



Actual Wellpath Report

SHL 25B-HS (AWP) Proj: 15805'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY	Slot	Slot B
Area	Marshall County, WV	Well	SHL 25B-HS
Field	Marshall	Wellbore	SHL 25B-HS (AWB)
Facility	SHL-25 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	Kroschr
Scale	0.999962	Report Generated	11/Jun/2014 at 14:48
Convergence at slot	0.67° West	Database/Source file	WA_Pennsylvania/SHL_25B-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	4.38	-13.92	1705014.27	548361.75	40°00'02.868"N	80°33'10.642"W
Facility Reference Pt			1705028.19	548357.37	40°00'02.826"N	80°33'10.462"W
Field Reference Pt			609601.22	0.00	38°23'48.753"N	84°21'09.765"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Nomac 79 (RT) to Facility Vertical Datum	26.00ft
Horizontal Reference Pt	Slot	Nomac 79 (RT) to Mean Sea Level	1351.00ft
Vertical Reference Pt	Nomac 79 (RT)	Nomac 79 (RT) to Mud Line at Slot (Slot B)	26.00ft
MD Reference Pt	Nomac 79 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	325.00°

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Operator	NOBLE ENERGY	Slot	Slot B
Area	Marshall County, WV	Well	SHL 25B-HS
Field	Marshall	Wellbore	SHL 25B-HS (AWB)
Facility	SHL-25 Pad		

