



# Actual Wellpath Report

SHR-3D-HS AWP Proj: 15610'  
Page 1 of 9



## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot D
Area	Tyler County, WV	Well	SHR-3D-HS
Field	Tyler	Wellbore	SHR-3D-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	06/Apr/2015 at 13:43
Convergence at slot	0.85° West	Database/Source file	WellArchitectEasternDB/SHR-3D-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	-5.93	59.57	1623357.60	335737.51	39°24'50.850"N	80°49'59.270"W
Facility Reference Pt			1623298.03	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	770.57ft
Horizontal Reference Pt	Slot	Precision 542 (RKB) to Mean Sea Level	770.57ft
Vertical Reference Pt	Precision 542 (RKB)	Precision 542 (RKB) to Mud Line at Slot (Slot D)	18.50ft
Mean Reference Pt	Precision 542 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference Pt	Mean Sea Level	Section Azimuth	160.00°

West Virginia Department of Environmental Protection  
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 01/27/2017



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Page 2 of 9



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## WELLPATH DATA (176 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	265.670	0.00	0.00	0.00	0.00	1623357.60	335737.51	39°24'50.850"N	80°49'59.270"W	0.00	0.000	0.00	0.00	0.00
18.50	0.000	265.670	18.50	0.00	0.00	0.00	1623357.60	335737.51	39°24'50.850"N	80°49'59.270"W	0.00	0.000	0.00	0.00	0.00
118.50	0.530	265.670	118.50	-0.12	-0.03	-0.46	1623357.14	335737.48	39°24'50.850"N	80°49'59.276"W	0.46	265.670	0.53	0.53	0.00
218.50	0.390	121.240	218.50	0.02	-0.25	-0.63	1623356.97	335737.26	39°24'50.848"N	80°49'59.278"W	0.68	248.686	0.88	-0.14	-144.43
318.50	0.350	41.900	318.50	0.14	-0.20	-0.74	1623357.46	335737.31	39°24'50.848"N	80°49'59.272"W	0.24	214.905	0.47	-0.04	-79.34
418.50	0.190	172.520	418.50	0.16	-0.13	0.09	1623357.69	335737.38	39°24'50.849"N	80°49'59.269"W	0.16	146.085	0.50	-0.16	130.62
518.50	0.490	194.290	518.49	0.67	-0.71	0.01	1623357.61	335736.80	39°24'50.843"N	80°49'59.270"W	0.71	179.583	0.32	0.30	21.77
618.50	0.390	157.880	618.49	1.36	-1.44	0.03	1623357.63	335736.07	39°24'50.836"N	80°49'59.269"W	1.44	178.895	0.29	-0.10	-36.41
718.50	0.150	219.070	718.49	1.77	-1.86	0.07	1623357.67	335735.65	39°24'50.832"N	80°49'59.269"W	1.86	177.736	0.34	-0.24	-61.19
818.50	0.430	225.640	818.49	1.99	-2.22	-0.28	1623357.32	335735.25	39°24'50.828"N	80°49'59.273"W	2.24	187.115	0.28	0.28	6.57
918.50	0.740	163.220	918.48	2.79	-3.10	-0.36	1623357.24	335734.41	39°24'50.819"N	80°49'59.274"W	3.12	186.604	0.66	0.31	-62.42
