

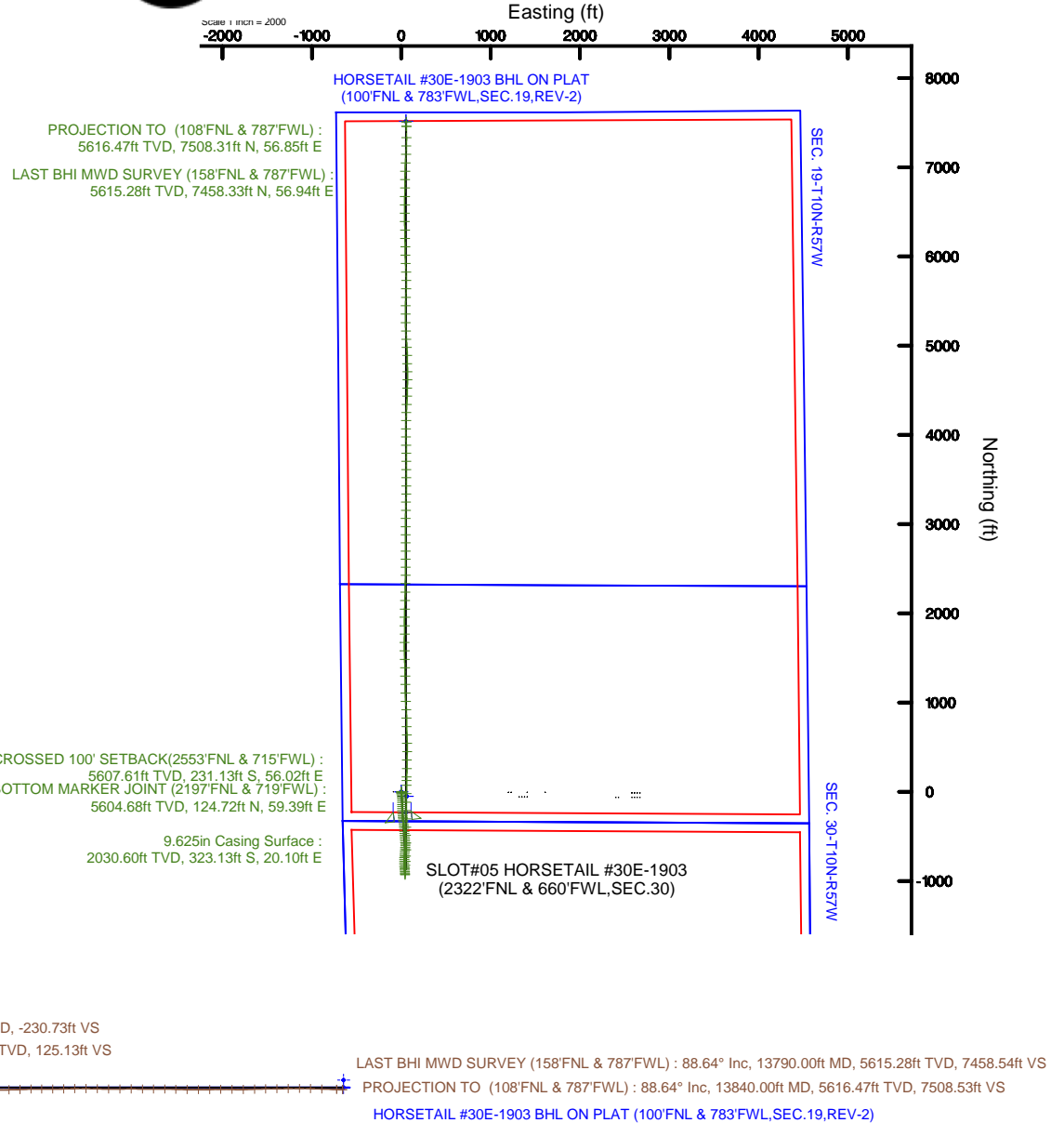
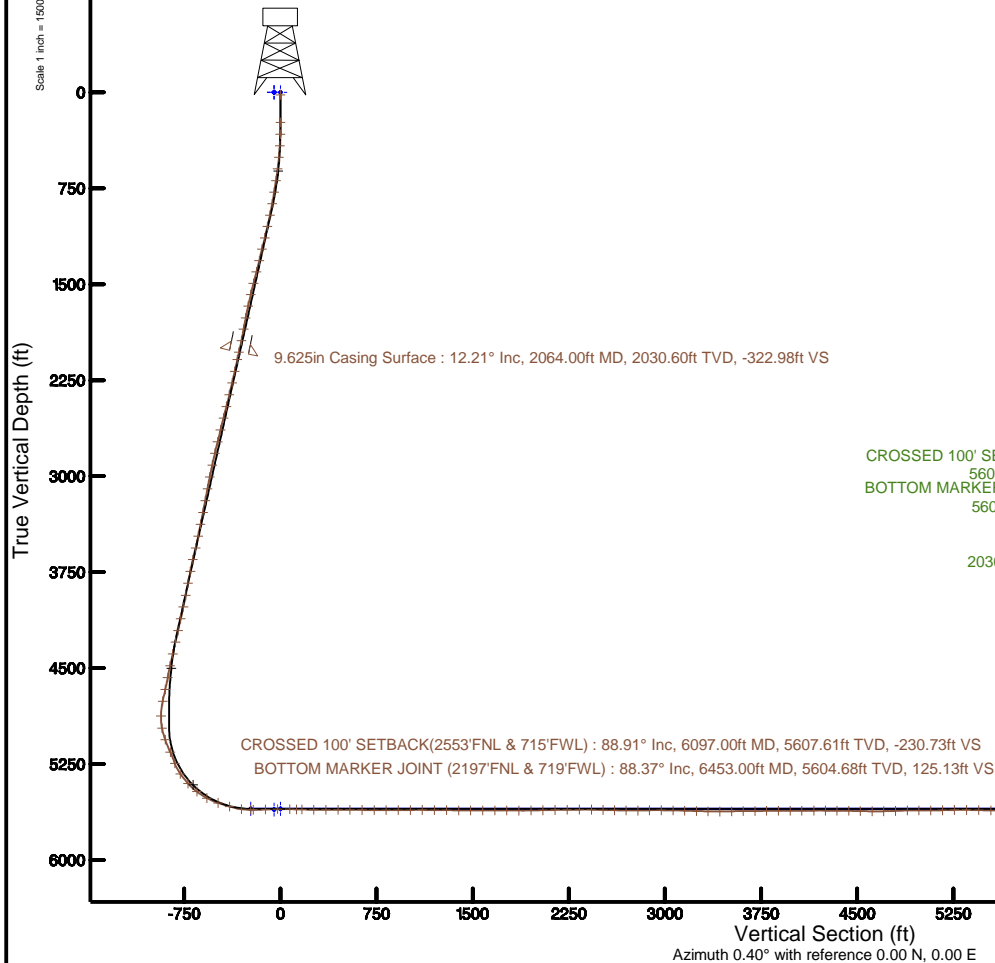
WHITING OIL & GAS CORPORATION