WELLPATH DATA (172 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]
0.00†	0.000	56.680	0.00	0.00	0.00	0.00	1705014.27	548361.75	40°00'02.868"N	80°33'10.642"W	0.00	0.000	0.00
26.00	0.000	56.680	26.00	0.00	0.00	0.00	1705014.27	548361.75	40°00'02.868"N	80°33'10.642"W	0.00	0.000	0.00
115.00	0.550	56.680	115.00	-0.01	0.23	0.36	1705014.63	548361.98	40°00'02.871"N	80°33'10.637"W	0.43	56.680	0.62
215.00	0.600	53.670	214.99	-0.01	0.81	1.18	1705015.45	548362.56	40°00'02.876"N	80°33'10.627"W	1.43	55.579	0.06
315.00	0.410	44.220	314.99	0.06	1.38	1.85	1705016.12	548363.13	40°00'02.882"N	80°33'10.618"W	2.31	53.394	0.21
415.00	0.470	67.870	414.99	0.04	1.79	2.48	1705016.75	548363.54	40°00'02.886"N	80°33'10.610"W	3.06	54.247	0.19
515.00	0.470	71.700	514.98	-0.17	2.07	3.25	1705017.52	548363.82	40°00'02.889"N	80°33'10.600"W	3.85	57.514	0.03
615.00	0.470	273.700	614.98	-0.03	2.22	3.23	1705017.50	548363.97	40°00'02.891"N	80°33'10.601"W	3.92	55.445	0.92
715.00	0.600	279.770	714.98	0.59	2.34	2.30	1705016.57	548364.09	40°00'02.892"N	80°33'10.613"W	3.28	44.567	0.14
815.00	0.850	282.120	814.97	1.51	2.58	1.06	1705015.33	548364.33	40°00'02.894"N	80°33'10.629"W	2.79	22.369	0.25
915.00	1.060	280.760	914.96	2.71	2.91	-0.57	1705013.70	548364.66	40°00'02.897"N	80°33'10.650"W	2.97	348.922	0.21
1015.00	1.040	276.990	1014.94	3.98	3.20	-2.38	1705011.89	548364.95	40°00'02.899"N	80°33'10.673"W	3.98	323.328	0.07
1115.00	1.110	270.640	1114.92	5.15	3.32	-4.25	1705010.02	548365.07	40°00'02.900"N	80°33'10.697"W	5.39	307.979	0.14
1215.00	1.030	270.340	1214.90	6.24	3.33	-6.12	1705008.15	548365.08	40°00'02.900"N	80°33'10.721"W	6.97	298.590	0.08
1315.00	1.020	265.100	1314.89	7.21	3.26	-7.90	1705006.37	548365.01	40°00'02.899"N	80°33'10.744"W	8.55	292.436	0.09
1415.00	0.970	257.400	1414.87	7.97	3.00	-9.61	1705004.66	548364.75	40°00'02.897"N	80°33'10.766"W	10.07	287.340	0.14
1515.00	0.970	235.110	1514.86	8.30	2.33	-11.14	1705003.14	548364.08	40°00'02.890"N	80°33'10.785"W	11.38	281.834	0.37
1615.00	0.920	227.380	1614.85	8.19	1.31	-12.42	1705001.85	548363.06	40°00'02.880"N	80°33'10.802"W	12.49	276.000	0.14
1715.00	0.860	219.920	1714.83	7.89	0.19	-13.49	1705000.78	548361.94	40°00'02.868"N	80°33'10.815"W	13.49	270.791	0.13
1815.00	0.450	212.650	1814.83	7.55	-0.72	-14.19	1705000.08	548361.03	40°00'02.859"N	80°33'10.824"W	14.20	267.095	0.42
1915.00	0.450	205.890	1914.82	7.21	-1.40	-14.57	1704999.70	548360.35	40°00'02.853"N	80°33'10.829"W	14.64	264.496	0.05
2015.00	0.470	198.740	2014.82	6.77	-2.15	-14.87	1704999.40	548359.60	40°00'02.845"N	80°33'10.833"W	15.03	261.791	0.06
2115.00	0.410	195.660	2114.82	6.30	-2.88	-15.10	1704999.17	548358.87	40°00'02.838"N	80°33'10.835"W	15.37	259.208	0.06
