

# Actual Wellpath Report

WEB-22K-HS (PWP) Proj: 13125'

Page 1 of 7



### REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot K
Area	Marshall County, WV	Well	WEB-22K-HS
Field	Marshall	Wellbore	WEB-22K-HS (PWB)
Facility	WEB-22 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	0.999954	Report Generated	22/Jul/2014 at 14:36
Convergence at slot	0.65° West	Database/Source file	WA_Pennsylvania/WEB-22K-HS_PWB_.xml

### WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North(ft)	East(ft)	Easting(US ft)	Northing(US ft)	Latitude	Longitude
Slot Location	-56.24	27.90	1713953.71	519796.30	39°55'21.594"N	80°31'11.611"W
Facility Reference Pt			1713925.81	519852.54	39°55'22.147"N	80°31'11.977"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 (RT) to Facility Vertical Datum	18.60ft
Horizontal Reference Pt	Slot	Precision 542 (RT) to Mean Sea Level	1343.60ft
Vertical Reference Pt	Precision 542 (RT)	Precision 542 (RT) to Mud Line at Slot (Slot K)	18.60ft
MD Reference Pt	Precision 542 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	145.00°

Received

APR 20 2015

Office of Oil and Gas  
WV Dept. of Environmental Protection

06/12/2015





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Page 2 of 7



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot K
NOBLE ENERGY	WEB-22K-HS	WEB-22K-HS
Area	Marshall County, WV	
Field	Marshall	
Facility	WEB-22 Pad	

