43.747"N	80°49'53.962"W	841.26	149.438	0.39	-0.10	-0.38
6933.00	89.350	158.920	6270.82	915.98	-808.33	457.27	1623792.63	334911.32	39°24'42.749"N	80°49'53.572"W	928.71	150.503	3.82	0.13	-3.82
7023.00	89.320	158.390	6271.86	1005.95	-892.15	490.03	1623825.38	334827.51	39°24'41.925"N	80°49'53.138"W	1017.87	151.221	0.59	-0.03	-0.59
7113.00	89.380	157.280	6272.88	1095.88	-975.49	523.98	1623859.33	334744.17	39°24'41.106"N	80°49'52.690"W	1107.31	151.758	1.24	0.07	-1.23
7202.00	89.420	156.340	6273.81	1184.73	-1057.30	559.03	1623894.38	334662.37	39°24'40.303"N	80°49'52.228"W	1195.99	152.133	1.06	0.04	-1.06

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# Actual Wellpath Report

SHR-3J-HS AWP Proj: 15301'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot J
Area	Tyler County, WV	Well	SHR-3J-HS
Field	Tyler	Wellbore	SHR-3J-HS AWP
Facility	SHR-3 Pad		

## WELLPATH DATA (182 stations)

MD (ft)	Inclination (pl)	Azimuth (pl)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (pl)	DLS (pl/100ft)	Build Rate (pl/100ft)	Turn Rate (pl/100ft)
7292.00	89.510	155.640	6274.65	1274.51	-1139.50	595.65	1623930.99	334580.17	39°24'39.496"N	80°49'51.746"W	1285.79	152.403	0.78	0.10	-0.78
7381.00	89.290	156.410	6275.59	1363.29	-1220.82	631.81	1623967.15	334498.86	39°24'38.698"N	80°49'51.270"W	1374.62	152.637	0.90	-0.25	0.87
7471.00	89.410	156.810	6276.61	1453.12	-1303.42	667.53	1624002.88	334416.26	39°24'37.887"N	80°49'50.800"W	1464.41	152.881	0.46	0.13	0.44
7560.00	89.510	157.400	6277.45	1542.01	-1385.40	702.16	1624037.50	334334.28	39°24'37.082"N	80°49'50.343"W	1553.18	153.123	0.67	0.11	0.66
7650.00	89.260	161.460	6278.41	1631.98	-1469.64	733.77	1624069.11	334256.05	39°24'36.254"N	80°49'49.924"W	1642.64	153.468	4.52	-0.28	4.51
7740.00	89.660	164.270	6279.26	1721.85	-1555.64	760.28	1624095.62	334164.06	39°24'35.408"N	80°49'49.570"W	1731.48	153.954	3.15	0.44	3.12
7829.00	89.690	163.280	6279.77	1810.66	-1641.09	785.15	1624120.49	334078.61	39°24'34.567"N	80°49'49.238"W	1819.24	154.432	1.11	0.03	-1.11
7919.00	89.690	163.490	6280.25	1900.50	-1727.33	810.88	1624146.22	333992.37	39°24'33.718"N	80°49'48.894"W	1908.19	154.853	0.23	0.00	0.23
8008.00	90.030	160.520	6280.47	1989.43	-1811.97	838.38	1624173.71	333907.74	39°24'32.886"N	80°49'48.527"W	1996.52	155.171	3.36	0.38	-3.34
8098.00	89.910	159.560	6280.52	2079.43	-1896.56	869.10	1624204.43	333823.15	39°24'32.055"N	80°49'48.120"W	2086.21	155.380	1.07	-0.13	-1.07
8187.00	89.970	161.480	6280.61	2168.42	-1980.46	898.78	1624234.11	333739.26	39°24'31.210"N	80°49'47.726"W	2174.86	155.590	2.16	0.07	2.16
8277.00	90.090	162.990	6280.56	2258.35	-2066.17	926.24	1624261.57	333653.56	39°24'30.387"N	80°49'47.360"W	2264.28	155.854	1.68	0.13	1.68