2215.00	0.310	201.550	2214.82	5.93	-3.47	-15.30	1704998.97	548358.28	40°00'02.832"N	80°33'10.838"W	15.69	257.203	0.11
2315.00	0.350	215.760	2314.81	5.68	-3.97	-15.57	1704998.70	548357.78	40°00'02.827"N	80°33'10.841"W	16.07	255.686	0.09
2415.00	0.370	228.450	2414.81	5.54	-4.44	-15.99	1704998.28	548357.31	40°00'02.822"N	80°33'10.847"W	16.60	254.499	0.08
2515.00	0.360	226.620	2514.81	5.46	-4.87	-16.46	1704997.81	548356.88	40°00'02.818"N	80°33'10.853"W	17.17	253.536	0.02
2615.00	0.400	229.490	2614.81	5.38	-5.31	-16.96	1704997.31	548356.44	40°00'02.814"N	80°33'10.859"W	17.77	252.619	0.04
2715.00	0.480	236.890	2714.80	5.36	-5.76	-17.57	1704996.70	548355.99	40°00'02.809"N	80°33'10.867"W	18.50	251.842	0.10
2815.00	0.380	243.310	2814.80	5.42	-6.14	-18.22	1704996.05	548355.61	40°00'02.805"N	80°33'10.875"W	19.23	251.373	0.11
2915.00	0.340	242.650	2914.80	5.51	-6.43	-18.78	1704995.49	548355.32	40°00'02.802"N	80°33'10.882"W	19.85	251.109	0.04
3015.00	0.410	247.690	3014.80	5.63	-6.70	-19.38	1704994.89	548355.05	40°00'02.800"N	80°33'10.890"W	20.50	250.928	0.08
3115.00	0.390	252.190	3114.80	5.81	-6.94	-20.03	1704994.24	548354.81	40°00'02.797"N	80°33'10.898"W	21.20	250.893	0.04
3215.00	0.490	249.140	3214.79	6.01	-7.20	-20.76	1704993.52	548354.55	40°00'02.795"N	80°33'10.907"W	21.97	250.879	0.10
3282.00	0.590	248.820	3281.79	6.16	-7.42	-21.34	1704992.93	548354.33	40°00'02.792"N	80°33'10.915"W	22.60	250.826	0.15
3376.00	0.350	249.850	3375.79	6.35	-7.70	-22.07	1704992.21	548354.05	40°00'02.790"N	80°33'10.924"W	23.37	250.772	0.26
3471.00	3.720	54.300	3470.72	6.46	-6.00	-19.83	1704994.44	548355.75	40°00'02.807"N	80°33'10.896"W	20.72	253.177	4.27
3565.00	7.560	57.230	3564.25	6.26	-0.87	-12.16	1705002.12	548360.88	40°00'02.858"N	80°33'10.798"W	12.19	265.913	4.10
3660.00	8.570	54.500	3658.31	6.08	6.62	-1.14	1705013.13	548368.37	40°00'02.933"N	80°33'10.657"W	6.72	350.255	1.14
3755.00	15.350	52.660	3751.20	6.66	18.38	14.64	1705028.91	548380.12	40°00'03.051"N	80°33'10.457"W	23.49	38.545	7.15
3849.00	12.990	51.790	3842.33	7.75	32.46	32.84	1705047.10	548394.21	40°00'03.193"N	80°33'10.225"W	46.17	45.331	2.52
3944.00	16.670	60.450	3934.16	7.06	45.79	53.09	1705067.36	548407.54	40°00'03.327"N	80°33'09.967"W	70.11	49.222	4.51
4039.00	20.330	54.780	4024.24	5.83	62.03	78.43	1705092.70	548423.78	40°00'03.490"N	80°33'09.643"W	100.00	51.660	4.29
4133.00	22.380	50.860	4111.79	7.18	82.75	105.66	1705119.92	548444.50	40°00'03.698"N	80°33'09.297"W	134.21	51.932	2.66
4228.00	24.380	51.600	4198.98	9.65	106.35	135.05	1705149.32	548468.09	40°00'03.935"N	80°33'08.923"W	171.90	51.782	2.13

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Operator	NOBLE ENERGY	Slot	Slot B
Area	Marshall County, WV	Well	SHL 25B-HS
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Facility	SHL-25 Pad		