1018.50	0.680	143.260	1018.48	4.01	-4.20	0.18	1623357.78	335733.31	39°24'50.809"N	80°49'59.267"W	4.20	177.514	0.25	-0.06	-19.96
1118.50	0.470	135.680	1118.47	4.95	-4.97	0.82	1623358.42	335732.54	39°24'50.801"N	80°49'59.259"W	5.03	170.581	0.22	-0.21	-7.58
1218.50	0.570	169.940	1218.47	5.81	-5.75	1.20	1623358.80	335731.76	39°24'50.793"N	80°49'59.254"W	5.87	168.236	0.32	0.10	34.26
1318.50	0.320	181.710	1318.46	6.56	-6.52	1.28	1623358.88	335730.99	39°24'50.786"N	80°49'59.253"W	6.64	168.925	0.26	-0.25	11.77
1418.50	0.480	210.040	1418.46	7.09	-7.16	1.06	1623358.66	335730.35	39°24'50.779"N	80°49'59.255"W	7.24	171.596	0.25	0.16	28.33
1518.50	0.580	191.040	1518.46	7.79	-8.02	0.75	1623358.35	335729.49	39°24'50.771"N	80°49'59.259"W	8.05	174.649	0.20	0.10	-19.00
1618.50	0.540	178.790	1618.45	8.67	-8.99	0.66	1623358.26	335728.52	39°24'50.761"N	80°49'59.260"W	9.01	175.774	0.13	-0.04	-12.25
1718.50	0.520	178.010	1718.45	9.55	-9.91	0.69	1623358.29	335727.60	39°24'50.752"N	80°49'59.259"W	9.93	176.019	0.02	-0.02	-0.78
1818.50	0.510	173.970	1818.44	10.41	-10.81	0.75	1623358.35	335726.70	39°24'50.743"N	80°49'59.258"W	10.85	176.018	0.04	-0.01	4.04
1918.50	0.540	163.110	1918.44	11.32	-11.70	0.94	1623358.54	335725.81	39°24'50.735"N	80°49'59.256"W	11.74	175.415	0.11	0.03	-11.16
2018.50	0.390	202.990	2018.44	12.03	-12.46	0.94	1623358.54	335725.05	39°24'50.727"N	80°49'59.256"W	12.49	175.702	0.36	-0.15	41.68
2118.50	0.360	202.220	2118.44	12.29	-12.90	0.51	1623358.11	335724.61	39°24'50.723"N	80°49'59.261"W	12.91	177.740	0.27	-0.03	41.23
2218.50	0.260	222.590	2220.93	12.42	-13.20	0.05	1623357.65	335724.31	39°24'50.720"N	80°49'59.267"W	13.20	179.771	0.15	-0.10	-20.81
2318.50	0.310	220.810	2226.93	12.55	-13.38	-0.06	1623357.54	335724.14	39°24'50.718"N	80°49'59.268"W	13.38	180.249	0.29	0.12	-52.98
2418.50	0.270	220.220	2353.93	12.74	-13.68	-0.34	1623357.26	335723.83	39°24'50.715"N	80°49'59.272"W	13.68	181.444	0.26	-0.04	51.79
2518.50	0.280	179.770	2443.93	12.95	-13.98	-0.54	1623357.06	335723.53	39°24'50.712"N	80°49'59.274"W	13.99	182.216	0.34	0.01	-76.06
2618.50	0.120	207.340	2532.93	13.22	-14.28	-0.58	1623357.02	335723.23	39°24'50.709"N	80°49'59.275"W	14.29	182.337	0.20	-0.18	30.98
2718.50	0.250	245.250	2622.93	13.30	-14.44	-0.80	1623356.80	335723.07	39°24'50.707"N	80°49'59.278"W	14.47	183.187	0.19	0.14	42.12
2818.50	0.220	258.930	2712.93	13.29	-14.56	-1.15	1623356.45	335722.95	39°24'50.706"N	80°49'59.282"W	14.61	184.525	0.07	-0.03	15.20