8366.00	90.030	162.060	6280.47	2347.27	-2151.06	952.96	1624288.29	333568.67	39°24'29.552"N	80°49'47.004"W	2352.70	156.106	1.05	-0.07	-1.04
8456.00	90.030	159.840	6280.42	2437.25	-2236.12	982.33	1624317.66	333483.61	39°24'28.715"N	80°49'46.613"W	2442.38	156.284	2.47	0.00	-2.47
8545.00	89.940	158.060	6280.45	2526.23	-2319.18	1014.30	1624349.63	333400.55	39°24'27.899"N	80°49'46.191"W	2531.29	156.378	2.00	-0.10	-2.00
8635.00	90.030	158.360	6280.47	2616.19	-2402.75	1047.71	1624383.03	333316.99	39°24'27.078"N	80°49'45.749"W	2621.24	156.441	0.35	0.10	0.33
8724.00	90.250	158.650	6280.25	2705.15	-2485.56	1080.32	1624415.64	333234.18	39°24'26.265"N	80°49'45.318"W	2710.19	156.508	0.41	0.25	0.33
8814.00	90.310	158.200	6279.81	2795.12	-2569.25	1113.41	1624448.73	333150.50	39°24'25.442"N	80°49'44.881"W	2800.14	156.570	0.50	0.07	-0.50
8903.00	90.340	158.990	6279.31	2884.09	-2652.11	1145.90	1624481.21	333067.64	39°24'24.628"N	80°49'44.452"W	2889.08	156.632	0.89	0.03	0.89
8993.00	90.340	158.790	6278.77	2974.07	-2736.07	1178.31	1624513.62	332983.69	39°24'23.803"N	80°49'44.023"W	2979.01	156.701	0.22	0.00	-0.22
9082.00	90.150	157.060	6278.39	3063.01	-2818.54	1211.76	1624547.07	332901.22	39°24'22.993"N	80°49'43.581"W	3067.99	156.736	1.96	-0.21	-1.94
9172.00	90.370	157.030	6277.98	3152.89	-2901.42	1246.86	1624582.17	332818.35	39°24'22.179"N	80°49'43.119"W	3157.98	156.745	0.25	0.24	-0.03
9261.00	90.280	160.590	6277.49	3241.85	-2984.38	1279.02	1624614.33	332735.39	39°24'21.364"N	80°49'42.693"W	3246.91	156.801	4.00	-0.10	4.00
9351.00	90.280	158.760	6277.04	3331.85	-3068.77	1310.28	1624645.55	332651.59	39°24'20.525"N	80°49'42.279"W	3336.80	156.879	2.03	0.00	-2.03
9440.00	90.250	156.920	6276.63	3420.78	-3151.20	1343.85	1624679.19	332568.59	39°24'19.735"N	80°49'41.876"W	3425.78	156.904	2.07	-0.03	-2.07
9530.00	89.940	157.510	6276.48	3510.67	-3234.17	1378.70	1624714.01	332485.61	39°24'18.910"N	80°49'41.376"W	3515.78	156.912	0.74	-0.34	0.66
9619.00	89.750	158.650	6276.72	3599.62	-3316.74	1411.93	1624747.23	332403.05	39°24'18.099"N	80°49'40.938"W	3604.76	156.941	1.30	-0.21	1.28
9709.00	89.940	160.700	6276.96	3689.61	-3401.13	1443.19	1624778.49	332318.67	39°24'17.270"N	80°49'40.524"W	3694.65	157.007	2.29	0.21	2.28
9798.00	89.970	161.580	6277.03	3778.60	-3485.35	1471.96	1624807.26	332234.45	39°24'16.442"N	80°49'40.141"W	3783.43	157.104	0.99	0.03	0.99
9888.00	90.090	160.570	6276.99	3868.58	-3570.48	1501.14	1624836.44	332149.32	39°24'15.605"N	80°49'39.753"W	3873.21	157.197	1.13	0.13	-1.12



# Actual Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot J
Area	Tyler County, WV	Well	SHR-3J-HS
Field	Tyler	Wellbore	SHR-3J-HS AWB
Facility	SHR-3 Pad		