WELLPATH DATA (172 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]
4275.00	25.220	55.070	4241.65	10.21	118.11	150.87	1705165.13	548479.85	40°00'04.053"N	80°33'08.721"W	191.60	51.944	3.57
4323.00	21.990	54.420	4285.63	10.29	129.19	166.56	1705180.83	548490.94	40°00'04.164"N	80°33'08.521"W	210.80	52.201	6.75
4418.00	25.640	56.710	4372.53	9.86	150.83	198.22	1705212.48	548512.58	40°00'04.382"N	80°33'08.118"W	249.08	52.732	3.96
4513.00	30.860	57.520	4456.18	8.17	175.21	235.98	1705250.24	548536.96	40°00'04.627"N	80°33'07.636"W	293.92	53.407	5.51
4607.00	22.950	54.210	4539.95	7.36	198.92	271.24	1705285.50	548560.66	40°00'04.865"N	80°33'07.187"W	336.37	53.745	8.56
4702.00	21.760	51.840	4627.81	8.59	220.63	300.12	1705314.37	548582.37	40°00'05.083"N	80°33'06.819"W	372.49	53.679	1.57
4796.00	26.810	54.460	4713.47	9.75	243.73	331.09	1705345.34	548605.47	40°00'05.315"N	80°33'06.425"W	411.13	53.641	5.49
4891.00	29.090	55.800	4797.38	9.63	269.17	367.63	1705381.88	548630.91	40°00'05.571"N	80°33'05.959"W	455.63	53.789	2.49
4986.00	26.310	51.060	4881.49	10.76	295.39	403.11	1705417.37	548657.13	40°00'05.834"N	80°33'05.507"W	499.76	53.767	3.73
5080.00	26.300	52.470	4965.76	13.11	321.17	435.83	1705450.08	548682.91	40°00'06.092"N	80°33'05.090"W	541.39	53.613	0.66
5175.00	25.080	53.240	5051.37	14.65	346.04	468.65	1705482.90	548707.78	40°00'06.342"N	80°33'04.672"W	582.56	53.559	1.33
5178.00	25.070	53.440	5054.09	14.69	346.80	469.67	1705483.92	548708.54	40°00'06.350"N	80°33'04.659"W	583.83	53.558	2.84
5235.00	23.450	52.490	5106.05	15.52	360.90	488.37	1705502.62	548722.64	40°00'06.491"N	80°33'04.421"W	607.25	53.536	2.92
5330.00	26.350	53.230	5192.21	17.00	385.04	520.26	1705534.51	548746.77	40°00'06.733"N	80°33'04.015"W	647.24	53.495	3.07
5425.00	26.290	53.950	5277.36	18.03	410.04	554.16	1705568.41	548771.77	40°00'06.984"N	80°33'03.583"W	689.36	53.501	0.34
5519.00	26.200	56.420	5361.68	17.90	433.77	588.28	1705602.52	548795.50	40°00'07.223"N	80°33'03.149"W	730.91	53.597	1.17
5614.00	26.160	58.880	5446.93	15.96	456.19	623.68	1705637.92	548817.92	40°00'07.448"N	80°33'02.697"W	772.71	53.816	1.14
5709.00	26.020	60.190	5532.25	12.66	477.37	659.69	1705673.93	548839.10	40°00'07.662"N	80°33'02.238"W	814.29	54.109	0.62
5804.00	24.440	56.430	5618.19	10.28	498.60	694.15	1705708.39	548860.33	40°00'07.876"N	80°33'01.798"W	854.66	54.311	2.37
5899.00	25.990	51.080	5704.15	11.22	522.55	726.72	1705740.96	548884.28	40°00'08.116"N	80°33'01.383"W	895.09	54.282	2.90
5994.00	29.350	48.470	5788.28	15.29	551.07	760.36	1705774.60	548912.80	40°00'08.402"N	80°33'00.955"W	939.05	54.067	3.76
6088.00	28.330	55.400	5870.64	17.75	579.02	795.97	1705810.21	548940.75	40°00'08.682"N	80°33'00.502"W	984.29	53.966	3.72
6183.00	25.890	59.660	5955.20	15.91	602.30	832.44	1705846.67	548964.03	40°00'08.916"N	80°33'00.037"W	1027.48	54.113	3.28
6278.00	24.910	58.860	6041.02	12.88	623.13	867.46	1705881.70	548984.85	40°00'09.126"N	80°32'59.590"W	1068.07	54.309	1.09
6322.00	24.970	60.590	6080.92	11.35	632.48	883.48	1705897.72	548994.20	40°00'09.220"N	80°32'59.385"W	1086.54	54.401	1.66
6373.00	26.320	61.800	6126.89	8.96	643.11	902.82	1705917.06	549004.83	40°00'09.328"N	80°32'59.138"W	1108.46	54.537	2.84
6468.00	32.670	54.560	6209.56	6.66	667.96	942.33	1705956.56	549029.68	40°00'09.578"N	80°32'58.635"W	1155.06	54.669	7.65
6562.00	39.330	45.730	6285.62	11.67	703.53	984.40	1705998.63	549065.25	40°00'09.934"N	80°32'58.099"W	1209.96	54.448	8.97
6657.00	46.950	38.030	6354.94	26.68	751.99	1027.44	1706041.67	549113.71	40°00'10.418"N	80°32'57.554"W	1273.23	53.799	9.74
6751.00	51.950	38.530	6416.03	47.21	808.03	1071.68	1706085.91	549169.75	40°00'10.977"N	80°32'56.994"W	1342.17	52.984	5.33
6846.00	57.710	28.510	6470.82	75.80	872.74	1114.26	1706128.48	549234.46	40°00'11.621"N	80°32'56.456"W	1415.36	51.930	10.53
6941.00	57.910	20.320	6521.49	116.66	945.86	1147.44	1706161.66	549307.57	40°00'12.348"N	80°32'56.041"W	1487.03	50.501	7.30
7036.00	57.870	11.710	6572.06	167.20	1023.09	1169.61	1706183.83	549384.80	40°00'13.113"N	80°32'55.768"W	1553.93	48.823	7.67
7131.00	60.280	2.670	6620.95	227.54	1103.82	1179.71	1706193.93	549465.52	40°00'13.912"N	80°32'55.650"W	1615.59	46.904	8.54
7225.00	64.890	353.680	6664.29	297.34	1187.07	1176.92	1706191.14	549548.77	40°00'14.735"N	80°32'55.698"W	1671.61	44.754	9.80
7320.00	70.400	345.100	6700.47	377.28	1273.27	1160.64	1706174.86	549634.96	40°00'15.585"N	80°32'55.920"W	1722.87	42.351	10.16
7415.00	74.590	337.990	6729.07	464.06	1359.10	1131.93	1706146.15	549720.80	40°00'16.429"N	80°32'56.302"W	1768.73	39.789	8.39
7509.00	80.450	331.540	6749.39	554.43	1442.01	1092.79	1706107.01	549803.71	40°00'17.244"N	80°32'56.818"W	1809.30	37.156	9.15
7604.00	90.430	325.350	6756.94	648.80	1522.55	1043.28	1706057.51	549884.24	40°00'18.034"N	80°32'57.466"W	1845.70	34.420	12.35
7699.00	90.430	319.840	6756.23	743.67	1597.98	985.60	1705999.83	549959.67	40°00'18.773"N	80°32'58.218"W	1877.49	31.665	5.80
7793.00	90.400	321.790	6755.55	837.42	1670.84	926.21	1705940.45	550032.52	40°00'19.486"N	80°32'58.992"W	1910.38	29.001	2.07
7888.00	90.340	330.160	6754.93	932.32	1749.50	873.10	1705887.34	550111.18	40°00'20.257"N	80°32'59.686"W	1955.27	26.522	8.81
7983.00	90.550	330.240	6754.20	1026.92	1831.94	825.89	1705840.13	550193.61	40°00'21.067"N	80°33'00.305"W	2009.50	24.267	0.24
8078.00	91.540	325.600	6752.46	1121.76	1912.39	775.46	1705789.70	550274.07	40°00'21.856"N	80°33'00.966"W	2063.64	22.072	4.99
8172.00	91.290	322.710	6750.14	1215.71	1988.56	720.44	1705734.68	550350.23	40°00'22.602"N	80°33'01.684"W	2115.04	19.915	3.09