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]
0.001	0.000	330.230	0.00	0.00	0.00	0.00	1713953.71	519796.30	39°55'21.594"N	80°31'11.611"W	0.00	0.000	0.00
18.60	0.000	330.230	18.60	0.00	0.00	0.00	1713953.71	519796.30	39°55'21.594"N	80°31'11.611"W	0.00	0.000	0.00
52.00	0.430	330.230	52.00	0.11	-0.06	0.11	1713953.65	519796.41	39°55'21.595"N	80°31'11.612"W	0.13	330.230	1.29
148.00	0.790	100.60	147.99	-0.95	-0.13	1.07	1713953.58	519797.37	39°55'21.604"N	80°31'11.612"W	1.08	353.330	0.56
246.00	1.040	354.850	245.98	-2.20	-0.09	2.62	1713953.62	519798.92	39°55'21.620"N	80°31'11.612"W	2.63	358.094	0.35
320.00	0.790	9.090	319.97	-3.15	3.80	-3.15	1713953.64	519800.10	39°55'21.631"N	80°31'11.612"W	3.80	358.989	0.45
402.00	0.660	25.790	401.97	-3.79	4.78	0.23	1713953.94	519801.08	39°55'21.641"N	80°31'11.609"W	4.79	2.728	0.30
406.00	0.000	0.000	405.97	-3.80	4.80	0.24	1713953.95	519801.10	39°55'21.641"N	80°31'11.608"W	4.81	2.836	16.50
429.00	0.530	73.970	428.97	-3.76	4.83	0.34	1713954.05	519801.13	39°55'21.642"N	80°31'11.607"W	4.84	4.027	2.30
491.00	1.400	204.080	490.96	-3.28	4.22	0.31	1713954.02	519800.52	39°55'21.636"N	80°31'11.607"W	4.23	4.158	2.88
521.00	2.080	227.570	520.95	-3.02	3.52	-0.24	1713953.47	519799.82	39°55'21.629"N	80°31'11.614"W	3.52	356.018	3.24
552.00	2.820	226.940	551.92	-2.84	2.62	-1.22	1713952.49	519798.92	39°55'21.620"N	80°31'11.627"W	2.89	335.046	2.39
582.00	2.870	222.450	581.88	-2.57	1.56	-2.26	1713951.45	519797.86	39°55'21.609"N	80°31'11.640"W	2.75	304.538	0.76
612.00	2.890	211.990	611.84	-2.12	0.36	-3.17	1713950.54	519796.66	39°55'21.597"N	80°31'11.651"W	3.19	276.515	1.75
645.00	3.200	190.190	644.80	-1.14	-1.25	-3.77	1713949.94	519795.05	39°55'21.581"N	80°31'11.659"W	3.98	251.676	3.61
677.00	2.970	176.650	676.75	0.19	-2.96	-3.88	1713949.83	519793.34	39°55'21.564"N	80°31'11.660"W	4.88	232.720	2.38
709.00	3.350	165.450	708.70	1.78	-4.69	-3.60	1713950.11	519791.61	39°55'21.547"N	80°31'11.656"W	5.91	217.520	2.26
740.00	2.740	163.550	739.66	3.33	-6.28	-3.16	1713950.55	519790.02	39°55'21.531"N	80°31'11.650"W	7.03	206.748	1.99
771.00	2.110	163.730	770.63	4.57	-7.54	-2.79	1713950.92	519788.77	39°55'21.519"N	80°31'11.645"W	8.04	200.343	2.03
803.00	1.170	149.050	802.62	5.45	-8.38	-2.46	1713951.25	519787.92	39°55'21.511"N	80°31'11.641"W	8.73	196.362	3.19
834.00	0.760	130.940	833.61	5.97	-8.79	-2.14	1713951.57	519787.51	39°55'21.507"N	80°31'11.637"W	9.04	193.703	1.63
866.00	0.960	40.910	865.61	6.11	-8.72	-1.81	1713951.90	519787.58	39°55'21.507"N	80°31'11.633"W	8.91	191.701	3.83
897.00	1.320	36.960	896.61	5.94	-8.24	-1.42	1713952.29	519788.06	39°55'21.512"N	80°31'11.628"W	8.36	189.789	1.19
929.00	2.180	30.630	928.59	5.57	-7.42	-0.89	1713952.82	519788.88	39°55'21.520"N	80°31'11.621"W	7.48	186.838	2.75
960.00	2.310	30.100	959.57	5.06	-6.38	-0.28	1713953.43	519789.92	39°55'21.531"N	80°31'11.613"W	6.38	182.483	0.42
992.00	1.980	25.700	991.54	4.52	-5.32	0.29	1713954.00	519790.98	39°55'21.541"N	80°31'11.606"W	5.33	176.916	1.15
1023.00	1.620	18.760	1022.53	4.00	-4.42	0.66	1713954.37	519791.88	39°55'21.550"N	80°31'11.602"W	4.47	171.514	1.36
1055.00	1.900	6.160	1054.51	3.33	-3.47	0.86	1713954.57	519792.83	39°55'21.560"N	80°31'11.599"W	3.57	166.032	1.49
1086.00	1.550	23.150	1085.50	2.73	-2.57	1.08	1713954.79	519793.73	39°55'21.569"N	80°31'11.596"W	2.79	157.165	1.99
1118.00	0.810	33.790	1117.49	2.42	-1.98	1.38	1713955.09	519794.32	39°55'21.574"N	80°31'11.593"W	2.42	145.217	2.40
1149.00	0.380	346.410	1148.49	2.24	-1.70	1.48	1713955.19	519794.60	39°55'21.577"N	80°31'11.592"W	2.25	139.073	2.00
1181.00	0.280	125.400	1180.49	2.22	-1.64	1.51	1713955.22	519794.66	39°55'21.578"N	80°31'11.591"W	2.24	137.350	1.93
1220.00	0.690	177.620	1219.49	2.50	-1.93	1.60	1713955.31	519794.37	39°55'21.575"N	80°31'11.590"W	2.51	140.364	1.45
1433.00	0.800	190.280	1432.47	4.63	-4.68	1.39	1713955.10	519791.62	39°55'21.548"N	80°31'11.592"W	4.88	163.454	0.09
1528.00	0.590	180.350	1527.46	5.50	-5.82	1.27	1713954.98	519790.48	39°55'21.536"N	80°31'11.594"W	5.96	167.704	0.25
1622.00	0.760	179.200	1621.46	6.41	-6.93	1.27	1713954.98	519789.37	39°55'21.526"N	80°31'11.593"W	7.04	169.577	0.18
1717.00	0.730	182.260	1716.45	7.17	-8.16	1.26	1713954.94	519788.14	39°55'21.513"N	80°31'11.594"W	8.26	171.229	0.05
1812.00	0.410	180.090	1811.45	8.11	-9.11	1.23	1713954.94	519787.19	39°55'21.504"N	80°31'11.594"W	9.19	172.278	0.34
1901.00	0.810	169.720	1900.44	9.00	-10.04	1.35	1713955.06	519786.26	39°55'21.495"N	80°31'11.592"W	10.13	172.364	0.46
1981.00	1.060	186.630	1990.43	10.08	-11.34	1.38	1713955.09	519784.96	39°55'21.482"N	80°31'11.591"W	11.43	173.051	0.28
2081.00	1.010	165.700	2080.42	11.33	-12.78	1.50	1713955.21	519783.52	39°55'21.468"N	80°31'11.590"W	12.87	173.305	0.41
2170.00	0.940	167.750	2169.41	12.74	-14.25	1.85	1713955.56	519782.05	39°55'21.453"N	80°31'11.585"W	14.37	172.610	0.09
2240.00	0.840	153.360	2239.40	14.07	-15.57	2.30	1713956.01	519780.74	39°55'21.440"N	80°31'11.579"W	15.73	170.590	0.27
2349.00	0.740	169.900	2348.39	15.24	-16.71	2.69	1713956.40	519779.59	39°55'21.429"N	80°31'11.574"W	16.93	170.842	0.28
2439.00	0.620	191.550	2438.38	16.10	-17.76	2.70	1713956.41	519778.54	39°55'21.419"N	80°31'11.574"W	17.97	171.361	0.31

06/12/2015



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Page 3 of 7

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Operator	NOBLE ENERGY	Slot	Slot K
Area	Marshall County, WV	Well	WEB-22K-HS
Field	Marshall	Wellbore	WEB-22K-HS (PWB)
Facility	WEB-22 Pad		