## WELLPATH DATA (182 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]
9977.00	89.910	161.630	6276.99	3957.56	-3654.68	1529.97	1624865.27	332065.13	39°24'14.777"N	80°49'39.370"W	3962.01	157.284	1.21	-0.20	1.19
10067.00	90.250	162.320	6276.86	4047.51	-3740.27	1557.82	1624893.12	331979.55	39°24'13.935"N	80°49'38.999"W	4051.71	157.388	0.85	0.38	0.77
10157.00	90.090	162.170	6276.59	4137.44	-3825.98	1585.27	1624920.56	331893.84	39°24'13.092"N	80°49'38.634"W	4141.40	157.494	0.24	-0.18	-0.17
10246.00	90.150	161.470	6276.41	4226.39	-3910.53	1613.03	1624948.33	331809.29	39°24'12.260"N	80°49'38.264"W	4230.15	157.585	0.79	0.07	-0.79
10336.00	90.250	162.310	6276.09	4316.34	-3996.08	1641.01	1624976.30	331723.75	39°24'11.419"N	80°49'37.892"W	4319.90	157.674	0.94	0.11	0.93
10425.00	90.120	163.830	6275.81	4405.21	-4081.21	1666.93	1625002.22	331638.62	39°24'10.581"N	80°49'37.546"W	4408.51	157.783	1.71	-0.15	1.71
10515.00	90.220	164.740	6275.54	4494.96	-4167.85	1691.30	1625026.59	331551.99	39°24'09.729"N	80°49'37.219"W	4497.94	157.913	1.02	0.11	1.01
10604.00	90.090	164.870	6275.30	4583.64	-4253.74	1714.63	1625049.92	331466.10	39°24'08.884"N	80°49'36.905"W	4586.31	158.046	0.21	-0.15	0.15
10694.00	90.120	163.890	6275.13	4673.38	-4340.41	1738.86	1625074.15	331379.43	39°24'08.030"N	80°49'36.580"W	4673.77	158.168	1.09	0.03	-1.09
10783.00	90.150	162.210	6274.92	4762.25	-4425.54	1764.81	1625100.09	331294.31	39°24'07.193"N	80°49'36.234"W	4764.45	158.259	1.89	0.03	-1.89
10873.00	90.150	159.810	6274.69	4852.23	-4510.64	1794.09	1625129.37	331209.22	39°24'06.356"N	80°49'35.845"W	4854.34	158.310	2.67	0.00	-2.67
10963.00	90.150	157.070	6274.45	4942.19	-4594.33	1827.16	1625162.44	331125.53	39°24'05.534"N	80°49'35.408"W	4944.33	158.312	3.04	0.00	3.04
11052.00	90.180	156.210	6274.20	5031.03	-4676.04	1862.45	1625197.73	331043.83	39°24'04.732"N	80°49'34.943"W	5033.29	158.283	0.97	0.03	0.97
11142.00	90.120	155.750	6273.96	5120.81	-4758.24	1899.09	1625234.36	330961.63	39°24'03.925"N	80°49'34.461"W	5123.22	158.242	0.52	-0.07	-0.51
11232.00	90.090	153.380	6273.80	5210.40	-4839.51	1937.74	1625273.01	330880.36	39°24'03.127"N	80°49'33.450"W	5213.03	158.179	2.63	0.03	-2.63
11321.00	90.150	155.550	6273.61	5298.98	-4919.82	1976.10	1625311.37	330800.06	39°24'02.339"N	80°49'33.021"W	5301.84	158.117	2.44	0.07	2.44
11411.00	90.150	162.150	6273.37	5388.91	-5003.71	2008.55	1625343.82	330716.18	39°24'01.515"N	80°49'33.021"W	5391.79	158.129	7.33	0.00	7.33
11500.00	90.060	163.650	6273.21	5477.79	-5088.77	2034.72	1625369.99	330631.12	39°24'00.678"N	80°49'32.671"W	5480.48	158.206	1.69	-0.10	1.69
11590.00	89.820	162.170	6273.30	5567.68	-5174.79	2061.17	1625396.44	330545.10	39°23'59.832"N	80°49'32.318"W	5570.18	158.282	1.67	0.27	-1.64
11679.00	89.910	162.690	6273.51	5656.60	-5259.64	2088.04	1625423.30	330460.26	39°23'58.997"N	80°49'31.966"W	5658.95	158.347	0.59	0.19	0.58
11769.00	89.880	163.320	6273.68	5746.47	-5345.71	2114.34	1625449.61	330374.19	39°23'58.150"N	80°49'31.609"W	5748.66	158.420	0.70	-0.03	0.70
11859.00	89.910	159.340	6273.84	5836.43	-5430.96	2143.15	1625478.41	330288.95	39°23'57.312"N	80°49'31.226"W	5838.52	158.465	4.42	0.03	4.42
11948.00	89.850	157.420	6274.03	5925.39	-5513.69	2175.94	1625511.20	330206.22	39°23'56.499"N	80°49'30.793"W	5927.52	158.464	2.16	-0.07	-2.16
12038.00	90.060	158.640	6274.10	6015.33	-5597.15	2209.61	1625544.87	330122.76	39°23'55.679"N	80°49'30.348"W	6017.51	158.457	1.38	0.23	1.36
12127.00	90.030	159.790	6274.03	6104.32	-5680.36	2241.19	1625576.45	330035.56	39°23'54.862"N	80°49'29.930"W	6106.51	158.468	1.29	0.03	1.29
12217.00	90.090	157.220	6273.94	6194.29	-5764.09	2274.16	1625609.42	329955.83	39°23'54.039"N	80°49'29.495"W	6196.50	158.469	2.86	0.07	-2.86
12307.00	90.120	159.500	6273.77	6284.24	-5847.74	2307.35	1625642.61	329872.18	39°23'53.217"N	80°49'29.069"W	6286.49	158.467	2.53	0.03	2.53
12396.00	90.090	160.060	6273.61	6373.24	-5931.26	2338.11	1625673.37	329788.67	39°23'52.396"N	80°49'28.629"W	6375.47	158.486	0.63	-0.03	0.63
12486.00	90.120	158.620	6273.44	6463.23	-6015.47	2369.87	1625705.12	329704.47	39°23'51.569"N	80°49'28.228"W	6465.46	158.497	1.60	0.03	-1.60
12576.00	90.180	158.390	6273.21	6553.20	-6099.21	2402.84	1625738.09	329620.73	39°23'50.746"N	80°49'27.793"W	6555.46	158.498	9.26	0.07	-0.26