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Operator	NOBLE ENERGY	Slot	Slot B
Area	Marshall County, WV	Well	SHL 25B-HS
Field	Marshall	Wellbore	SHL 25B-HS (AWB)
Facility	SHL-25 Pad		

WELLPATH DATA (172 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]
8267.00	89.570	322.630	6749.43	1310.62	2064.09	662.83	1705677.08	550425.76	40°00'23.342"N	80°33'02.436"W	2167.91	17.803	1.81
8362.00	89.450	321.100	6750.24	1405.47	2138.81	604.17	1705618.42	550500.48	40°00'24.073"N	80°33'03.201"W	2222.51	15.774	1.62
8457.00	89.720	321.880	6750.93	1500.29	2213.15	545.02	1705559.27	550574.81	40°00'24.801"N	80°33'03.972"W	2279.27	13.835	0.87
8552.00	90.400	323.870	6750.83	1595.22	2288.89	487.69	1705501.94	550650.55	40°00'25.543"N	80°33'04.720"W	2340.27	12.028	2.21
8647.00	90.830	325.800	6749.81	1690.21	2366.54	432.98	1705447.23	550728.20	40°00'26.304"N	80°33'05.435"W	2405.83	10.368	2.08
8742.00	89.600	328.920	6749.45	1785.12	2446.53	381.75	1705396.00	550808.18	40°00'27.088"N	80°33'06.105"W	2476.13	8.869	3.53
8836.00	89.480	329.990	6750.21	1878.83	2527.48	333.98	1705348.24	550889.13	40°00'27.883"N	80°33'06.731"W	2549.45	7.527	1.15
8931.00	88.890	326.510	6751.56	1973.65	2608.24	284.00	1705298.26	550969.89	40°00'28.675"N	80°33'07.385"W	2623.66	6.214	3.72
9026.00	89.970	322.560	6752.50	2068.62	2685.60	228.90	1705243.16	551047.24	40°00'29.433"N	80°33'08.105"W	2695.33	4.872	4.31
9121.00	89.570	320.760	6752.89	2163.46	2760.11	169.97	1705184.23	551121.75	40°00'30.163"N	80°33'08.873"W	2765.33	3.524	1.94
9216.00	90.310	320.870	6752.99	2258.20	2833.74	109.95	1705124.21	551195.38	40°00'30.883"N	80°33'09.656"W	2835.87	2.222	0.79
9311.00	90.180	319.340	6752.58	2352.85	2906.62	49.02	1705063.29	551268.26	40°00'31.597"N	80°33'10.450"W	2907.04	0.966	1.62
9405.00	90.150	318.420	6752.31	2446.31	2977.44	-12.80	1705001.47	551339.07	40°00'32.289"N	80°33'11.255"W	2977.46	359.754	0.98
9500.00	90.090	319.030	6752.11	2540.74	3048.83	-75.47	1704938.80	551410.46	40°00'32.987"N	80°33'12.071"W	3049.77	358.582	0.65
9596.00	89.630	322.930	6752.34	2636.49	3123.40	-135.90	1704878.38	551485.03	40°00'33.717"N	80°33'12.859"W	3126.36	357.509	4.09
9691.00	90.250	331.760	6752.44	2731.32	3203.31	-187.11	1704827.17	551564.93	40°00'34.501"N	80°33'13.529"W	3208.77	356.657	9.32
9785.00	90.550	340.420	6751.79	2823.47	3289.16	-225.17	1704789.11	551650.78	40°00'35.345"N	80°33'14.031"W	3296.85	356.084	9.22
9880.00	91.050	337.100	6750.46	2915.72	3377.68	-259.57	1704754.71	551739.30	40°00'36.216"N	80°33'14.866"W	3387.64	355.605	3.53
9975.00	90.490	330.550	6749.18	3009.54	3462.89	-301.45	1704712.83	551824.50	40°00'37.053"N	80°33'15.037"W	3475.98	355.025	6.92
10070.00	91.170	329.250	6747.81	3104.18	3545.06	-349.09	1704665.19	551906.67	40°00'37.859"N	80°33'15.662"W	3562.21	354.376	1.54
10164.00	90.280	327.390	6746.62	3198.01	3625.05	-398.45	1704615.83	551986.65	40°00'38.644"N	80°33'16.308"W	3646.88	353.727	2.19
10259.00	90.400	328.240	6746.05	3292.89	3705.45	-449.05	1704565.24	552067.05	40°00'39.433"N	80°33'16.971"W	3732.56	353.090	0.90