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]
2528.00	0.670	194.690	2527.37	16.77	-18.74	2.47	1713956.18	519777.56	39°55'21.409"N	80°31'11.576"W	18.90	172.489	0.07
2617.00	0.530	182.920	2616.37	17.43	-19.65	2.32	1713956.03	519776.65	39°55'21.400"N	80°31'11.578"W	19.79	173.274	0.21
2707.00	0.470	341.060	2706.37	17.40	-19.72	2.18	1713955.89	519776.58	39°55'21.399"N	80°31'11.583"W	19.84	173.701	1.09
2797.00	0.560	347.290	2796.37	16.64	-18.94	1.96	1713955.67	519777.36	39°55'21.407"N	80°31'11.583"W	19.04	174.092	0.12
2886.00	0.650	356.350	2885.36	15.81	-18.01	1.83	1713955.54	519778.29	39°55'21.416"N	80°31'11.585"W	18.11	174.192	0.15
2975.00	0.690	352.920	2974.35	14.90	-16.98	1.73	1713955.44	519779.32	39°55'21.426"N	80°31'11.586"W	17.07	174.168	0.06
3065.00	0.650	344.430	3064.35	13.94	-15.95	1.53	1713955.24	519780.35	39°55'21.436"N	80°31'11.589"W	16.02	174.519	0.12
3154.00	0.520	2.640	3153.34	13.15	-15.06	1.41	1713955.12	519781.24	39°55'21.445"N	80°31'11.590"W	15.12	174.638	0.25
3244.00	0.590	358.500	3243.34	12.44	-14.19	1.42	1713955.13	519782.11	39°55'21.454"N	80°31'11.590"W	14.26	174.284	0.09
3334.00	0.520	351.500	3333.34	11.68	-13.32	1.35	1713955.06	519782.98	39°55'21.462"N	80°31'11.591"W	13.39	174.223	0.11
3359.00	0.490	2.220	3358.33	11.50	-13.10	1.33	1713955.01	519783.20	39°55'21.465"N	80°31'11.592"W	13.17	174.182	0.40
3497.00	0.400	287.320	3496.33	10.65	-12.37	0.90	1713954.64	519783.93	39°55'21.472"N	80°31'11.597"W	12.40	175.848	0.40
3587.00	0.480	293.570	3586.33	10.08	-12.12	0.25	1713953.96	519784.18	39°55'21.474"N	80°31'11.606"W	12.13	178.807	0.10
3677.00	0.770	316.100	3676.32	9.16	-11.54	-0.51	1713953.23	519784.76	39°55'21.480"N	80°31'11.616"W	11.55	182.543	0.42
3766.00	0.720	277.010	3765.32	8.19	-11.04	-1.48	1713952.23	519785.26	39°55'21.485"N	80°31'11.628"W	11.14	187.647	0.56
3856.00	0.850	312.610	3855.31	7.16	-10.52	-2.53	1713951.18	519785.78	39°55'21.490"N	80°31'11.642"W	10.82	193.550	0.55
3946.00	0.390	314.720	3945.30	6.21	-9.85	-3.24	1713950.47	519786.45	39°55'21.496"N	80°31'11.651"W	10.37	198.227	0.51
4035.00	0.660	312.690	4034.30	5.41	-9.29	-3.84	1713949.87	519787.01	39°55'21.502"N	80°31'11.659"W	10.05	202.437	0.30
4125.00	0.800	347.580	4124.29	4.32	-8.32	-4.35	1713949.36	519787.98	39°55'21.511"N	80°31'11.665"W	9.39	207.600	0.51
4214.00	0.590	326.490	4213.29	3.29	-7.34	-4.74	1713948.97	519788.97	39°55'21.521"N	80°31'11.670"W	8.73	212.862	0.37
4304.00	0.270	27.840	4303.28	2.64	-6.59	-4.80	1713948.91	519789.71	39°55'21.528"N	80°31'11.671"W	8.15	216.098	0.63
4394.00	0.360	355.610	4393.28	2.21	-5.94	-4.63	1713949.08	519790.36	39°55'21.535"N	80°31'11.669"W	7.54	217.940	0.32
4483.00	0.500	322.460	4482.28	1.58	-5.36	-4.89	1713948.82	519790.94	39°55'21.540"N	80°31'11.673"W	7.26	222.400	0.31
4573.00	0.410	301.630	4572.27	0.89	-4.88	-5.41	1713948.30	519791.42	39°55'21.545"N	80°31'11.679"W	7.28	227.940	0.21
4662.00	0.440	350.660	4661.27	0.29	-4.37	-5.73	1713947.98	519791.93	39°55'21.550"N	80°31'11.684"W	7.21	232.659	0.40
4752.00	0.570	350.360	4751.27	-0.42	-3.59	-5.86	1713947.85	519792.71	39°55'21.558"N	80°31'11.685"W	6.88	238.514	0.14
4841.00	0.550	311.020	4840.26	-1.24	-2.87	-6.26	1713947.45	519793.43	39°55'21.565"N	80°31'11.691"W	6.89	245.337	0.42
4931.00	2.610	270.460	4930.23	-2.84	-2.57	-8.64	1713945.08	519793.73	39°55'21.567"N	80°31'11.721"W	9.01	253.399	2.47
5021.00	4.400	257.020	5020.06	-5.33	-3.33	-14.05	1713939.66	519792.97	39°55'21.559"N	80°31'11.791"W	14.44	256.652	2.18
5110.00	8.200	255.890	5108.50	-8.87	-5.65	-23.53	1713930.18	519790.65	39°55'21.535"N	80°31'11.912"W	24.20	256.504	4.27
5200.00	12.230	254.160	5197.06	-14.29	-9.82	-38.94	1713914.78	519786.48	39°55'21.492"N	80°31'12.109"W	40.15	255.849	4.49
5318.00	15.710	269.150	5311.59	-27.37	-13.47	-66.95	1713886.76	519782.83	39°55'21.453"N	80°31'12.468"W	68.29	258.627	4.23
5408.00	24.350	275.210	5396.07	-46.23	-11.96	-97.67	1713856.04	519784.34	39°55'21.465"N	80°31'12.863"W	98.40	263.019	9.86
5497.00	32.910	273.810	5474.12	-73.27	-8.68	-140.15	1713813.57	519787.62	39°55'21.492"N	80°31'13.408"W	140.42	266.455	9.65
5587.00	44.640	272.660	5544.16	-108.04	-5.58	-196.33	1713757.39	519790.72	39°55'21.517"N	80°31'14.130"W	196.41	268.372	13.06
5676.00	47.250	274.140	5606.04	-147.78	-1.77	-260.17	1713693.56	519794.53	39°55'21.547"N	80°31'14.949"W	260.17	269.611	3.17
5766.00	45.870	274.930	5667.93	-189.37	3.39	-325.31	1713628.42	519799.69	39°55'21.591"N	80°31'15.786"W	325.33	271.362	1.66
5855.00	44.520	275.680	5730.64	-230.21	9.23	-388.18	1713565.55	519805.63	39°55'21.641"N	80°31'16.594"W	388.29	271.362	1.63
5945.00	42.910	276.000	5795.69	-270.88	15.55	-450.05	1713503.68	519811.85	39°55'21.697"N	80°31'17.389"W	450.32	271.979	1.81
6035.00	40.740	276.670	5861.72	-311.27	22.30	-510.83	1713442.90	519818.60	39°55'21.757"N	80°31'18.170"W	511.32	272.500	0.56
6124.00	40.840	272.500	5928.11	-349.06	27.08	-569.90	1713383.84	519823.37	39°55'21.797"N	80°31'18.929"W	570.54	272.720	3.76
6214.00	40.730	268.990	5996.27	-383.39	27.84	-628.66	1713325.08	519824.14	39°55'21.798"N	80°31'19.683"W	629.28	272.536	2.55
6303.00	40.790	270.880	6063.68	-416.67	27.78	-686.77	1713266.98	519824.08	39°55'21.791"N	80°31'20.429"W	687.33	272.316	1.39
6393.00	38.680	260.410	6132.97	-446.00	23.54	-743.96	1713209.78	519819.84	39°55'21.743"N	80°31'21.162"W	744.33	271.812	7.79
6483.00	34.390	248.550	6205.36	-464.05	9.53	-795.44	1713158.31	519805.83	39°55'21.599"N	80°31'21.821"W	795.50	270.687	9.16