01/27/2017



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SHR-3D-HS AWP Proj: 15610'  
Page 3 of 9



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Area	Tyler County, WV	SHR-3D-HS
Field	Tyler	SHR-3D-HS AWB
Facility	SHR-3 Pad	

## WELLPATH DATA (176 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]
2802.00	0.170	229.730	2801.93	13.31	-14.68	-1.42	1623356.18	335722.83	39°24'50.705"N	80°49'59.285"W	14.75	185.528	0.12	-0.06	-32.81
2892.00	0.380	184.560	2891.93	13.63	-15.06	-1.55	1623356.05	335722.45	39°24'50.701"N	80°49'59.287"W	15.14	185.861	0.32	0.23	-50.19
2981.00	0.280	163.610	2980.93	14.11	-15.57	-1.51	1623356.09	335721.95	39°24'50.696"N	80°49'59.286"W	15.64	185.535	0.17	-0.11	-23.54
3071.00	0.340	184.020	3070.93	14.57	-16.04	-1.47	1623356.14	335721.47	39°24'50.691"N	80°49'59.286"W	16.11	185.218	0.14	0.07	-22.68
3161.00	0.320	149.460	3160.92	15.06	-16.53	-1.36	1623356.24	335720.99	39°24'50.687"N	80°49'59.284"W	16.58	184.691	0.22	-0.02	-36.40
3251.00	0.470	177.700	3250.92	15.66	-17.11	-1.21	1623356.39	335720.40	39°24'50.681"N	80°49'59.282"W	17.15	184.057	0.27	0.17	31.38
3340.00	0.440	186.260	3339.92	16.32	-17.82	-1.24	1623356.36	335719.70	39°24'50.674"N	80°49'59.282"W	17.86	183.969	0.08	-0.03	9.62
3430.00	0.430	198.480	3429.92	16.89	-18.48	-1.38	1623356.22	335719.03	39°24'50.667"N	80°49'59.284"W	18.53	184.274	0.10	-0.01	13.58
3519.00	0.500	202.550	3518.91	17.44	-19.15	-1.64	1623355.96	335718.36	39°24'50.661"N	80°49'59.287"W	19.22	184.881	0.09	0.08	4.57
3609.00	0.310	200.670	3608.91	17.91	-19.74	-1.87	1623355.75	335717.77	39°24'50.655"N	80°49'59.296"W	19.83	185.417	0.21	-0.21	-2.04
3698.00	1.240	35.120	3697.91	17.55	-19.18	-1.40	1623356.20	335718.33	39°24'50.660"N	80°49'59.284"W	19.23	184.184	1.73	1.04	-186.01
3788.00	1.530	35.780	3787.88	16.31	-17.41	-0.14	1623357.46	335720.10	39°24'50.678"N	80°49'59.269"W	17.41	180.462	0.32	0.32	0.73
3877.00	0.850	36.100	3876.86	15.28	-15.91	0.94	1623358.54	335721.60	39°24'50.693"N	80°49'59.255"W	15.94	176.608	0.76	-0.76	0.36
3967.00	0.770	25.360	3966.85	14.48	-14.83	1.60	1623359.20	335722.68	39°24'50.704"N	80°49'59.247"W	14.91	173.858	0.19	-0.09	-11.93
4056.00	0.330	356.470	4055.85	13.81	-14.03	1.84	1623359.44	335723.48	39°24'50.712"N	80°49'59.244"W	14.15	172.546	0.57	-0.49	-32.46
4146.00	0.370	15.000	4145.84	13.33	-13.49	1.90	1623359.50	335724.02	39°24'50.717"N	80°49'59.243"W	13.62	172.004	0.13	0.04	20.59
4236.00	0.230	326.800	4235.84	12.91	-13.06	1.87	1623359.47	335724.45	39°24'50.721"N	80°49'59.244"W	13.19	171.845	0.31	-0.16	-53.56
4325.00	0.070	185.210	4324.84	12.79	-12.97	1.77	1623359.37	335724.55	39°24'50.722"N	80°49'59.245"W	13.09	172.232	0.32	-0.18	-159.09
4415.00	0.000	294.910	4414.84	12.70	-12.94	1.59	1623359.19	335724.57	39°24'50.722"N	80°49'59.247"W	13.03	173.012	0.31	0.20	121.89
4504.00	0.000	316.210	4504.84	12.40	-12.73	1.29	1623358.88	335724.78	39°24'50.724"N	80°49'59.251"W	12.78	174.223	0.16	-0.03	29.67
4594.00	0.000	5.180	4593.84	12.22	-12.58	1.17	1623358.77	335724.94	39°24'50.726"N	80°49'59.253"W	12.63	174.673	0.22	-0.20	55.02
4684.00	0.000	12.160	4683.84	12.33	-12.73	1.06	1623358.66	335724.78	39°24'50.724"N	80°49'59.254"W	12.78	175.220	0.35	0.27	-172.24
4774.00	0.000	33.270	4772.84	12.47	-12.92	0.96	1623358.56	335724.59	39°24'50.722"N	80°49'59.255"W	12.96	175.771	0.31	-0.31	0.00
4864.00	2.000	32.280	4862.81	11.29	-11.30	1.98	1623359.58	335726.21	39°24'50.739"N	80°49'59.243"W	11.47	170.042	2.72	2.72	0.00
4954.00	5.000	34.690	4951.58	7.63	-6.13	5.46	1623355.06	335731.38	39°24'50.790"N	80°49'59.199"W	8.21	138.287	3.52	3.52	2.71
5044.00	8.000	35.770	5008.18	3.79	-0.63	9.36	1623366.96	335736.88	39°24'50.845"N	80°49'59.151"W	9.38	93.855	4.25	4.25	1.89
5134.00	12.500	34.630	5094.75	-5.17	12.19	18.36	1623375.96	335749.70	39°24'50.973"N	80°49'59.038"W	22.04	56.424	5.13	5.12	-1.30
5224.00	15.000	37.470	5136.44	-11.03	20.68	24.58	1623382.18	335758.19	39°24'51.058"N	80°49'58.961"W	32.12	49.923	7.91	7.74	6.60
5314.00	19.000	39.870	5222.23	-25.09	41.83	41.58	1623399.17	335779.34	39°24'51.270"N	80°49'58.748"W	58.98	44.823	3.89	3.81	2.67
5404.00	20.420	38.380	5306.89	-40.78	65.54	60.84	1623418.44	335803.05	39°24'51.507"N	80°49'58.507"W	89.43	42.872	1.40	1.28	-1.66