10354.00	91.660	323.190	6744.34	3387.83	3783.90	-502.54	1704511.75	552145.50	40°00'40.202"N	80°33'17.670"W	3817.13	352.435	5.48
10448.00	91.260	320.730	6741.95	3481.66	3857.90	-560.44	1704453.85	552219.50	40°00'40.926"N	80°33'18.425"W	3898.40	351.734	2.65
10543.00	89.720	317.900	6741.14	3576.18	3929.93	-622.36	1704391.94	552291.52	40°00'41.631"N	80°33'19.231"W	3978.90	351.001	3.39
10638.00	89.690	317.360	6741.62	3670.39	4000.11	-686.38	1704327.92	552361.71	40°00'42.317"N	80°33'20.065"W	4058.58	350.263	0.57
10732.00	90.340	320.170	6741.60	3763.83	4070.80	-748.33	1704265.97	552432.38	40°00'43.008"N	80°33'20.872"W	4139.01	349.584	3.07
10827.00	90.490	322.710	6740.91	3858.63	4145.07	-807.54	1704206.76	552506.66	40°00'43.735"N	80°33'21.644"W	4223.00	348.976	2.68
10922.00	90.460	326.510	6740.12	3953.61	4222.50	-862.55	1704151.75	552584.09	40°00'44.494"N	80°33'22.362"W	4309.70	348.455	4.00
11016.00	90.520	329.710	6739.32	4047.46	4302.30	-912.20	1704102.10	552663.88	40°00'45.277"N	80°33'23.012"W	4397.95	348.029	3.40
11112.00	90.490	329.500	6738.47	4143.14	4385.11	-960.77	1704053.54	552746.68	40°00'46.089"N	80°33'23.649"W	4489.12	347.642	0.22
11206.00	90.580	329.010	6737.60	4236.88	4465.89	-1008.82	1704005.49	552827.46	40°00'46.882"N	80°33'24.279"W	4578.42	347.271	0.53
11302.00	90.490	327.090	6736.70	4332.74	4547.34	-1059.62	1703954.69	552908.91	40°00'47.631"N	80°33'24.944"W	4669.16	346.883	2.00
11397.00	90.620	323.350	6735.78	4427.71	4625.35	-1113.80	1703900.52	552986.92	40°00'48.446"N	80°33'25.652"W	4757.56	346.461	3.94
11492.00	90.580	318.660	6734.78	4522.45	4699.16	-1173.56	1703840.76	553060.72	40°00'49.168"N	80°33'26.431"W	4843.48	345.978	4.94
11586.00	90.310	314.400	6734.05	4615.40	4767.36	-1238.21	1703776.11	553128.92	40°00'49.835"N	80°33'27.272"W	4925.53	345.440	4.54
11681.00	89.720	314.600	6734.03	4708.81	4833.95	-1305.97	1703708.35	553195.50	40°00'50.485"N	80°33'28.153"W	5007.25	344.882	0.66
11776.00	89.820	321.740	6734.41	4803.07	4904.69	-1369.29	1703645.04	553266.24	40°00'51.176"N	80°33'28.977"W	5092.24	344.401	7.52
11871.00	90.340	327.140	6734.28	4898.03	4981.94	-1424.51	1703589.81	553343.49	40°00'51.933"N	80°33'29.699"W	5181.60	344.043	5.71
11965.00	90.460	330.290	6733.62	4991.82	5062.26	-1473.32	1703541.01	553423.81	40°00'52.721"N	80°33'30.338"W	5272.30	343.773	3.35
12060.00	90.400	330.750	6732.91	5086.38	5144.96	-1520.07	1703494.26	553506.50	40°00'53.533"N	80°33'30.952"W	5364.81	343.540	0.49
12154.00	90.400	326.830	6732.25	5180.15	5225.34	-1568.77	1703445.57	553586.88	40°00'54.322"N	80°33'31.590"W	5455.75	343.289	4.17
12249.00	90.430	324.790	6731.56	5275.14	5303.91	-1622.15	1703392.19	553665.45	40°00'55.092"N	80°33'32.287"W	5546.43	342.994	2.15
12343.00	90.340	325.200	6730.93	5369.13	5380.91	-1676.07	1703338.27	553742.44	40°00'55.846"N	80°33'32.992"W	5635.90	342.699	0.45
12438.00	90.340	326.130	6730.37	5464.12	5459.35	-1729.65	1703284.69	553820.88	40°00'56.615"N	80°33'33.693"W	5726.80	342.421	0.98