# Actual Wellpath Report

WEB-22K-HS (PWP) Proj: 13125'

Page 4 of 7

## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot K
NOBLE ENERGY	WEB-22K-HS	WEB-22K-HS
Area	Well	Wellbore
Marshall County, WV	WEB-22K-HS (PWB)	
Field	Wellbore	
Facility	WEB-22 Pad	

## WELLPATH DATA (165 stations)

MD (ft)	Inclination (°)	Adimuth (°)	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)
6572.00	33.030	232.970	6279.53	-469.09	-14.31	-838.28	1713115.47	519781.99	39°55'21.358"N	80°31'22.367"W	838.40	269.022	9.81
6662.00	36.900	222.490	6353.34	-462.36	-49.05	-876.16	1713077.59	519747.25	39°55'21.011"N	80°31'22.848"W	877.53	266.796	7.93
6751.00	43.370	215.200	6421.38	-446.20	-93.80	-911.88	1713041.87	519702.51	39°55'20.564"N	80°31'23.300"W	916.69	264.127	8.97
6841.00	50.490	209.830	6482.83	-420.92	-149.26	-940.26	1713006.73	519647.05	39°55'20.012"N	80°31'23.743"W	958.71	261.043	9.03
6930.00	54.010	203.580	6537.34	-387.52	-212.10	-978.53	1712975.22	519584.21	39°55'19.388"N	80°31'24.138"W	1001.26	257.770	6.81
7020.00	55.860	196.590	6589.09	-345.36	-281.23	-1003.75	1712950.00	519515.08	39°55'18.702"N	80°31'24.452"W	1042.41	254.348	6.68
7110.00	55.860	187.850	6639.66	-294.85	-353.92	-1019.50	1712934.26	519442.40	39°55'17.982"N	80°31'24.643"W	1079.18	250.856	8.04
7199.00	55.900	178.080	6689.67	-236.87	-427.35	-1023.30	1712930.46	519368.97	39°55'17.256"N	80°31'24.681"W	1108.95	247.333	9.08
7289.00	57.810	168.820	6738.95	-170.70	-502.08	-1014.65	1712939.11	519294.25	39°55'16.518"N	80°31'24.559"W	1132.08	243.673	8.87
7378.00	57.840	159.490	6786.42	-99.67	-574.42	-994.12	1712959.64	519221.91	39°55'15.806"N	80°31'24.285"W	1148.14	239.980	8.87
7468.00	61.380	151.780	6831.99	-23.45	-645.01	-962.05	1712991.71	519151.32	39°55'15.112"N	80°31'23.863"W	1158.26	236.160	8.37
7558.00	70.520	149.070	6868.64	58.28	-716.37	-921.47	1713032.28	519079.97	39°55'14.411"N	80°31'23.332"W	1167.17	232.138	10.52
7647.00	80.730	148.420	6890.70	144.20	-789.97	-876.79	1713076.96	519006.37	39°55'13.689"N	80°31'22.748"W	1180.17	227.982	11.49
7737.00	89.910	148.600	6898.04	233.63	-866.37	-829.98	1713123.77	518929.97	39°55'12.939"N	80°31'22.136"W	1199.78	223.771	10.20
7826.00	89.320	145.010	6898.64	322.57	-940.84	-781.27	1713172.48	518855.51	39°55'12.209"N	80°31'21.500"W	1222.93	219.706	4.09
7916.00	90.150	141.510	6899.05	412.51	-1012.95	-727.44	1713226.61	518783.40	39°55'11.502"N	80°31'20.799"W	1247.09	215.684	4.00
8006.00	92.150	137.370	6897.25	502.05	-1081.29	-668.95	1713284.80	518715.06	39°55'10.833"N	80°31'20.038"W	1271.49	211.743	5.11
8095.00	92.120	133.990	6893.93	589.80	-1144.91	-606.82	1713346.92	518651.44	39°55'10.212"N	80°31'19.231"W	1295.78	207.924	3.80
8185.00	88.380	136.820	6893.38	678.52	-1208.98	-543.65	1713410.09	518587.38	39°55'09.586"N	80°31'18.411"W	1325.59	204.212	5.04
8275.00	88.430	141.040	6895.73	767.96	-1276.79	-484.55	1713469.18	518519.57	39°55'08.922"N	80°31'17.643"W	1365.65	200.782	4.69
8364.00	88.280	145.300	6898.29	856.86	-1347.99	-431.24	1713522.49	518448.38	39°55'08.225"N	80°31'16.949"W	1415.28	197.740	4.79