Location: COLORADO Slot: SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)
Field: WELD COUNTY Well: HORSETAIL #30E-1903
Facility: SEC.30-T10N-R57W Wellbore: HORSETAIL #30E-1903 pwb

Plot reference wellpath is HORSETAIL #30E-1903 (REV-A.1) PWP		Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to UNIT 406 (21) (RKB)		* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to UNIT 406 (21) (RKB)		North Reference: True north
UNIT 406 (21) (RKB) to Mean Sea Level: 4827 feet		Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)): 0 feet		Depths are in feet
Coordinates are in feet referenced to Slot		Created by: ingmjmr on 2017-01-19
		Database: WellArchitectDB1

Location Information

Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.30-T10N-R57W				3470349.811	1542643.145	40°48'38.040"N	103°48'02.880"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)		Grid North (US ft)	Latitude	Longitude
SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)	49.59	-59.21	3470289.662	1542691.592	40°48'38.530"N	103°48'03.650"W	
UNIT 406 (21) (RKB) to Mud line (At Slot: SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30))						4827ft	
Mean Sea Level to Mud line (At Slot: SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30))						0ft	
UNIT 406 (21) (RKB) to Mean Sea Level						4827ft	





Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 1 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL, SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Ingmjmr
Scale	1.000005	Report Generated	1/19/2017 at 10:13:07 AM
Convergence at slot	1.10° East	Database/Source file	WellArchitectDB1/HORSETAIL_#30E-1903_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	49.59	-59.21	3470289.66	1542691.59	40°48'38.530"N	103°48'03.650"W
Facility Reference Pt			3470349.81	1542643.15	40°48'38.040"N	103°48'02.880"W
Field Reference Pt			3471270.16	1558347.59	40°51'13.010"N	103°47'46.990"W