5101684

REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot B
Area	Marshall County, WV	Well	SHL 25B-HS
Field	Marshall	Wellbore	SHL 25B-HS (AWB)
Facility	SHL-25 Pad		

WELLPATH DATA (172 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]
12533.00	90.620	326.580	6729.57	5559.09	5538.43	-1782.28	1703232.06	553899.96	40°00'57.391"N	80°33'34.381"W	5818.14	342.162	0.56
12627.00	90.620	328.220	6728.55	5653.00	5617.62	-1832.92	1703181.42	553979.14	40°00'58.167"N	80°33'35.044"W	5909.08	341.929	1.74
12721.00	90.520	328.030	6727.62	5746.86	5697.44	-1882.56	1703131.79	554058.96	40°00'58.950"N	80°33'35.694"W	6000.40	341.715	0.23
12816.00	90.800	327.720	6726.53	5841.73	5777.89	-1933.07	1703081.28	554139.41	40°00'59.739"N	80°33'36.355"W	6092.68	341.502	0.44
12911.00	90.890	322.360	6725.12	5936.69	5855.71	-1987.48	1703026.26	554217.22	40°01'00.502"N	80°33'37.066"W	6183.80	341.252	5.64
13006.00	91.110	321.790	6723.47	6031.55	5930.63	-2045.86	1702968.49	554292.15	40°01'01.236"N	80°33'37.828"W	6273.59	340.967	0.64
13101.00	91.050	321.050	6721.67	6126.35	6004.89	-2105.09	1702909.26	554366.40	40°01'01.962"N	80°33'38.600"W	6363.18	340.681	0.78
13196.00	91.080	322.770	6719.91	6221.19	6079.64	-2163.69	1702850.67	554441.15	40°01'02.694"N	80°33'39.365"W	6453.18	340.410	1.81
13290.00	90.280	323.700	6718.79	6315.14	6154.93	-2219.94	1702794.41	554516.44	40°01'03.432"N	80°33'40.099"W	6543.04	340.167	1.30
13385.00	89.970	323.100	6718.59	6410.10	6231.20	-2276.59	1702737.78	554592.70	40°01'04.179"N	80°33'40.839"W	6634.06	339.930	0.71
13479.00	89.850	324.970	6718.73	6504.08	6307.28	-2331.79	1702682.58	554668.78	40°01'04.924"N	80°33'41.560"W	6724.51	339.711	1.99
13574.00	89.940	325.900	6718.91	6599.08	6385.51	-2385.68	1702628.68	554747.00	40°01'05.691"N	80°33'42.264"W	6816.61	339.514	0.98
13669.00	89.970	326.610	6718.98	6694.05	6464.50	-2438.46	1702575.91	554826.00	40°01'06.465"N	80°33'42.954"W	6909.12	339.333	0.75
13763.00	90.060	329.990	6718.96	6787.88	6544.47	-2487.84	1702526.53	554905.96	40°01'07.250"N	80°33'43.601"W	7001.39	339.186	3.60
13859.00	90.030	324.630	6718.88	6883.77	6625.23	-2539.67	1702474.70	554986.72	40°01'08.042"N	80°33'44.280"W	7095.33	339.026	5.58
13952.00	90.120	323.350	6718.76	6976.75	6700.46	-2594.35	1702420.02	555061.94	40°01'08.779"N	80°33'44.994"W	7185.18	338.834	1.38
14047.00	89.970	323.780	6718.69	7071.72	6776.89	-2650.77	1702363.60	555138.37	40°01'09.527"N	80°33'45.730"W	7276.87	338.637	0.48
14142.00	89.940	323.580	6718.76	7166.70	6853.43	-2707.04	1702307.34	555214.91	40°01'10.277"N	80°33'46.465"W	7368.69	338.446	0.21
14237.00	89.820	323.870	6718.96	7261.67	6930.02	-2763.25	1702251.13	555291.49	40°01'11.028"N	80°33'47.199"W	7460.61	338.261	0.33
14331.00	90.650	328.990	6718.57	7355.61	7008.32	-2815.21	1702199.18	555369.79	40°01'11.795"N	80°33'47.879"W	7552.61	338.115	5.52
14426.00	90.400	334.370	6717.70	7449.93	7091.91	-2860.26	1702154.13	555453.38	40°01'12.616"N	80°33'48.471"W	7646.98	338.035	5.67
14521.00	90.890	331.330	6716.63	7544.02	7176.43	-2903.60	1702110.79	555537.89	40°01'13.446"N	80°33'49.041"W	7741.58	337.972	3.24
14616.00	90.890	324.960	6715.16	7638.82	7257.07	-2953.70	1702060.68	555618.53	40°01'14.237"N	80°33'49.697"W	7835.14	337.853	6.70
14710.00	91.350	325.810	6713.32	7732.80	7334.41	-3007.09	1702007.30	555695.87	40°01'14.995"N	80°33'50.395"W	7926.93	337.706	1.03
14805.00	91.320	325.360	6711.10	7827.77	7412.76	-3060.77	1701953.62	555774.22	40°01'15.763"N	80°33'51.097"W	8019.81	337.564	0.47
14900.00	91.140	321.910	6709.07	7922.70	7489.23	-3117.08	1701897.32	555850.68	40°01'16.512"N	80°33'51.832"W	8112.01	337.403	3.64
14995.00	91.230	319.980	6707.10	8017.44	7562.99	-3176.92	1701837.48	555924.43	40°01'17.234"N	80°33'52.612"W	8203.14	337.215	2.03
15090.00	91.050	319.470	6705.21	8112.02	7635.45	-3238.32	1701776.08	555996.90	40°01'17.943"N	80°33'53.412"W	8293.78	337.017	0.57
15184.00	90.920	318.470	6703.59	8205.48	7706.35	-3300.01	1701714.39	556067.79	40°01'18.636"N	80°33'54.216"W	8383.19	336.818	1.07
15279.00	90.800	319.890	6702.17	8299.98	7778.23	-3362.11	1701652.30	556139.67	40°01'19.339"N	80°33'55.025"W	8473.76	336.624	1.50
15374.00	90.620	321.720	6700.99	8394.71	7851.85	-3422.13	1701592.27	556213.29	40°01'20.060"N	80°33'55.808"W	8565.19	336.451	1.94
15469.00	90.340	324.940	6700.19	8489.66	7928.04	-3478.86	1701535.55	556289.47	40°01'20.806"N	80°33'56.549"W	8657.73	336.308	3.40
15563.00	90.340	326.750	6699.64	8583.64	8005.82	-3531.63	1701482.78	556367.25	40°01'21.568"N	80°33'57.239"W	8750.17	336.196	1.93
15658.00	90.340	328.930	6699.07	8678.52	8086.23	-3582.19	1701432.22	556447.66	40°01'22.357"N	80°33'57.901"W	8844.17	336.107	2.29
15753.00	90.430	329.940	6698.43	8773.23	8168.03	-3630.50	1701383.91	556529.46	40°01'23.160"N	80°33'58.534"W	8938.53	336.036	1.07
15780.00	90.370	330.020	6698.25	8800.13	8191.41	-3644.01	1701370.41	556552.83	40°01'23.389"N	80°33'58.711"W	8965.38	336.018	0.37
15805.00	90.370	330.020	6698.08	8825.03	8213.06	-3656.50	1701357.91	556574.49	40°01'23.602"N	80°33'58.875"W	8990.24	336.001	0.00

51-01684

Received
Office of Oil & Gas
DEC 15 2014

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY	Slot	Slot B
Area	Marshall County, WV	Well	SHL 25B-HS
Field	Marshall	Wellbore	SHL 25B-HS (AWB)
Facility	SHL-25 Pad		