8454.00	88.650	145.610	6900.70	946.82	-1422.09	-380.22	1713573.51	518374.28	39°55'07.498"N	80°31'16.283"W	1472.04	194.969	0.54
8543.00	88.220	145.850	6903.13	1035.78	-1495.61	-330.12	1713623.60	518300.76	39°55'06.777"N	80°31'15.629"W	1531.61	192.447	0.55
8633.00	88.430	150.240	6905.76	1125.60	-1571.92	-282.52	1713671.20	518224.45	39°55'06.028"N	80°31'15.007"W	1597.11	190.189	4.88
8722.00	88.920	150.500	6907.82	1214.18	-1649.26	-238.53	1713715.19	518147.12	39°55'05.269"N	80°31'14.432"W	1666.42	188.230	0.62
8812.00	90.180	147.090	6908.52	1303.97	-1726.23	-191.91	1713761.81	518070.16	39°55'04.514"N	80°31'13.822"W	1736.86	186.344	4.04
8901.00	89.290	143.000	6908.94	1392.94	-1799.15	-140.93	1713812.78	517997.23	39°55'03.799"N	80°31'13.157"W	1804.67	184.479	4.70
8991.00	88.830	141.910	6910.41	1482.84	-1870.50	-86.10	1713867.62	517925.89	39°55'03.100"N	80°31'12.443"W	1872.48	182.635	1.31
9080.00	88.920	141.790	6912.16	1571.69	-1940.48	-31.13	1713922.58	517855.91	39°55'02.415"N	80°31'11.728"W	1940.73	180.919	0.17
9170.00	88.770	144.040	6913.97	1661.61	-2012.26	23.12	1713976.83	517784.14	39°55'01.711"N	80°31'11.021"W	2012.39	179.342	2.51
9260.00	89.350	146.130	6915.45	1751.59	-2086.04	74.63	1714028.33	517710.36	39°55'00.988"N	80°31'10.349"W	2087.38	177.951	2.41
9349.00	89.380	147.560	6916.44	1840.54	-2160.55	123.30	1714077.00	517635.86	39°55'00.257"N	80°31'09.714"W	2164.06	176.734	1.61
9439.00	89.540	147.140	6917.29	1930.46	-2236.32	171.85	1714125.55	517560.09	39°54'59.514"N	80°31'09.080"W	2242.91	175.606	0.50
9528.00	89.290	145.960	6918.19	2019.42	-2310.57	220.90	1714174.60	517485.84	39°54'58.786"N	80°31'08.439"W	2321.11	174.539	1.36
9618.00	89.380	145.780	6919.24	2109.40	-2385.07	271.40	1714225.09	517411.35	39°54'58.055"N	80°31'07.780"W	2400.46	173.508	0.22
9708.00	89.880	146.430	6920.24	2199.38	-2459.77	321.58	1714275.28	517336.65	39°54'57.322"N	80°31'07.126"W	2480.70	172.552	0.72
9797.00	89.570	146.770	6921.07	2288.34	-2534.07	370.58	1714324.27	517262.36	39°54'56.594"N	80°31'06.486"W	2561.02	171.680	0.46
9887.00	89.510	145.530	6921.80	2378.32	-2608.81	420.70	1714374.39	517187.62	39°54'55.861"N	80°31'05.832"W	2642.51	170.839	1.38
9977.00	89.770	145.670	6922.54	2468.31	-2688.06	471.55	1714425.36	517113.36	39°54'55.133"N	80°31'05.169"W	2724.19	170.032	0.16
10066.00	89.450	143.720	6923.33	2557.30	-2755.69	522.98	1714476.67	517040.74	39°54'54.421"N	80°31'04.498"W	2804.88	169.254	2.19
10156.00	89.880	142.250	6923.85	2647.24	-2827.55	577.16	1714530.84	516968.89	39°54'53.717"N	80°31'03.792"W	2885.85	168.463	1.70
10245.00	89.780	137.980	6924.12	2735.89	-2895.83	634.22	1714587.90	516900.61	39°54'53.048"N	80°31'03.050"W	2964.46	167.647	4.80
10335.00	89.420	141.450	6924.75	2825.50	-2964.47	692.40	1714646.08	516831.92	39°54'52.377"N	80°31'02.294"W	3044.26	166.853	3.88
10425.00	89.320	145.620	6925.74	2915.44	-3036.83	745.88	1714699.55	516759.62	39°54'51.667"N	80°31'01.597"W	3127.09	166.201	4.63
10515.00	89.350	148.640	6926.78	3005.36	-3112.41	794.71	1714748.39	516684.04	39°54'50.959"W	80°31'00.959"W	3212.26	165.676	3.36