WELLPATH DATUM

Calculation method	Minimum curvature	UNIT 406 (21') (RKB) to Facility Vertical Datum	4827.00ft
Horizontal Reference Pt	Slot	UNIT 406 (21') (RKB) to Mean Sea Level	4827.00ft
Vertical Reference Pt	UNIT 406 (21') (RKB)	UNIT 406 (21') (RKB) to Mud Line at Slot (SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL, SEC.30))	4827.00ft
MD Reference Pt	UNIT 406 (21') (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	0.40°



Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 2 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	303.390	0.00	0.00	0.00	0.00	40°48'38.530"N	103°48'03.650"W	0.00	
21.00	0.000	303.390	21.00	0.00	0.00	0.00	40°48'38.530"N	103°48'03.650"W	0.00	
236.00	0.790	303.390	235.99	0.81	0.82	-1.24	40°48'38.538"N	103°48'03.666"W	0.37	
327.00	1.760	191.740	326.98	-0.22	-0.21	-2.05	40°48'38.528"N	103°48'03.677"W	2.39	
418.00	3.430	175.350	417.88	-4.30	-4.29	-2.11	40°48'38.488"N	103°48'03.677"W	1.99	
509.00	5.450	169.730	508.61	-11.26	-11.26	-1.12	40°48'38.419"N	103°48'03.665"W	2.27	
600.00	7.720	171.100	599.00	-21.54	-21.55	0.60	40°48'38.317"N	103°48'03.642"W	2.50	
692.00	8.580	171.380	690.07	-34.42	-34.44	2.58	40°48'38.190"N	103°48'03.616"W	0.94	
783.00	9.280	172.000	779.97	-48.38	-48.42	4.62	40°48'38.052"N	103°48'03.590"W	0.78	
875.00	10.300	174.710	870.63	-63.90	-63.95	6.41	40°48'37.898"N	103°48'03.567"W	1.22	
966.00	11.600	175.920	959.97	-81.12	-81.18	7.81	40°48'37.728"N	103°48'03.548"W	1.45	
1057.00	13.420	178.940	1048.80	-100.80	-100.86	8.66	40°48'37.533"N	103°48'03.537"W	2.12	
1149.00	13.400	179.550	1138.30	-122.13	-122.20	8.94	40°48'37.323"N	103°48'03.534"W	0.16	
1240.00	13.510	179.540	1226.80	-143.30	-143.37	9.11	40°48'37.113"N	103°48'03.532"W	0.12	
1332.00	14.050	180.610	1316.15	-165.22	-165.29	9.08	40°48'36.897"N	103°48'03.532"W	0.65	
1423.00	14.460	180.510	1404.35	-187.62	-187.69	8.86	40°48'36.675"N	103°48'03.535"W	0.45	
1515.00	13.960	176.730	1493.53	-210.19	-210.26	9.39	40°48'36.452"N	103°48'03.528"W	1.15	
1606.00	13.210	175.460	1581.99	-231.50	-231.58	10.84	40°48'36.242"N	103°48'03.509"W	0.89	
1698.00	12.510	172.480	1671.68	-251.84	-251.94	12.97	40°48'36.041"N	103°48'03.481"W	1.05	
1791.00	11.080	172.070	1762.71	-270.66	-270.78	15.52	40°48'35.854"N	103°48'03.448"W	1.54	
1882.00	10.420	176.990	1852.12	-287.53	-287.66	17.16	40°48'35.688"N	103°48'03.427"W	1.24	
1972.00	11.240	175.880	1940.51	-304.40	-304.53	18.22	40°48'35.521"N	103°48'03.413"W	0.94	
2123.00	12.850	170.910	2088.19	-335.63	-335.79	21.93	40°48'35.212"N	103°48'03.365"W	1.27	
2218.00	12.240	170.080	2180.92	-355.96	-356.15	25.34	40°48'35.011"N	103°48'03.321"W	0.67	
2311.00	13.800	173.890	2271.53	-376.68	-376.89	28.21	40°48'34.806"N	103°48'03.283"W	1.91	
2406.00	12.920	171.910	2363.96	-398.44	-398.67	30.92	40°48'34.591"N	103°48'03.248"W	1.04	
2500.00	14.580	178.370	2455.27	-420.66	-420.90	32.73	40°48'34.371"N	103°48'03.224"W	2.40	
2595.00	14.140	176.970	2547.30	-444.19	-444.44	33.68	40°48'34.138"N	103°48'03.212"W	0.59	
2689.00	14.060	176.990	2638.47	-467.05	-467.31	34.89	40°48'33.913"N	103°48'03.196"W	0.09	
2784.00	13.410	175.310	2730.75	-489.54	-489.81	36.40	40°48'33.690"N	103°48'03.177"W	0.80	



Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 3 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

WELLPATH DATA (150 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2878.00	13.010	174.770	2822.26	-510.93	-511.21	38.25	40°48'33.479"N	103°48'03.153"W	0.45	
2972.00	12.630	175.060	2913.92	-531.69	-531.99	40.10	40°48'33.273"N	103°48'03.128"W	0.41	
3066.00	11.630	173.280	3005.82	-551.33	-551.64	42.10	40°48'33.079"N	103°48'03.103"W	1.14	
3161.00	10.270	174.390	3099.09	-569.25	-569.58	44.04	40°48'32.902"N	103°48'03.077"W	1.45	
3255.00	10.670	176.630	3191.52	-586.27	-586.60	45.38	40°48'32.734"N	103°48'03.060"W	0.61	
3349.00	11.300	183.840	3283.80	-604.15	-604.48	45.27	40°48'32.557"N	103°48'03.061"W	1.61	
3444.00	11.060	183.160	3377.00	-622.54	-622.87	44.14	40°48'32.376"N	103°48'03.076"W	0.29	
3538.00	11.640	187.720	3469.16	-640.95	-641.27	42.37	40°48'32.194"N	103°48'03.099"W	1.14	
3632.00	13.560	184.650	3560.90	-661.35	-661.65	40.21	40°48'31.992"N	103°48'03.127"W	2.16	
3726.00	12.610	185.270	3652.46	-682.56	-682.85	38.37	40°48'31.783"N	103°48'03.151"W	1.02	
3820.00	11.490	186.660	3744.38	-702.09	-702.37	36.34	40°48'31.590"N	103°48'03.177"W	1.23	
3915.00	10.820	184.490	3837.59	-720.39	-720.65	34.55	40°48'31.409"N	103°48'03.201"W	0.83	
4010.00	11.090	178.800	3930.86	-738.42	-738.68	34.04	40°48'31.231"N	103°48'03.207"W	1.17	
4104.00	11.810	179.720	4022.99	-757.08	-757.34	34.28	40°48'31.047"N	103°48'03.204"W	0.79	
4198.00	13.160	182.920	4114.76	-777.39	-777.64	33.78	40°48'30.846"N	103°48'03.211"W	1.61	
4292.00	12.390	184.220	4206.44	-798.14	-798.39	32.49	40°48'30.641"N	103°48'03.227"W	0.87	
4386.00	13.360	177.610	4298.08	-819.05	-819.30	32.20	40°48'30.435"N	103°48'03.231"W	1.87	
4480.00	12.050	175.030	4389.78	-839.67	-839.92	33.50	40°48'30.231"N	103°48'03.214"W	1.52	
4574.00	12.790	173.620	4481.57	-859.77	-860.04	35.51	40°48'30.032"N	103°48'03.188"W	0.85	
4669.00	10.680	175.330	4574.58	-878.98	-879.27	37.40	40°48'29.842"N	103°48'03.164"W	2.25	
4763.00	12.220	175.880	4666.71	-897.58	-897.87	38.82	40°48'29.658"N	103°48'03.145"W	1.64	
4858.00	12.720	174.040	4759.47	-917.99	-918.30	40.63	40°48'29.456"N	103°48'03.122"W	0.67	
4975.00	1.240	130.870	4875.43	-931.66	-931.99	42.93	40°48'29.321"N	103°48'03.092"W	10.12	
5070.00	10.730	356.230	4969.92	-923.48	-923.81	43.13	40°48'29.402"N	103°48'03.089"W	12.25	
5163.00	20.400	359.570	5059.40	-898.58	-898.90	42.44	40°48'29.648"N	103°48'03.098"W	10.44	
5269.00	23.450	2.310	5157.73	-859.02	-859.35	43.15	40°48'30.039"N	103°48'03.089"W	3.03	
5363.00	20.640	4.360	5244.85	-823.79	-824.13	45.16	40°48'30.387"N	103°48'03.063"W	3.10	
5457.00	34.940	2.070	5327.79	-780.13	-780.48	47.40	40°48'30.818"N	103°48'03.034"W	15.25	
5552.00	42.740	5.000	5401.74	-720.71	-721.09	51.20	40°48'31.405"N	103°48'02.984"W	8.43	
5646.00	52.060	2.550	5465.30	-651.71	-652.12	55.64	40°48'32.086"N	103°48'02.926"W	10.10	



Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 4 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL, SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

WELLPATH DATA (150 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5740.00	61.970	357.730	5516.43	-573.00	-573.41	55.65	40°48'32.864"N	103°48'02.926"W	11.38	
5835.00	71.690	358.800	5553.76	-485.83	-486.22	53.04	40°48'33.726"N	103°48'02.960"W	10.28	
5929.00	73.120	1.990	5582.19	-396.24	-396.63	53.66	40°48'34.611"N	103°48'02.952"W	3.57	
6023.00	82.460	0.510	5602.05	-304.48	-304.88	55.65	40°48'35.517"N	103°48'02.926"W	10.05	
6097.00†	88.907	0.076	5607.61	-230.73	-231.13	56.02	40°48'36.246"N	103°48'02.921"W	8.73	CROSSED 100' SETBACK(2553'FNL & 715'FWL)
6117.00	90.650	359.960	5607.69	-210.73	-211.14	56.03	40°48'36.444"N	103°48'02.921"W	8.73	
6212.00	92.470	0.460	5605.10	-115.77	-116.18	56.38	40°48'37.382"N	103°48'02.917"W	1.99	
6306.00	91.080	0.810	5602.19	-21.82	-22.23	57.42	40°48'38.310"N	103°48'02.903"W	1.52	
6401.00	87.940	0.770	5603.00	73.16	72.75	58.73	40°48'39.249"N	103°48'02.886"W	3.31	
6453.00†	88.366	0.693	5604.68	125.13	124.72	59.39	40°48'39.762"N	103°48'02.878"W	0.83	BOTTOM MARKER JOINT (2197'FNL & 719'FWL)
6495.00	88.710	0.630	5605.75	167.12	166.70	59.87	40°48'40.177"N	103°48'02.871"W	0.83	
6589.00	90.180	1.070	5606.66	261.11	260.68	61.27	40°48'41.106"N	103°48'02.853"W	1.63	
6683.00	89.690	0.730	5606.77	355.10	354.67	62.75	40°48'42.034"N	103°48'02.834"W	0.63	
6777.00	89.040	1.150	5607.81	449.09	448.65	64.29	40°48'42.963"N	103°48'02.814"W	0.82	
6871.00	90.280	358.750	5608.37	543.08	542.64	64.21	40°48'43.892"N	103°48'02.815"W	2.87	
6965.00	89.380	358.070	5608.65	637.02	636.60	61.60	40°48'44.820"N	103°48'02.849"W	1.20	
7059.00	89.600	358.190	5609.48	730.94	730.55	58.53	40°48'45.748"N	103°48'02.889"W	0.27	
7153.00	90.120	0.390	5609.71	824.92	824.53	57.37	40°48'46.677"N	103°48'02.904"W	2.40	
7248.00	89.570	356.690	5609.97	919.85	919.49	54.95	40°48'47.615"N	103°48'02.935"W	3.94	
7342.00	91.360	357.530	5609.21	1013.69	1013.36	50.21	40°48'48.543"N	103°48'02.997"W	2.10	
7436.00	89.320	358.500	5608.65	1107.60	1107.29	46.95	40°48'49.471"N	103°48'03.039"W	2.40	
7530.00	89.850	359.010	5609.33	1201.56	1201.27	44.91	40°48'50.400"N	103°48'03.066"W	0.78	
7625.00	88.830	359.590	5610.42	1296.53	1296.25	43.75	40°48'51.338"N	103°48'03.081"W	1.24	
7719.00	89.110	358.030	5612.11	1390.48	1390.22	41.80	40°48'52.267"N	103°48'03.106"W	1.69	
7813.00	90.220	359.360	5612.66	1484.43	1484.19	39.66	40°48'53.195"N	103°48'03.134"W	1.84	
7907.00	89.570	357.570	5612.84	1578.37	1578.15	37.14	40°48'54.124"N	103°48'03.167"W	2.03	
8001.00	89.970	1.010	5613.21	1672.34	1672.13	35.97	40°48'55.052"N	103°48'03.182"W	3.68	
8095.00	90.340	1.110	5612.96	1766.33	1766.11	37.71	40°48'55.981"N	103°48'03.160"W	0.41	
8189.00	88.980	358.300	5613.52	1860.31	1860.09	37.23	40°48'56.909"N	103°48'03.166"W	3.32	
8284.00	91.690	1.800	5612.96	1955.28	1955.07	37.31	40°48'57.848"N	103°48'03.165"W	4.66	



Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 5 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

WELLPATH DATA (150 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8377.00	90.800	1.660	5610.94	2048.24	2048.00	40.12	40°48'58.766"N	103°48'03.128"W	0.97	
8472.00	91.910	1.330	5608.70	2143.19	2142.94	42.60	40°48'59.704"N	103°48'03.096"W	1.22	
8566.00	89.720	0.780	5607.36	2237.17	2236.91	44.33	40°49'00.633"N	103°48'03.074"W	2.40	
8661.00	91.360	1.610	5606.46	2332.15	2331.88	46.31	40°49'01.571"N	103°48'03.048"W	1.93	
8755.00	88.610	1.340	5606.49	2426.13	2425.84	48.73	40°49'02.500"N	103°48'03.016"W	2.94	
8846.00	88.490	0.110	5608.79	2517.09	2516.80	49.88	40°49'03.398"N	103°48'03.001"W	1.36	
8936.00	88.640	359.740	5611.04	2607.06	2606.78	49.76	40°49'04.287"N	103°48'03.003"W	0.44	
9027.00	88.770	359.400	5613.10	2698.03	2697.75	49.08	40°49'05.186"N	103°48'03.012"W	0.40	
9118.00	90.680	359.970	5613.54	2789.02	2788.74	48.58	40°49'06.085"N	103°48'03.018"W	2.19	
9209.00	91.820	359.760	5611.55	2879.99	2879.72	48.36	40°49'06.984"N	103°48'03.021"W	1.27	
9300.00	88.800	0.620	5611.06	2970.98	2970.71	48.66	40°49'07.883"N	103°48'03.017"W	3.45	
9392.00	89.450	0.670	5612.46	3062.96	3062.69	49.70	40°49'08.792"N	103°48'03.004"W	0.71	
9483.00	88.270	1.310	5614.28	3153.94	3153.66	51.27	40°49'09.691"N	103°48'02.983"W	1.48	
9575.00	88.240	0.950	5617.08	3245.89	3245.60	53.08	40°49'10.599"N	103°48'02.960"W	0.39	
9666.00	88.240	0.600	5619.87	3336.84	3336.54	54.31	40°49'11.498"N	103°48'02.944"W	0.38	
9757.00	90.400	0.170	5620.95	3427.83	3427.53	54.93	40°49'12.397"N	103°48'02.936"W	2.42	
9849.00	91.790	359.470	5619.19	3519.81	3519.51	54.64	40°49'13.306"N	103°48'02.939"W	1.69	
9940.00	90.370	1.020	5617.48	3610.79	3610.49	55.03	40°49'14.205"N	103°48'02.934"W	2.31	
10032.00	90.400	359.990	5616.86	3702.78	3702.48	55.84	40°49'15.114"N	103°48'02.924"W	1.12	
10123.00	91.140	359.250	5615.64	3793.76	3793.47	55.23	40°49'16.013"N	103°48'02.932"W	1.15	
10215.00	89.720	359.110	5614.95	3885.74	3885.45	53.92	40°49'16.922"N	103°48'02.949"W	1.55	
10306.00	90.400	358.360	5614.85	3976.70	3976.43	51.91	40°49'17.821"N	103°48'02.975"W	1.11	
10398.00	89.780	1.470	5614.71	4068.68	4068.42	51.77	40°49'18.730"N	103°48'02.977"W	3.45	
10491.00	91.170	0.740	5613.94	4161.67	4161.40	53.57	40°49'19.648"N	103°48'02.953"W	1.69	
10582.00	88.830	1.990	5613.94	4252.65	4252.36	55.73	40°49'20.547"N	103°48'02.925"W	2.92	
10672.00	90.400	3.600	5614.54	4342.56	4342.25	60.12	40°49'21.435"N	103°48'02.868"W	2.50	
10764.00	88.340	1.740	5615.55	4434.48	4434.13	64.41	40°49'22.343"N	103°48'02.812"W	3.02	
10855.00	88.830	0.920	5617.80	4525.44	4525.08	66.52	40°49'23.242"N	103°48'02.785"W	1.05	
10946.00	89.510	0.710	5619.12	4616.42	4616.06	67.81	40°49'24.141"N	103°48'02.768"W	0.78	
11037.00	90.890	359.320	5618.80	4707.42	4707.06	67.84	40°49'25.040"N	103°48'02.768"W	2.15	



Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 6 of 8



REFERENCE WELLPATH IDENTIFICATION

Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL, SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

WELLPATH DATA (150 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11129.00	92.470	359.150	5616.10	4799.36	4799.00	66.61	40°49'25.949"N	103°48'02.784"W	1.73	
11220.00	91.110	359.080	5613.26	4890.29	4889.95	65.20	40°49'26.847"N	103°48'02.802"W	1.50	
11311.00	89.320	355.400	5612.92	4981.13	4980.82	60.82	40°49'27.745"N	103°48'02.859"W	4.50	
11403.00	90.460	357.770	5613.10	5072.91	5072.65	55.34	40°49'28.652"N	103°48'02.930"W	2.86	
11495.00	92.190	357.840	5610.97	5164.79	5164.55	51.82	40°49'29.560"N	103°48'02.976"W	1.88	
11589.00	90.590	358.530	5608.69	5258.69	5258.48	48.84	40°49'30.489"N	103°48'03.015"W	1.85	
11684.00	89.540	0.190	5608.58	5353.67	5353.47	47.78	40°49'31.427"N	103°48'03.028"W	2.07	
11779.00	88.340	1.390	5610.34	5448.65	5448.44	49.09	40°49'32.365"N	103°48'03.011"W	1.79	
11873.00	89.290	1.430	5612.28	5542.61	5542.39	51.41	40°49'33.294"N	103°48'02.981"W	1.01	
11968.00	91.170	1.670	5611.90	5637.59	5637.35	53.97	40°49'34.232"N	103°48'02.948"W	2.00	
12062.00	89.970	359.700	5610.97	5731.58	5731.33	55.10	40°49'35.161"N	103°48'02.933"W	2.45	
12157.00	88.800	358.370	5611.98	5826.54	5826.31	53.50	40°49'36.099"N	103°48'02.954"W	1.86	
12251.00	89.820	356.920	5613.12	5920.42	5920.22	49.64	40°49'37.027"N	103°48'03.004"W	1.89	
12345.00	90.370	358.460	5612.96	6014.31	6014.14	45.85	40°49'37.955"N	103°48'03.054"W	1.74	
12439.00	88.150	359.660	5614.18	6108.27	6108.11	44.31	40°49'38.884"N	103°48'03.074"W	2.68	
12533.00	88.980	359.120	5616.53	6202.22	6202.07	43.30	40°49'39.812"N	103°48'03.087"W	1.05	
12627.00	90.090	358.620	5617.29	6296.19	6296.05	41.45	40°49'40.741"N	103°48'03.111"W	1.30	
12722.00	91.020	358.230	5616.37	6391.12	6391.01	38.84	40°49'41.679"N	103°48'03.145"W	1.06	
12816.00	91.390	2.190	5614.39	6485.08	6484.97	39.18	40°49'42.607"N	103°48'03.140"W	4.23	
12910.00	87.560	359.180	5615.26	6579.05	6578.93	40.31	40°49'43.536"N	103°48'03.126"W	5.18	
13004.00	90.860	0.780	5616.55	6673.02	6672.90	40.28	40°49'44.464"N	103°48'03.126"W	3.90	
13099.00	92.800	0.390	5613.52	6767.97	6767.85	41.25	40°49'45.402"N	103°48'03.113"W	2.08	
13193.00	90.250	1.150	5611.02	6861.92	6861.80	42.51	40°49'46.331"N	103°48'03.097"W	2.83	
13287.00	91.330	1.020	5609.72	6955.91	6955.77	44.29	40°49'47.259"N	103°48'03.074"W	1.16	
13381.00	90.090	3.440	5608.56	7049.84	7049.68	47.95	40°49'48.187"N	103°48'03.026"W	2.89	
13476.00	91.140	3.130	5607.54	7144.72	7144.52	53.39	40°49'49.124"N	103°48'02.955"W	1.15	
13570.00	87.750	0.770	5608.45	7238.66	7238.44	56.59	40°49'50.052"N	103°48'02.914"W	4.39	
13664.00	88.180	359.920	5611.78	7332.60	7332.38	57.15	40°49'50.980"N	103°48'02.907"W	1.01	
13790.00	88.640	359.890	5615.28	7458.54	7458.33	56.94	40°49'52.225"N	103°48'02.909"W	0.37	LAST BHI MWD SURVEY (158'FNL & 787'FWL)
13840.00	88.640	359.890	5616.47	7508.53	7508.31	56.85	40°49'52.719"N	103°48'02.910"W	0.00	PROJECTION TO (108'FNL & 787'FWL)