JAN 17 2017

WV Department of Environmental Protection

01/27/2017



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SHR-3D-HS AWP Proj: 15610'  
Page 4 of 9



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5409.00	22.710	37.000	5389.65	-58.28	91.43	80.83	1623438.42	335828.94	39°24'51.765"N	80°49'58.258"W	122.04	41.476	2.64	2.57	-1.55
5498.00	22.850	34.920	5471.71	-77.56	119.32	101.06	1623458.65	335856.83	39°24'52.044"N	80°49'58.005"W	156.37	40.262	0.92	0.16	-2.34
5588.00	22.760	35.060	5554.68	-97.58	147.90	121.06	1623478.65	335885.40	39°24'52.329"N	80°49'57.756"W	191.13	39.301	0.12	-0.10	0.16
5678.00	22.950	39.340	5637.62	-116.50	175.73	142.19	1623499.78	335913.23	39°24'52.607"N	80°49'57.492"W	226.04	38.977	1.86	0.21	4.76
5767.00	22.960	58.820	5719.69	-128.75	198.17	168.07	1623525.67	335935.66	39°24'53.833"N	80°49'57.166"W	259.84	40.303	8.59	0.01	21.89
5857.00	22.830	81.330	5802.76	-128.70	209.91	200.42	1623558.00	335947.41	39°24'52.954"N	80°49'56.757"W	290.22	43.675	9.68	-0.14	25.01
5947.00	22.750	105.190	5885.91	-115.22	207.98	234.54	1623592.13	335945.47	39°24'52.940"N	80°49'56.321"W	313.47	48.436	10.21	-0.09	26.51
6036.00	25.000	118.710	5967.35	-91.15	194.42	267.67	1623625.26	335931.92	39°24'52.811"N	80°49'55.897"W	330.83	54.008	6.63	2.53	15.19
6126.00	32.110	128.940	6046.40	-56.30	170.21	303.02	1623660.61	335907.71	39°24'52.577"N	80°49'55.442"W	347.55	60.677	9.56	7.90	11.37
6216.00	38.460	134.030	6119.85	-10.59	135.68	341.80	1623699.38	335873.18	39°24'52.241"N	80°49'54.941"W	367.74	68.350	7.77	7.06	5.66
6306.00	47.130	140.340	6185.85	45.76	90.73	383.07	1623740.65	335828.23	39°24'51.803"N	80°49'54.407"W	393.67	76.675	10.74	9.63	7.01
6395.00	56.000	145.230	6241.14	112.31	35.18	425.02	1623782.60	335772.69	39°24'51.260"N	80°49'53.862"W	426.48	85.268	10.85	9.97	5.49
6485.00	64.560	150.590	6285.75	188.65	-31.02	466.35	1623823.93	335706.49	39°24'50.612"N	80°49'53.323"W	467.39	93.806	10.82	9.51	5.96
6574.00	73.650	154.890	6317.47	271.04	-104.88	504.30	1623861.88	335632.64	39°24'49.888"N	80°49'52.826"W	515.09	101.748	11.16	10.21	4.83
6664.00	82.340	157.500	6336.17	358.78	-185.35	539.77	1623897.34	335552.11	39°24'49.077"N	80°49'52.359"W	570.70	108.952	10.65	9.66	2.90
6754.00	86.550	159.630	6344.88	448.31	-268.71	572.49	1623930.06	335468.82	39°24'48.278"N	80°49'51.926"W	632.41	115.144	5.24	4.68	2.37
6843.00	90.000	160.080	6347.56	537.25	-352.21	603.12	1623960.69	335385.32	39°24'47.458"N	80°49'51.520"W	698.43	120.284	3.91	3.88	0.51
6933.00	90.490	160.400	6347.18	627.25	-436.91	633.55	1623991.11	335300.62	39°24'46.625"N	80°49'51.116"W	769.59	124.591	0.65	0.54	0.36
7023.00	91.020	159.810	6346.00	716.24	-520.59	663.83	1624021.40	335216.94	39°24'45.803"N	80°49'50.715"W	843.62	128.104	0.89	0.60	-0.66
7113.00	90.150	157.590	6345.09	806.21	-604.44	696.52	1624054.08	335133.11	39°24'44.979"N	80°49'50.282"W	922.22	130.951	2.65	0.97	-2.47
7203.00	90.030	156.640	6344.95	895.09	-686.42	731.14	1624088.70	335051.12	39°24'44.174"N	80°49'49.826"W	1002.87	133.193	1.10	-0.13	-1.09
7293.00	89.820	155.580	6345.69	984.90	-768.80	767.38	1624124.93	334968.75	39°24'43.365"N	80°49'49.349"W	1086.24	135.053	1.38	-1.12	-0.80
7383.00	88.830	154.700	6347.36	1073.71	-850.38	802.91	1624160.46	334887.17	39°24'42.564"N	80°49'48.881"W	1169.53	136.645	1.29	-0.21	1.27
7473.00	88.890	153.800	6349.15	1163.62	-933.64	837.04	1624196.60	334803.92	39°24'41.746"N	80°49'48.430"W	1253.92	138.122	1.50	0.07	1.50
7563.00	88.920	152.600	6350.87	1253.59	-1017.90	868.60	1624226.15	334719.66	39°24'40.918"N	80°49'48.012"W	1338.13	139.525	2.42	0.03	2.42
7653.00	88.920	151.400	6352.55	1342.52	-1102.45	896.30	1624255.85	334635.12	39°24'40.086"N	80°49'47.644"W	1420.83	140.889	2.92	0.00	2.92
7743.00	88.920	150.200	6353.38	1432.34	-1188.79	921.69	1624279.24	334548.73	39°24'39.237"N	80°49'47.304"W	1504.24	142.214	1.59	1.23	1.01
7833.00	88.920	149.000	6353.30	1522.11	-1275.35	946.34	1624303.89	334462.23	39°24'38.385"N	80°49'46.973"W	1588.11	143.424	0.07	0.03	0.07
7923.00	88.920	147.800	6353.37	1610.92	-1360.78	971.31	1624328.85	334376.81	39°24'37.545"N	80°49'46.639"W	1671.87	144.481	0.97	-0.24	-0.94
8013.00	88.940	160.170	6353.54	1700.87	-1446.23	999.52	1624357.06	334291.36	39°24'36.721"N	80°49'46.264"W	1758.01	145.351	3.47	0.10	-3.47