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# Actual Wellpath Report

SHR-3J-HS AWP Proj: 15301'

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## REFERENCE WELLPATH IDENTIFICATION

Operator: NOBLE ENERGY  
 Area: Tyler County, WV  
 Field: Tyler  
 Facility: SHR-3 Pad

Slot: Slot J  
 Well: SHR-3J-HS  
 Wellbore: SHR-3J-HS AWB

## WELLPATH DATA (182 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]
12665.00	89.880	159.170	6273.16	6642.18	-6182.17	2435.06	1625770.30	329537.77	39°23'49.931"N	80°49'27.367"W	6644.45	158.501	0.94	-0.34	0.88
12755.00	89.850	158.970	6273.37	6732.17	-6266.23	2467.21	1625802.45	329365.72	39°23'49.105"N	80°49'26.942"W	6734.45	158.509	0.22	-0.03	-0.22
12844.00	89.940	161.620	6273.54	6821.16	-6350.02	2497.21	1625832.46	329369.94	39°23'48.281"N	80°49'26.544"W	6823.40	158.532	2.98	0.10	2.98
12934.00	89.850	160.840	6273.70	6911.14	-6435.23	2526.17	1625861.41	329284.73	39°23'47.443"N	80°49'26.159"W	6913.30	158.567	0.87	-0.10	-0.87
13023.00	89.940	159.960	6273.86	7000.13	-6519.07	2556.03	1625891.27	329200.89	39°23'46.619"N	80°49'25.763"W	7002.25	158.591	0.99	0.10	-0.99
13113.00	89.970	161.130	6273.94	7090.13	-6603.93	2586.00	1625921.24	329116.04	39°23'45.785"N	80°49'25.365"W	7092.20	158.615	1.30	0.03	1.30
13202.00	89.820	162.340	6274.10	7179.09	-6688.44	2613.90	1625949.13	329031.53	39°23'44.954"N	80°49'24.994"W	7181.07	158.654	1.37	-0.17	1.36
13292.00	89.970	162.120	6274.26	7269.02	-6774.15	2641.36	1625976.60	328945.83	39°23'44.111"N	80°49'24.628"W	7270.89	158.698	0.30	0.17	-0.24
13381.00	90.060	162.520	6274.24	7357.94	-6858.95	2668.39	1626003.63	328861.04	39°23'43.277"N	80°49'24.268"W	7359.72	158.742	0.46	0.10	0.45
13471.00	90.180	163.390	6274.05	7447.82	-6944.99	2694.77	1626030.01	328775.00	39°23'42.430"N	80°49'23.916"W	7449.48	158.793	0.98	0.13	0.97
13561.00	90.120	161.010	6273.82	7537.75	-7030.68	2722.28	1626057.52	328689.32	39°23'41.587"N	80°49'23.549"W	7539.31	158.834	2.65	-0.07	-2.64
13651.00	90.220	158.680	6273.55	7627.74	-7115.16	2753.29	1626088.52	328604.84	39°23'40.757"N	80°49'23.139"W	7629.29	158.845	2.59	0.11	-2.59
13740.00	90.180	156.560	6273.24	7716.66	-7197.45	2787.18	1626122.40	328522.55	39°23'39.949"N	80°49'22.692"W	7718.27	158.831	2.38	-0.04	-2.38