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SHL 25B-HS BHL:Plat		6665.00	8217.96	-3650.82	1701363.60	556579.38	40°01'23.651"N	80°33'58.803"W	point
SHL 25B-HS BHL:Rev-1		6693.91	8217.96	-3650.82	1701363.60	556579.38	40°01'23.651"N	80°33'58.803"W	point
SHL 25B-HS BHL:Rev-2		6704.13	7152.24	-2904.59	1702109.80	555513.70	40°01'13.207"N	80°33'49.050"W	point
SHL 25B-HS LP:Rev-1		6758.00	1533.68	1029.57	1706043.80	549895.37	40°00'18.143"N	80°32'57.644"W	point
SHL 25B-HS LP:Plat		6763.00	1533.68	1029.57	1706043.80	549895.37	40°00'18.143"N	80°32'57.644"W	point

WELLPATH COMPOSITION - Ref Wellbore: SHL 25B-HS (AWB) Ref Wellpath: SHL 25B-HS (AWP) Proj: 15805'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
26.00	3282.00	Generic gyro - northseeking (Standard)	VES Gyro Surveys 12 1/4" (115'-3282')	SHL 25B-HS (AWB)
3282.00	5175.00	NaviTrak (MagCorr)	02_BHI LCP <8-3/4"> (3282')(3376'-5175')	SHL 25B-HS (AWB)
5175.00	15780.00	NaviTrak (MagCorr)	03_BHI AT Curve <8-3/4"> (5175')(5178'-15780')	SHL 25B-HS (AWB)
15780.00	15805.00	Blind Drilling (std)	Projection to bit	SHL 25B-HS (AWB)

Received
 Office of Oil & Gas
 DEC 15 2014

51.01684



Actual Wellpath Report
 SHL 25B-HS (AWP) Proj: 15805
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01/16/2015

REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY	Slot	Slot B
Area	Marshall County, WV	Well	SHL 25B-HS
Field	Marshall	Wellbore	SHL 25B-HS (AWB)
Facility	SHL-25 Pad		

COMMENTS
 Wellpath general comments
 APl: 47-051-01684-0000
 Rig: Nomac 79
 BHI Job #: 6414239
 VES Gyro Surveys (115-3282)
 BHI LCP (3282)(3376-5175)
 BHI AT Curve (5175)(5178-15780)
 TD projected to MD: 15805

Forward
 Office of Oil & Gas
 DEC 15 2014

51-01684



NOBLE ENERGY



Location: Marshall County, WV
 Field: Marshall
 Facility: SHL-25 Pad

Slot: Slot B
 Well: SHL 25B-HS
 Wellbore: SHL 25B-HS (PWB)

Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
SHL-25 Pad		1705028.190	548357.370	40°00'02.826"N	80°33'10.462"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot B	4.38	-13.92	1705014.270	548361.750	40°00'02.868"N	80°33'10.642"W
Nomac 79 (RT) to Mud line (At Slot: Slot B)				26ft		
Mean Sea Level to Mud line (At Slot: Slot B)				-1325ft		
Nomac 79 (RT) to Mean Sea Level				1351ft		
Plot reference well/path is SHL 25B-HS (PWP) Rev B.0						
True vertical depths are referenced to Nomac 79 (RT)		Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet				
Measured depths are referenced to Nomac 79 (RT)		North Reference: Grid north				
Nomac 79 (RT) to Mean Sea Level: 1351 feet		Scale: True distance				
Mean Sea Level to Mud line (At Slot: Slot B): -1325 feet		Depths are in feet				
Coordinates are in feet referenced to Slot		Created by: kroschr on 11/16/2014				

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (#100ft)	VS (ft)
Tie On	3282.00	0.590	248.820	3281.79	-7.42	-21.34	0.00	6.16
KOP	3432.00	0.590	248.820	3431.78	-7.98	-22.78	0.00	6.53
End of 3D Arc (J)	4089.60	25.730	55.285	4067.97	73.52	93.44	4.00	6.63
End of Tangent (J)	6384.72	25.730	55.285	6135.54	640.95	912.46	0.00	1.67
End of 3D Arc	6754.16	50.000	40.000	6425.62	797.69	1072.05	7.00	38.53
LP	7630.38	90.450	325.000	6758.00	1533.68	1029.57	9.00	665.78
Revised BHL	14489.59	90.450	325.000	6704.13	7152.24	-2904.59	0.00	7524.78

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SHL 25B-HS BH-L-Plat	6665.00	8217.96	-3650.82	1701363.60	556579.38	40°01'23.651"N	80°33'58.803"W	
SHL 25B-HS BH-L-Rev-1	6693.91	8217.96	-3650.82	1701363.60	556579.38	40°01'23.651"N	80°33'58.803"W	
SHL 25B-HS BH-L-Rev-2	14489.59	6704.13	7152.24	-2904.59	1702109.80	555513.70	40°01'13.207"N	80°33'49.050"W
SHL 25B-HS LP-Rev-1	7630.38	6758.00	1533.68	1029.57	1706043.80	549895.37	40°00'18.143"N	80°32'57.644"W
SHL 25B-HS LP-Plat	6763.00	1533.68	1029.57	1706043.80	549895.37	40°00'18.143"N	80°32'57.644"W	

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