WV Department of  
Natural Resources

01/27/2017



# Actual Wellpath Report

SHR-3D-HS AWP Proj: 15610'  
Page 5 of 9



## REFERENCE WELLPATH IDENTIFICATION

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

## WELLPATH DATA (176 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]
8097.00	90.250	155.780	6353.39	1789.79	-1528.71	1032.89	1624390.43	334208.88	39°24'35.894"N	80°49'45.823"W	1844.94	145.955	4.94	0.35	-4.93
8187.00	89.970	154.330	6353.22	1879.45	-1610.32	1070.84	1624428.38	334127.28	39°24'35.093"N	80°49'45.324"W	1933.86	146.377	1.64	-0.31	-1.61
8276.00	90.280	156.320	6353.02	1968.15	-1691.18	1108.00	1624465.53	334046.42	39°24'34.299"N	80°49'44.836"W	2021.82	146.769	2.26	0.35	2.24
8366.00	90.310	158.710	6352.56	2058.06	-1774.34	1142.41	1624499.95	333963.27	39°24'33.483"N	80°49'44.382"W	2110.30	147.224	2.66	0.03	2.66
8455.00	90.340	160.360	6352.06	2147.05	-1857.71	1173.53	1624531.36	333879.90	39°24'32.667"N	80°49'43.970"W	2197.33	147.719	1.85	0.03	1.85
8545.00	90.680	159.880	6351.26	2237.05	-1942.35	1204.13	1624561.67	333795.27	39°24'31.831"N	80°49'43.564"W	2285.31	148.204	0.65	0.38	-0.33
8634.00	90.770	158.550	6350.13	2326.03	-2025.55	1235.71	1624593.24	333712.07	39°24'31.014"N	80°49'43.146"W	2372.72	148.614	1.50	0.10	-1.49
8723.00	90.740	159.540	6348.96	2415.01	-2108.65	1267.54	1624625.07	333628.97	39°24'30.197"N	80°49'42.725"W	2460.30	148.989	1.11	-0.03	1.11
8813.00	90.310	159.830	6348.13	2505.00	-2193.05	1298.78	1624656.31	333544.58	39°24'29.368"N	80°49'42.311"W	2548.78	149.365	0.58	-0.48	0.32
8903.00	90.150	161.650	6347.77	2594.99	-2278.01	1328.47	1624686.00	333459.63	39°24'28.532"N	80°49'41.917"W	2637.07	149.751	2.03	0.18	2.02
8992.00	90.340	164.010	6347.39	2683.87	-2363.03	1354.74	1624712.26	333374.60	39°24'27.696"N	80°49'41.566"W	2723.83	150.174	2.66	0.21	2.65
9081.00	90.120	162.550	6347.03	2772.73	-2448.27	1380.34	1624737.87	333289.37	39°24'26.857"N	80°49'41.224"W	2810.58	150.586	1.66	-0.25	-1.64
9171.00	90.000	161.490	6346.94	2862.67	-2533.87	1408.12	1624765.65	333203.78	39°24'26.015"N	80°49'40.854"W	2898.85	150.938	1.19	-0.13	-1.18
9260.00	90.030	161.880	6346.91	2951.64	-2618.29	1436.31	1624793.83	333119.36	39°24'25.185"N	80°49'40.479"W	2986.38	151.252	0.11	0.03	0.10
9350.00	89.910	160.830	6346.96	3041.62	-2703.49	1465.31	1624822.83	333034.17	39°24'24.357"N	80°49'40.093"W	3075.06	151.542	0.84	0.13	-0.83
9439.00	89.630	160.580	6347.32	3130.61	-2787.49	1494.72	1624852.24	332950.17	39°24'23.522"N	80°49'39.703"W	3162.95	151.799	0.42	-0.31	-0.28
9529.00	89.820	160.970	6347.75	3220.60	-2872.47	1524.35	1624881.87	332865.20	39°24'22.686"N	80°49'39.309"W	3251.88	152.046	0.48	0.21	0.43
9619.00	89.850	161.190	6348.01	3310.58	-2957.61	1553.53	1624911.05	332780.06	39°24'21.849"N	80°49'38.922"W	3340.79	152.289	0.25	0.03	0.24
9708.00	89.600	160.150	6348.37	3399.57	-3041.59	1582.99	1624940.51	332696.09	39°24'21.023"N	80°49'38.531"W	3428.87	152.505	1.18	-0.18	-1.17
9798.00	90.000	163.940	6348.61	3489.50	-3127.19	1610.73	1624968.24	332611.49	39°24'20.182"N	80°49'38.161"W	3517.64	152.748	4.23	0.34	4.21
9888.00	89.800	164.910	6348.66	3578.23	-3212.92	1634.63	1624992.14	332524.76	39°24'19.338"N	80°49'37.841"W	3604.84	153.035	1.09	-0.07	1.09
9978.00	90.000	164.090	6348.71	3667.96	-3299.65	1658.68	1625016.19	332438.04	39°24'18.484"N	80°49'37.518"W	3693.09	153.312	0.91	0.07	-0.91
10068.00	90.000	165.020	6348.22	3757.67	-3386.39	1682.65	1625040.16	332351.30	39°24'17.630"N	80°49'37.196"W	3781.40	153.578	1.24	0.69	1.03
10158.00	90.000	164.570	6347.21	3846.35	-3472.27	1705.99	1625063.49	332265.43	39°24'16.785"N	80°49'36.883"W	3868.73	153.834	0.51	0.07	-0.51
10248.00	91.000	160.210	6345.78	3936.24	-3558.02	1733.21	1625090.71	332179.68	39°24'15.942"N	80°49'36.528"W	3957.72	154.028	4.87	0.51	4.84
10338.00	92.000	160.550	6343.32	4025.15	-3640.72	1765.98	1625123.48	332096.99	39°24'15.129"N	80°49'36.087"W	4046.42	154.124	4.23	1.00	4.11
10428.00	89.800	164.990	6341.82	4114.89	-3722.77	1802.91	1625160.41	332014.94	39°24'14.324"N	80°49'35.601"W	4136.36	154.159	2.95	-2.39	-1.73
10518.00	90.000	154.510	6341.91	4203.51	-3803.26	1840.87	1625198.37	331934.45	39°24'13.524"N	80°49'35.103"W	4225.35	154.172	0.56	0.13	-0.54
10608.00	89.600	156.170	6342.20	4293.21	-3885.05	1878.42	1625235.92	331852.67	39°24'12.731"N	80°49'34.609"W	4315.33	154.196	1.89	-0.41	1.84
10698.00	89.970	160.700	6342.51	4382.16	-3967.80	1911.12	1625268.62	331769.95	39°24'11.918"N	80°49'34.177"W	4404.07	154.282	5.10	0.38	5.09