06/12/2015



# Actual Wellpath Report

WEB-22K-HS (PWP) Proj: 13125'

Page 5 of 7

## REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY	Slot	Slot K
Area	Marshall County, WV	Well	WEB-22K-HS
Field	Marshall	Wellbore	WEB-22K-HS (PWB)
Facility	WEB-22 Pad		

## WELLPATH DATA (165 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]
10604.00	89.350	150.240	6927.79	3094.09	-3189.04	839.96	1714793.63	516607.42	39°54'50.174"N	80°31'00.367"W	3297.80	165.244	1.80
10694.00	89.450	148.490	6928.73	3183.82	-3266.47	885.82	1714839.48	516529.99	39°54'49.414"N	80°30'59.768"W	3384.45	164.827	1.95
10783.00	89.510	145.100	6929.54	3272.76	-3340.92	934.55	1714888.21	516455.54	39°54'48.684"N	80°30'59.132"W	3469.17	164.372	3.81
10873.00	89.570	140.740	6930.56	3362.67	-3412.70	988.79	1714942.46	516383.76	39°54'47.980"N	80°30'58.425"W	3553.06	163.842	4.86
10963.00	89.350	138.570	6931.69	3452.27	-3481.29	1047.05	1715000.71	516315.18	39°54'47.309"N	80°30'57.668"W	3635.34	163.261	2.42
11052.00	89.420	141.410	6932.65	3540.91	-3549.44	1104.26	1715057.92	516247.03	39°54'46.642"N	80°30'56.924"W	3717.25	162.719	3.19
11142.00	89.660	145.560	6933.37	3630.86	-3621.76	1157.80	1715111.46	516174.72	39°54'45.933"N	80°30'56.226"W	3802.32	162.272	4.62
11232.00	89.480	144.590	6934.05	3720.85	-3695.55	1209.32	1715162.98	516100.93	39°54'45.210"N	80°30'55.554"W	3888.38	161.880	1.10
11321.00	89.570	143.870	6934.79	3809.84	-3767.76	1261.35	1715215.00	516028.72	39°54'44.502"N	80°30'54.876"W	3973.28	161.491	0.82
11411.00	89.630	144.600	6935.41	3899.83	-3840.78	1313.95	1715267.59	515955.70	39°54'43.786"N	80°30'54.191"W	4059.32	161.114	0.81
11501.00	89.470	144.010	6936.16	3989.82	-3913.87	1366.46	1715320.10	515882.62	39°54'43.070"N	80°30'53.506"W	4145.55	160.754	0.70
11590.00	89.480	143.520	6937.02	4078.80	-3985.65	1419.06	1715372.70	515810.84	39°54'42.366"N	80°30'52.821"W	4230.74	160.402	0.55
11680.00	89.820	144.420	6937.56	4168.78	-4058.44	1472.00	1715425.64	515738.06	39°54'41.653"N	80°30'52.131"W	4317.14	160.064	1.07
11769.00	89.910	146.540	6937.77	4257.77	-4131.76	1522.43	1715476.07	515664.74	39°54'40.934"N	80°30'51.473"W	4403.32	159.773	2.38
11859.00	89.850	147.320	6937.96	4347.72	-4207.18	1571.54	1715525.18	515589.32	39°54'40.216"N	80°30'50.832"W	4491.11	159.517	0.87
11948.00	89.540	144.980	6938.44	4436.69	-4281.09	1621.11	1715574.74	515515.42	39°54'39.469"N	80°30'50.185"W	4577.74	159.260	2.65
12038.00	89.540	143.330	6939.16	4526.68	-4354.04	1673.81	1715627.44	515442.47	39°54'38.754"N	80°30'49.498"W	4664.69	158.972	1.83
12127.00	89.380	145.580	6940.00	4615.66	-4426.45	1725.54	1715679.17	515370.07	39°54'38.045"N	80°30'48.824"W	4750.89	158.703	2.53
12217.00	89.450	150.400	6940.92	4705.51	-4502.74	1773.23	1715726.86	515293.78	39°54'37.296"N	80°30'48.201"W	4839.32	158.505	5.36
12307.00	89.600	150.480	6941.66	4795.10	-4581.02	1817.63	1715771.26	515215.50	39°54'36.527"N	80°30'47.620"W	4928.44	158.358	0.19
12396.00	89.750	146.220	6942.17	4883.93	-4656.76	1864.32	1715817.94	515139.76	39°54'35.784"N	80°30'47.010"W	5016.09	158.181	4.79
12486.00	89.570	143.040	6942.70	4973.91	-4730.14	1916.41	1715870.03	515066.39	39°54'35.065"N	80°30'46.331"W	5103.61	157.945	3.54
12575.00	89.450	144.320	6943.46	5062.88	-4801.85	1969.12	1715922.74	514994.68	39°54'34.362"N	80°30'45.644"W	5189.91	157.703	1.44
12665.00	89.320	148.320	6944.43	5152.84	-4876.72	2019.02	1715972.63	514919.81	39°54'33.628"N	80°30'44.993"W	5278.15	157.510	4.45
12754.00	89.600	149.120	6945.27	5241.64	-4952.78	2065.23	1716018.84	514843.76	39°54'32.881"N	80°30'44.389"W	5366.11	157.365	0.95
12844.00	89.600	148.140	6945.90	5331.46	-5029.62	2112.08	1716065.69	514766.92	39°54'32.127"N	80°30'43.777"W	5455.08	157.221	1.09
12933.00	89.320	147.770	6946.74	5420.34	-5105.06	2159.30	1716112.90	514691.49	39°54'31.387"N	80°30'43.160"W	5542.94	157.073	0.52
13023.00	89.540	145.390	6947.63	5510.29	-5180.17	2208.86	1716162.46	514616.38	39°54'30.650"N	80°30'42.513"W	5631.45	156.906	2.66
13100.00	89.660	140.160	6948.17	5587.21	-5241.46	2255.42	1716209.03	514555.10	39°54'30.050"N	80°30'41.907"W	5706.12	156.718	6.79
13125.00	89.660	140.160	6948.32	5612.12	-5260.65	2271.44	1716225.04	514535.90	39°54'29.862"N	80°30'41.699"W	5730.09	156.646	0.00