13829.00	90.180	155.890	6272.96	7805.47	-7278.90	2823.06	1626158.28	328441.11	39°23'39.149"N	80°49'22.219"W	7807.18	158.802	0.75	0.00	-0.75
13919.00	90.150	158.940	6272.70	7895.36	-7361.98	2857.62	1626192.84	328358.03	39°23'38.333"N	80°49'21.764"W	7897.06	158.786	3.39	-0.03	3.39
14009.00	90.220	162.810	6272.41	7985.34	-7447.00	2887.10	1626222.32	328273.01	39°23'37.497"N	80°49'21.372"W	7987.06	158.809	4.30	0.08	4.30
14098.00	90.180	164.710	6272.10	8074.14	-7532.44	2911.99	1626247.21	328187.58	39°23'36.656"N	80°49'21.039"W	8075.73	158.864	2.14	-0.04	2.13
14188.00	90.120	161.450	6271.86	8164.00	-7618.54	2938.18	1626273.40	328101.49	39°23'35.809"N	80°49'20.690"W	8165.47	158.910	3.62	-0.07	3.62
14277.00	90.220	159.250	6271.60	8252.99	-7702.35	2968.10	1626303.32	328017.68	39°23'34.985"N	80°49'20.293"W	8254.44	158.926	2.47	0.11	-2.47
14367.00	90.180	158.180	6271.28	8342.97	-7786.21	3000.77	1626335.99	327933.83	39°23'34.161"N	80°49'19.861"W	8344.44	158.919	1.19	0.04	-1.19
14457.00	90.150	158.760	6271.02	8432.93	-7869.93	3033.80	1626369.02	327850.11	39°23'33.339"N	80°49'19.425"W	8434.44	158.919	0.65	-0.03	0.64
14546.00	90.030	159.880	6270.88	8521.93	-7953.19	3065.23	1626400.44	327766.85	39°23'32.521"N	80°49'19.009"W	8523.43	158.923	1.27	-0.13	1.26
14636.00	90.180	159.240	6270.72	8611.92	-8037.52	3096.66	1626431.87	327682.52	39°23'31.692"N	80°49'18.593"W	8613.43	158.930	0.73	0.17	-0.71
14726.00	90.220	159.040	6270.41	8701.91	-8121.62	3128.71	1626463.92	327598.43	39°23'30.865"N	80°49'18.169"W	8703.42	158.932	0.23	0.04	-0.22
14815.00	90.180	158.000	6270.10	8790.88	-8204.94	3161.30	1626496.50	327515.62	39°23'30.052"N	80°49'17.738"W	8792.42	158.928	1.17	-0.04	-1.17
14905.00	90.120	158.250	6269.86	8880.83	-8287.87	3194.83	1626530.04	327432.10	39°23'29.231"N	80°49'17.295"W	8882.41	158.919	0.29	-0.07	0.28
14995.00	90.280	157.630	6269.55	8970.77	-8371.37	3228.63	1626563.83	327348.69	39°23'28.412"N	80°49'16.849"W	8972.40	158.910	0.71	0.18	-0.69
15084.00	90.120	158.780	6269.23	9059.73	-8454.01	3261.67	1626596.88	327266.06	39°23'27.600"N	80°49'16.413"W	9061.39	158.903	1.30	-0.18	1.29
15174.00	90.120	158.010	6269.05	9149.69	-8537.68	3294.81	1626630.01	327182.39	39°23'26.778"N	80°49'15.975"W	9151.38	158.898	0.86	0.00	-0.86
15263.00	90.250	157.410	6268.76	9238.62	-8620.03	3328.57	1626663.77	327100.05	39°23'25.969"N	80°49'15.539"W	9240.36	158.886	0.69	0.15	-0.67