01/27/2017



# Actual Wellpath Report

SHR-3D-HS AWP Proj: 15610'  
Page 6 of 9



## REFERENCE WELLPATH IDENTIFICATION

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

## WELLPATH DATA (176 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]
10783.00	90.000	162.780	6342.53	4472.11	-4053.26	1939.32	1625296.82	331684.47	39°24'11.078"N	80°49'33.801"W	4493.32	154.431	2.31	0.03	2.31
10873.00	90.060	161.660	6342.49	4562.04	-4138.96	1966.80	1625324.30	331598.77	39°24'10.235"N	80°49'33.435"W	4582.50	154.583	1.25	0.07	-1.24
10962.00	90.030	159.190	6342.42	4651.03	-4222.81	1996.62	1625354.11	331514.93	39°24'09.410"N	80°49'33.040"W	4671.04	154.694	2.78	-0.03	-2.78
11052.00	90.490	155.400	6342.01	4740.91	-4305.82	2031.35	1625388.84	331431.92	39°24'08.595"N	80°49'32.582"W	4760.93	154.744	4.24	0.51	-4.21
11141.00	90.180	152.210	6341.45	4829.38	-4385.67	2070.63	1625428.12	331352.00	39°24'07.812"N	80°49'32.066"W	4849.91	154.726	3.60	0.35	-3.58
11231.00	90.000	155.590	6341.35	4918.86	-4466.48	2110.22	1625467.71	331271.27	39°24'07.019"N	80°49'31.547"W	4939.89	154.711	3.76	-0.20	3.76
11321.00	89.690	156.910	6341.59	5008.66	-4548.86	2146.47	1625503.95	331188.90	39°24'06.210"N	80°49'31.070"W	5029.85	154.739	1.51	-0.34	1.47
11410.00	89.510	158.880	6342.21	5097.60	-4631.31	2179.96	1625537.44	331106.45	39°24'05.400"N	80°49'30.628"W	5118.71	154.794	2.22	-0.20	2.21
11500.00	89.320	161.710	6343.13	5187.58	-4716.03	2210.30	1625567.78	331021.74	39°24'04.567"N	80°49'30.225"W	5208.29	154.889	3.15	-0.21	3.14
11589.00	89.630	165.180	6343.95	5276.40	-4801.32	2235.65	1625593.13	330936.45	39°24'03.728"N	80°49'29.386"W	5296.30	155.032	3.91	0.35	3.90
11679.00	89.540	163.580	6344.60	5366.13	-4887.99	2259.88	1625617.36	330849.79	39°24'02.875"N	80°49'29.561"W	5385.12	155.187	1.78	-0.10	-1.78
11769.00	90.000	162.360	6344.96	5456.01	-4974.04	2286.24	1625643.72	330763.74	39°24'02.029"N	80°49'29.210"W	5474.30	155.315	1.45	0.51	-1.36
11858.00	90.000	161.940	6344.96	5544.95	-5058.76	2313.52	1625671.00	330679.03	39°24'01.195"N	80°49'28.846"W	5562.68	155.424	0.47	0.00	-0.47
11948.00	90.340	164.100	6344.69	5634.82	-5144.83	2339.80	1625697.28	330592.96	39°24'00.349"N	80°49'28.495"W	5651.90	155.545	2.43	0.38	2.40
12037.00	90.280	162.660	6344.21	5723.66	-5230.11	2365.26	1625722.73	330507.64	39°23'59.511"N	80°49'28.155"W	5740.08	155.666	1.62	-0.07	-1.62
12127.00	90.400	160.160	6343.68	5813.62	-5315.40	2393.95	1625751.42	330422.40	39°23'58.671"N	80°49'27.774"W	5829.62	155.754	2.78	0.13	-2.78
12216.00	90.000	156.900	6343.37	5902.58	-5398.21	2426.52	1625783.99	330339.59	39°23'57.857"N	80°49'27.343"W	5918.51	155.796	3.69	-0.45	-3.66
12306.00	90.060	154.880	6343.32	5992.34	-5480.36	2463.28	1625820.75	330257.45	39°23'57.051"N	80°49'26.859"W	6008.50	155.797	2.25	0.07	-2.24
12396.00	89.940	152.640	6343.32	6081.81	-5561.08	2503.07	1625860.53	330176.73	39°23'56.259"N	80°49'26.338"W	6098.44	155.767	2.49	-0.13	-2.49
12486.00	89.000	155.980	6343.44	6171.35	-5642.17	2542.08	1625899.54	330095.65	39°23'55.463"N	80°49'25.825"W	6188.40	155.746	3.71	0.03	3.71
12576.00	89.990	160.350	6343.53	6260.28	-5724.77	2575.17	1625932.63	330013.06	39°23'54.652"N	80°49'25.388"W	6277.30	155.780	4.91	0.07	4.91
12666.00	90.000	160.990	6343.46	6350.28	-5809.69	2604.97	1625962.42	329928.13	39°23'53.817"N	80°49'24.993"W	6366.97	155.849	0.73	0.17	0.71
12756.00	89.940	159.100	6343.39	6439.27	-5893.35	2635.34	1625992.79	329844.49	39°23'52.995"N	80°49'24.590"W	6455.74	155.907	2.13	-0.17	-2.12
12846.00	89.600	157.200	6343.68	6529.22	-5976.88	2668.83	1626026.29	329760.96	39°23'52.174"N	80°49'24.148"W	6545.66	155.938	2.14	-0.34	-2.11
12936.00	90.000	154.290	6343.90	6618.12	-6058.94	2703.28	1626060.74	329678.90	39°23'51.368"N	80°49'23.694"W	6634.64	155.955	0.45	0.45	0.06
13026.00	90.000	154.290	6343.49	6707.86	-6141.00	2740.22	1626097.67	329596.85	39°23'50.562"N	80°49'23.208"W	6724.63	155.953	3.32	0.44	-3.29
13116.00	90.000	152.480	6342.94	6796.26	-6220.56	2780.09	1626137.53	329517.29	39°23'49.782"N	80°49'22.685"W	6813.54	155.919	2.05	-0.24	-2.03
13206.00	89.860	157.290	6343.01	6885.88	-6302.03	2818.27	1626175.72	329435.82	39°23'48.982"N	80°49'22.184"W	6903.49	155.906	5.38	-0.66	5.34
13296.00	89.940	160.500	6343.54	6974.85	-6385.05	2850.32	1626207.76	329352.81	39°23'48.167"N	80°49'21.760"W	6992.36	155.944	3.61	0.00	3.61
13386.00	89.940	161.310	6344.16	7064.85	-6470.09	2879.76	1626237.20	329267.77	39°23'47.330"N	80°49'21.345"W	7082.03	156.007	0.91	-0.13	0.90