# Actual Wellpath Report

WEB-22K-HS (PWP) Proj: 13125'  
Page 6 of 7

## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot K
NOBLE ENERGY	Well	WEB-22K-HS
Area	Wellbore	WEB-22K-HS (PWB)
Field		
Facility		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
WEB-22K-HS BHL;Rev-1		6896.00	-5254.14	2279.48	1716233.08	514542.41	39°54'29.927"N	80°30'41.597"W	point
WEB-22K-HS LP;Rev-1		6896.00	-858.98	-798.04	1713155.71	518937.36	39°55'13.016"N	80°31'21.727"W	point
WEB-22K-HS BHL Plat		6913.00	-5254.14	2279.48	1716233.08	514542.41	39°54'29.927"N	80°30'41.597"W	point
WEB-22K-HS LP Plat		6913.00	-858.98	-798.04	1713155.71	518937.36	39°55'13.016"N	80°31'21.727"W	point

## WELLPATH COMPOSITION - Ref Wellbore: WEB-22K-HS (PWB) Ref Wellpath: WEB-22K-HS (PWP) Proj: 13125'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.60	402.00	Generic gyro - northseeking (Standard)		WEB-22K-HS (PWB)
402.00	1220.00	Generic gyro - northseeking (Standard)	01. Gyrodatta Surveys 17 1/2" (52'-402')	WEB-22K-HS (PWB)
1220.00	3359.00	NavITrak (Standard)	02. BHI Motor / Gyrodatta Surveys 17 1/2" (402')(406'-1220) Proj:1273	WEB-22K-HS (PWB)
3359.00	5200.00	NavITrak (MagCorr)	03. BHI Motor Surveys 12 1/4" (1220')(1433'-3059)Proj:3414'	WEB-22K-HS (PWB)
5200.00	13100.00	NavITrak (AT Curve Short Spaced)	04. BHI LCP 8 3/4" Surveys (3497'-5200)	WEB-22K-HS (PWB)
13100.00	13125.00	Blind Drilling (std)	05. BHI AT Curve <8-3/4"> (5318'-13100)	WEB-22K-HS (PWB)





**Actual Wellpath Report**  
 WEB-22K-HS (PWP) Proj: 13125'  
 Page 7 of 7



**REFERENCE WELLPATH IDENTIFICATION**

Operator	Area	Field	Facility	Slot	Well	Slot K
NOBLE ENERGY	Marshall County, WV	Marshall	WEB-22 Pad	Well	Wellbore	WEB-22K-HS
						WEB-22K-HS (PWB)

**COMMENTS**

Wellpath general comments  
 API:47-051-01724-0000  
 Rig: Precision 542  
 BHI Job #: 6260415  
 Duration: 07/15/2014-07/19/2014  
 Gyrodata Surveys (52--402)  
 BHI Motor / Gyrodata Surveys (402)(406-1220')  
 BHI Motor Surveys (1220)(1433-3059')  
 BHI LCP Surveys (3497-5200)  
 BHI AT Curve (5318'-13100')  
 MD Projected to TD: 13125'