HOLE & CASING SECTIONS - Ref Wellbore: HORSETAIL #30E-1903 AWB Ref Wellpath: HORSETAIL #30E-1903 AWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.5in Open Hole	21.00	2080.00	2059.00	21.00	2046.23	0.00	0.00	-326.50	20.55
9.625in Casing Surface	21.00	2064.00	2043.00	21.00	2030.60	0.00	0.00	-323.13	20.10
8.5in Open Hole	2080.00	8846.00	6766.00	2046.23	5608.79	-326.50	20.55	2516.80	49.88

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC. 19-T10N-R57W	0.00	0.00	0.00	3470289.66	1542691.59	40°48'38.530"N	103°48'03.650"W	polygon
SEC. 30-T10N-R57W NORTHERN	0.00	-49.59	59.21	3470349.81	1542643.15	40°48'38.040"N	103°48'02.880"W	polygon
SEC. 30-T10N-R57W SOUTHERN	0.00	-49.59	59.21	3470349.81	1542643.15	40°48'38.040"N	103°48'02.880"W	polygon
SEC. 31-T10N-R57W	0.00	-49.59	59.21	3470349.81	1542643.15	40°48'38.040"N	103°48'02.880"W	polygon
HORSETAIL #30E-1903 BHL ON PLAT (100'FNL & 783'FWL, SEC.19, REV-1)	5538.00	7515.51	53.04	3470198.71	1550206.76	40°49'52.790"N	103°48'02.960"W	point
HORSETAIL #30E-1903 BHL ON PLAT (100'FNL & 783'FWL, SEC.19, REV-2)	5600.00	7515.51	53.04	3470198.71	1550206.76	40°49'52.790"N	103°48'02.960"W	point
HORSETAIL #30E-1903 LANDING POINT (2554'FNL & 713'FWL SEC 30)	5600.00	-232.00	53.04	3470347.14	1542460.65	40°48'36.238"N	103°48'02.960"W	point
HORSETAIL #30E-1903 NORTHERN SETBACKS 100'N/S/E & 500'W	5600.00	0.00	0.00	3470289.66	1542691.59	40°48'38.530"N	103°48'03.650"W	polygon
HORSETAIL #30E SOUTHERN SETBACKS (100' N/S/E 100' & 500' W)	5606.00	-49.59	59.21	3470349.81	1542643.15	40°48'38.040"N	103°48'02.880"W	polygon



Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 7 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

WELLPATH COMPOSITION - Ref Wellbore: HORSETAIL #30E-1903 AWB				Ref Wellpath: HORSETAIL #30E-1903 AWP	
Start MD	End MD	Positional Uncertainty Model		Log Name/Comment	Wellbore
[ft]	[ft]				
21.00	1972.00	Custom BHI NaviTrak (IFR1, Standard Rotating, SAG) (Rockies 0.03Gt model)		BHI NAVITRAK MWD ROCKIES GT, SURCON IFR & SAG 13 1/2" <21-1972>	HORSETAIL #30E-1903 AWB
1972.00	13790.00	Custom BHI NaviTrak (IFR1, Standard Rotating, SAG) (Rockies 0.03Gt model)		BHI NAVITRAK MWD ROCKIES GT, SURCON IFR & SAG 8 1/2" <2123-13790>	HORSETAIL #30E-1903 AWB
13790.00	13840.00	Blind Drilling (std)		Projection to bit	HORSETAIL #30E-1903 AWB



Actual Wellpath Report

HORSETAIL #30E-1903 AWP

Page 8 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	WHITING OIL & GAS CORPORATION	Slot	SLOT#05 HORSETAIL #30E-1903 (2322'FNL & 660'FWL,SEC.30)
Area	COLORADO	Well	HORSETAIL #30E-1903
Field	WELD COUNTY	Wellbore	HORSETAIL #30E-1903 AWB
Facility	SEC.30-T10N-R57W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
6097.00	88.907	0.076	5607.61	CROSSED 100' SETBACK(2553'FNL & 715'FWL)
6453.00	88.366	0.693	5604.68	BOTTOM MARKER JOINT (2197'FNL & 719'FWL)
13790.00	88.640	359.890	5615.28	LAST BHI MWD SURVEY (158'FNL & 787'FWL)
13840.00	88.640	359.890	5616.47	PROJECTION TO (108'FNL & 787'FWL)