JAN 17 2017  
Environmental Protection  
01/27/2017



# Actual Wellpath Report

SHR-3D-HS AWP Proj: 15610'  
Page 7 of 9



## REFERENCE WELLPATH IDENTIFICATION

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

## WELLPATH DATA (176 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]
13471.00	89.480	162.930	6344.93	7154.76	-6555.74	2907.39	1626264.83	329182.13	39°23'46.488"N	80°49'21.001"W	7171.51	156.083	1.80	-0.07	1.80
13560.00	90.030	162.150	6345.31	7243.67	-6640.64	2934.09	1626291.53	329097.24	39°23'45.653"N	80°49'20.645"W	7259.95	156.162	1.07	0.62	-0.88
13650.00	90.090	164.130	6345.22	7333.54	-6726.76	2960.19	1626317.63	329011.11	39°23'44.806"N	80°49'20.297"W	7349.29	156.248	2.20	0.17	2.20
13739.00	90.250	163.580	6344.96	7422.33	-6812.25	2984.94	1626342.38	328925.63	39°23'43.964"N	80°49'19.965"W	7437.52	156.338	0.64	0.18	-0.62
13829.00	90.520	164.190	6344.35	7512.12	-6898.71	3009.92	1626367.36	328839.17	39°23'43.111"N	80°49'19.631"W	7526.74	156.428	0.74	0.30	0.68
13919.00	90.490	163.450	6343.56	7601.92	-6985.14	3035.00	1626392.43	328752.75	39°23'42.263"N	80°49'19.295"W	7616.00	156.515	0.82	-0.03	-0.82
14008.00	90.490	162.070	6342.80	7690.81	-7070.14	3061.37	1626418.81	328667.75	39°23'41.427"N	80°49'18.944"W	7704.47	156.587	1.55	0.00	-1.55
14098.00	90.920	160.800	6341.69	7780.77	-7155.45	3090.02	1626447.46	328582.45	39°23'40.588"N	80°49'18.563"W	7794.15	156.643	1.49	0.48	-1.41
14187.00	90.430	163.860	6340.64	7869.68	-7240.23	3117.03	1626474.46	328497.67	39°23'39.754"N	80°49'18.203"W	7882.70	156.707	3.48	-0.55	3.44
14277.00	90.550	164.550	6339.87	7959.44	-7326.83	3141.53	1626498.96	328411.08	39°23'38.907"N	80°49'17.875"W	7971.93	156.792	0.78	0.13	0.77
14367.00	90.400	162.820	6339.13	8049.24	-7413.20	3166.81	1626524.24	328324.71	39°23'38.052"N	80°49'17.536"W	8061.28	156.869	1.93	-0.17	-1.92
14456.00	90.370	158.710	6338.53	8138.22	-7497.21	3196.13	1626553.55	328240.70	39°23'37.226"N	80°49'17.147"W	8150.06	156.911	4.62	-0.03	-4.62
14546.00	90.280	157.430	6338.02	8228.16	-7580.70	3229.74	1626587.16	328157.22	39°23'36.406"N	80°49'16.704"W	8240.04	156.924	1.43	-0.10	-1.42
14635.00	89.820	157.310	6337.94	8317.07	-7662.85	3263.98	1626621.40	328075.08	39°23'35.599"N	80°49'16.252"W	8329.03	156.928	0.53	-0.52	-0.13
14725.00	89.850	156.300	6338.20	8406.95	-7745.57	3295.43	1626656.85	327992.36	39°23'34.787"N	80°49'15.765"W	8419.03	156.927	1.12	0.03	-1.12
14815.00	89.510	158.540	6338.70	8496.83	-7828.66	3333.98	1626691.40	327909.27	39°23'33.970"N	80°49'15.330"W	8509.02	156.932	2.52	-0.38	2.49
14904.00	89.850	160.640	6339.20	8585.82	-7912.07	3365.02	1626722.44	327825.87	39°23'33.151"N	80°49'14.919"W	8597.92	156.960	2.39	0.38	2.36
14994.00	89.970	161.610	6339.34	8675.80	-7997.23	3394.13	1626751.55	327740.72	39°23'32.313"N	80°49'14.532"W	8687.68	157.003	1.09	0.13	1.08
15083.00	90.000	163.150	6339.36	8764.72	-8082.05	3421.07	1626778.49	327655.90	39°23'31.479"N	80°49'14.173"W	8776.29	157.057	1.73	0.03	1.73
15173.00	90.650	163.770	6338.85	8854.55	-8168.33	3446.69	1626804.11	327569.63	39°23'30.630"N	80°49'13.830"W	8865.73	157.122	1.00	0.74	0.69
15263.00	90.550	163.560	6337.92	8943.37	-8253.73	3471.72	1626829.14	327484.23	39°23'29.790"N	80°49'13.496"W	8954.16	157.187	0.26	-0.11	-0.24
15353.00	90.520	163.100	6337.08	9033.32	-8338.97	3500.53	1626857.94	327399.00	39°23'28.952"N	80°49'13.113"W	9043.90	157.228	4.96	-0.03	-4.96
15442.00	90.920	163.000	6335.95	9123.17	-8421.83	3535.58	1626892.99	327316.14	39°23'28.138"N	80°49'12.651"W	9133.87	157.227	4.53	0.44	-4.51
15532.00	89.550	163.000	6336.29	9212.69	-8502.78	3574.89	1626932.29	327235.19	39°23'27.344"N	80°49'12.135"W	9223.73	157.196	3.27	-2.52	-2.09
15585.00	88.800	163.000	6337.47	9265.44	-8550.69	3597.50	1626954.90	327187.28	39°23'26.873"N	80°49'11.838"W	9276.66	157.182	5.95	0.28	5.94
15610.00	88.800	163.000	6337.99	9290.38	-8573.58	3607.54	1626964.95	327164.39	39°23'26.649"N	80°49'11.706"W	9301.65	157.180	0.00	0.00	0.00



2017

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# Actual Wellpath Report

SHR-3D-HS AWP Proj: 15610'  
Page 8 of 9



## REFERENCE WELLPATH IDENTIFICATION

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

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SHR-3D-HS BHL Rev-1		6348.00	-8580.35	3592.21	1626949.61	327157.63	39°23'26.579"N	80°49'11.900"W	point
SHR-3D-HS LP Rev-1		6348.00	-325.01	587.50	1623945.07	335412.52	39°24'47.724"N	80°49'51.724"W	point

## WELLPATH COMPOSITION - Ref Wellbore: SHR-3D-HS AWB Ref Wellpath: SHR-3D-HS AWP Proj: 15610'

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-3D-HS AWB
2118.50	5009.00	NaviTrak (MagCorr)	02 BHL MWD <8-3/4"> (2118.5')(2221'-5009')	SHR-3D-HS AWB
5009.00	15585.00	NaviTrak (AT Curve Short Spaced)	03 BHL AT Curve <8-3/4"> (3009')(5097'-15585')	SHR-3D-HS AWB
15585.00	15610.00	Blind Drilling (std)	Projection to bit	SHR-3D-HS AWB