06/12/2015

Location: Marshall County, WV  
 Field: Marshall  
 Facility: WEB-22 Pad

Slot: Slot K  
 Well: WEB-22K-HS  
 Wellbore: WEB-22K-HS PWB

Plot reference wellpath is WEB-22K-HS (PWP) Rev-B.0

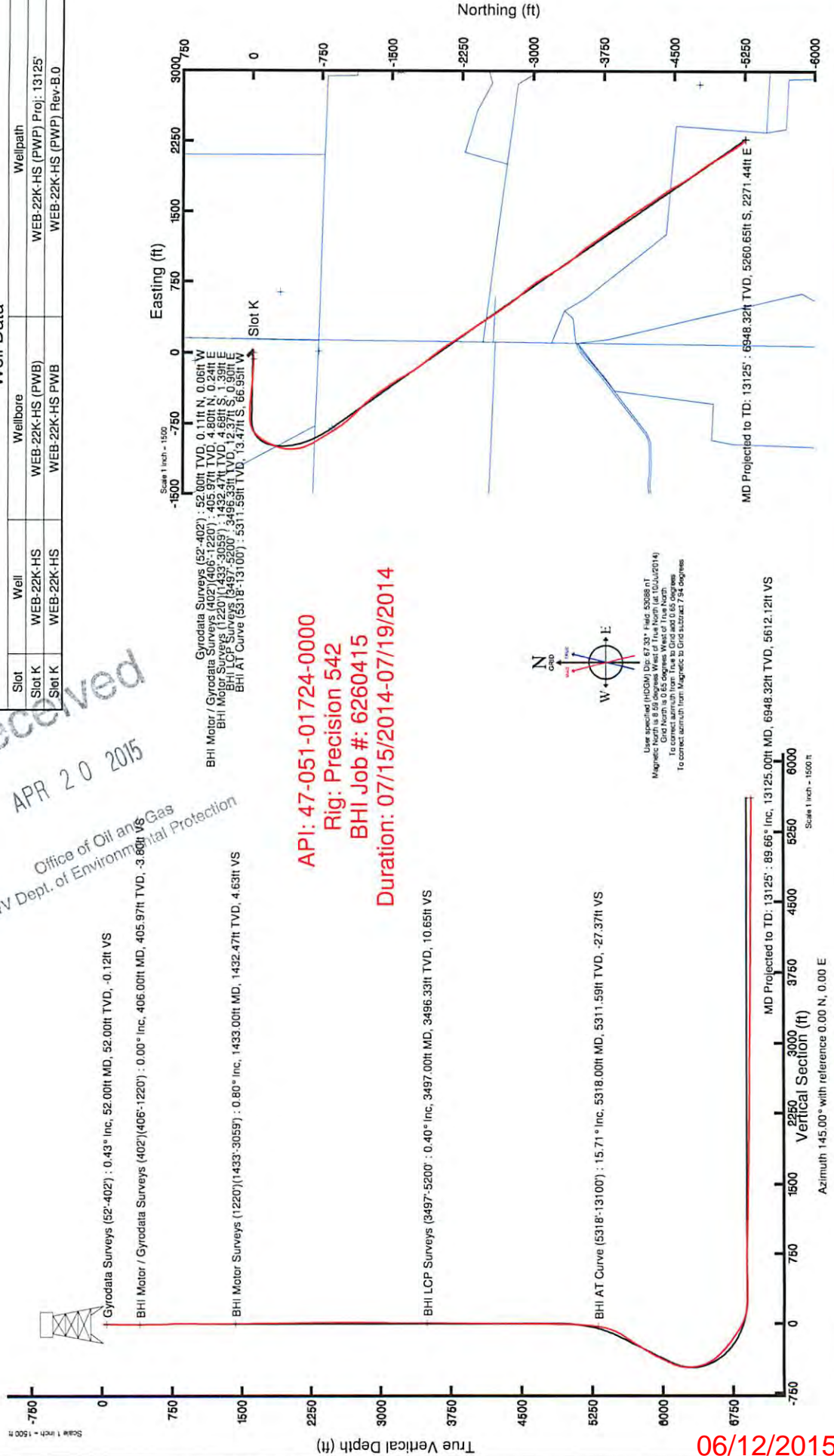
Grid System: NAD27 Lambert West Virginia SP, Northern Zone (4701), US feet
North Reference: Grid north
Scale: True distance
Depths are in feet
Created by: krosch on 22/JUL/2014

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
WEB-22 Pad	1713925.810	519852.540	80°31'11.977"W
Slot	Local N (ft)	Grid North (US ft)	Longitude
Slot K	27.90	519796.300	80°31'11.611"W
Slot K	-56.24	1713953.710	39°52'21.594"N
Precision 542 (RT) to Mud line (At Slot: Slot K)	18.6ft		
Mean Sea Level to Mud line (At Slot: Slot K)	-1325ft		
Precision 542 (RT) to Mean Sea Level	1343.6ft		

Well Data			
Slot	Well	Wellbore	Wellpath
Slot K	WEB-22K-HS	WEB-22K-HS (PWB)	WEB-22K-HS (PWP) Proj: 13125
Slot K	WEB-22K-HS	WEB-22K-HS PWB	WEB-22K-HS (PWP) Rev-B.0

Received  
 APR 20 2015

Office of Oil and Gas  
 WV Dept. of Environmental Protection



5/12/2015