Office of Oil and Gas  
 JAN 1 2017  
 WV Department of Environmental Protection



# Actual Wellpath Report

SHR-3J-HS AWP Proj: 15301'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot J
Area	Tyler County, WV	Well	SHR-3J-HS
Field	Tyler	Wellbore	SHR-3J-HS AWB
Facility	SHR-3 Pad		

## WELLPATH DATA (182 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]	Builde Rate [°/100ft]	Turn Rate [°/100ft]
15277.00	90.220	157.350	6268.70	9252.60	-8632.96	3333.95	1626669.15	327087.12	39°23'25.842"N	80°49'15.459"W	9254.36	158.884	0.48	-0.21	-0.43
15301.00	90.220	157.350	6268.61	9276.58	-8655.10	3343.20	1626678.39	327064.98	39°23'25.624"N	80°49'15.337"W	9278.35	158.880	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
SHR-3J-HS BHL Rev-1	6252.89	-8659.14	3331.07	1626666.27	327060.94	39°23'25.583"N	80°49'15.491"W	point	
SHR-3J-HS LP Rev-1	6268.00	-524.99	370.48	1623705.84	335194.65	39°24'45.536"N	80°49'54.731"W	point	

## WELLPATH COMPOSITION - Ref Wellbore: SHR-3J-HS AWB

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.50	2118.50	Generic gyro - northseeking (Standard)	01 MS Gyro <12.1/4"> (100°-2100°)	SHR-3J-HS AWB
2118.50	5129.00	NavITrak (MagCorr)	02 BHI MWD <8.3/4"> (2118.5°)(2217'-5129')	SHR-3J-HS AWB
5129.00	15277.00	NavITrak (AT Curve Short Spaced)	03 BHI AT Curve <8.3/4"> (5129°)(5204'-15277')	SHR-3J-HS AWB
15277.00	15301.00	Blind Drilling (std)	Projection to bit	SHR-3J-HS AWB

**REFERENCE WELLPATH IDENTIFICATION**

	Slot	Slot J
Operator	NOBLE ENERGY	
Area	Tyler County, WV	
Field	Tyler	
Facility	SHR-3 Pad	
	Well	SHR-3J-HS
	Wellbore	SHR-3J-HS AWP

**COMMENTS**

Wellpath general comments  
 API: 47-095-02197-0000  
 BHI Job #: 7024874  
 Rig: Precision 542  
 Duration: 2/12/2015-2/23/2015  
 MS Gyro <12-1/4" > (100'-2100)  
 BHI MWD <8-3/4" > (2118.5')(2217'-5129)  
 BHI AT Curve <8-3/4" > (5129')(5204'-15277)  
 Projected MD at TD: 15301'