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# Actual Wellpath Report

SHR-3D-HS AWP Proj: 15610'

Page 9 of 9



## REFERENCE WELLPATH IDENTIFICATION

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

## COMMENTS

Wellpath general comments  
 API: 47-095-02195-0000  
 BHI Job #: 7024729  
 Rig: Precision 542  
 Duration: 3/24/2015-3/30/2015  
 MS Gyro <12-1/4"> (100'-2100')  
 BHI MWD <8-3/4"> (2118.5')(2221'-5009')  
 BHI AT Curve <8-3/4"> (5009')(5097'-15585')  
 Projected MD at TD: 15610'

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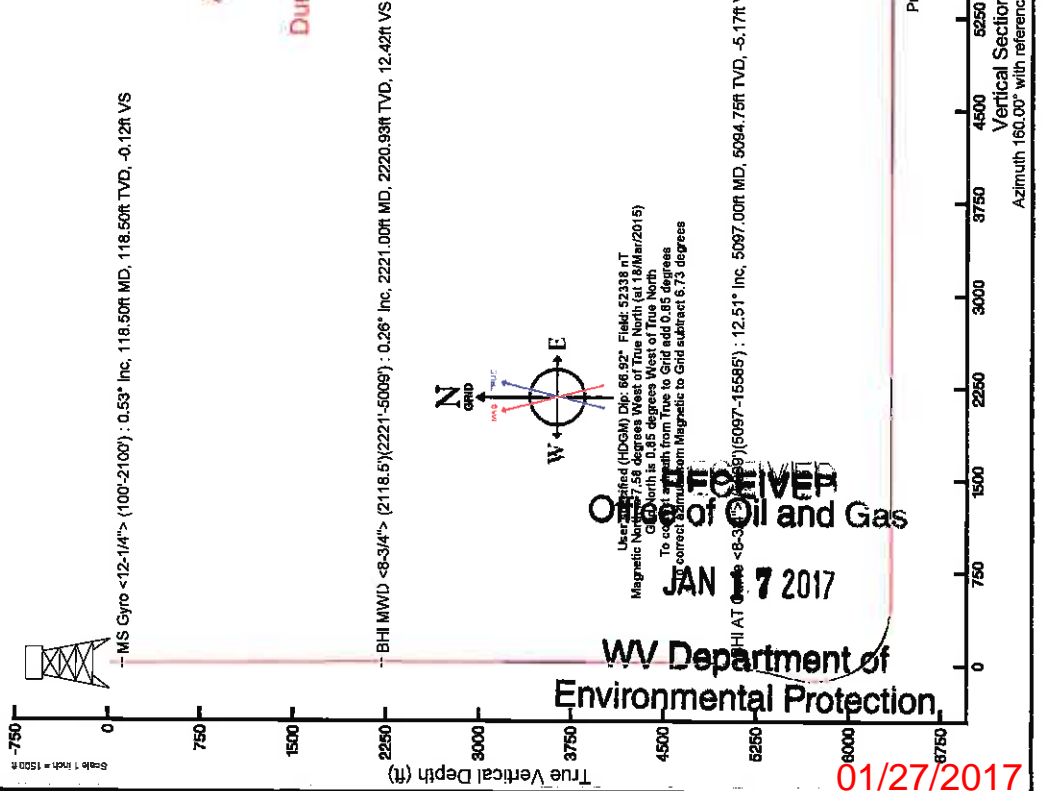


# NOBLE ENERGY

Location: Tyler County, WV  
 Field: Tyler  
 Facility: SHR-3 Pad  
 Slot: Slot D  
 Well: SHR-3D-HS  
 Wellbore: SHR-3D-HS PWB



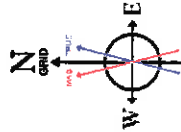
Pit reference well path is SHR-3D-HS PWB Rev A-D		Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (47N), US Feet	
True vertical depths are referenced to Precision 542 (RKB)		North Reference: Grid north	
Measured depths are referenced to Precision 542 (RKB)		Scale: True distance	
Precision 542 (RKB) to Julian Sea Level: 770.57 feet		Depth: see below	
Mean Sea Level to Mud line (At Slot: Slot D): -752.07 feet		Created by software on 06/04/2015	
Coordinates are in feet referenced to slot			
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
SHR-3 Pad	1623298.030	395749.440	80°50'06.030"W
Slot	Local E (ft)	Grid North (US ft)	Latitude
Slot D	-5.99	395737.510	80°49'56.270"W
Precision 542 (RKB) to Mud line (At Slot: Slot D)		15.58'	
Mean Sea Level to Mud line (At Slot: Slot D)		-752.07'	
Precision 542 (RKB) to Mean Sea Level		770.57'	



-- MS Gyro <12-1/4"> (100°-2100') : 0.53° Inc, 118.50R MD, 118.50R TVD, -0.12R VS

-- BHI MWD <8-3/4"> (2118.5')(2221'-5009') : 0.26° Inc, 2221.00R MD, 2220.99R TVD, 12.42R VS

API: 47-095-02195-0000  
 BHI Job #: 7024729  
 Rig: Precision 542  
 Duration: 3/24/2015-3/30/2015



User defined (HDGM) Dip: 66.92° Field: 52338 nT  
 Magnetic North: 7.56 degrees West of True North (at 18/Mar/2015)  
 Grid North is 0.85 degrees West of True North  
 To correct alignment from True to Grid add 0.85 degrees  
 To correct alignment from Magnetic to Grid subtract 6.73 degrees

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