



EXTRACTION OIL & GAS

Location: COLORADO Slot: SLOT#11 WINDER #11 (936'FNL & 684'FEL, SEC.09)
Field: WELD COUNTY (NAD83/TRUE NORTH) Well: WINDER #11
Facility: SEC.09-T06N-R67W Wellbore: WINDER #11 PWB

Plot reference wellpath is WINDER #11 (REV-E-0, NIOBRARA A-BENCH PWP)

True vertical depths are referenced to PATTERSON 341 (25KB) (RKB)

Measured depths are referenced to PATTERSON 341 (25KB) (RKB)

PATTERSON 341 (25KB) (RKB) to Mean Sea Level: 4893 feet

Mean Sea Level to Mud line (At Slot: SLOT#11 WINDER #11 (936'FNL & 684'FEL, SEC.09)): 0 feet

Coordinates are in feet referenced to Slot

Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet

* = Wellpath was transformed from a different geodetic datum

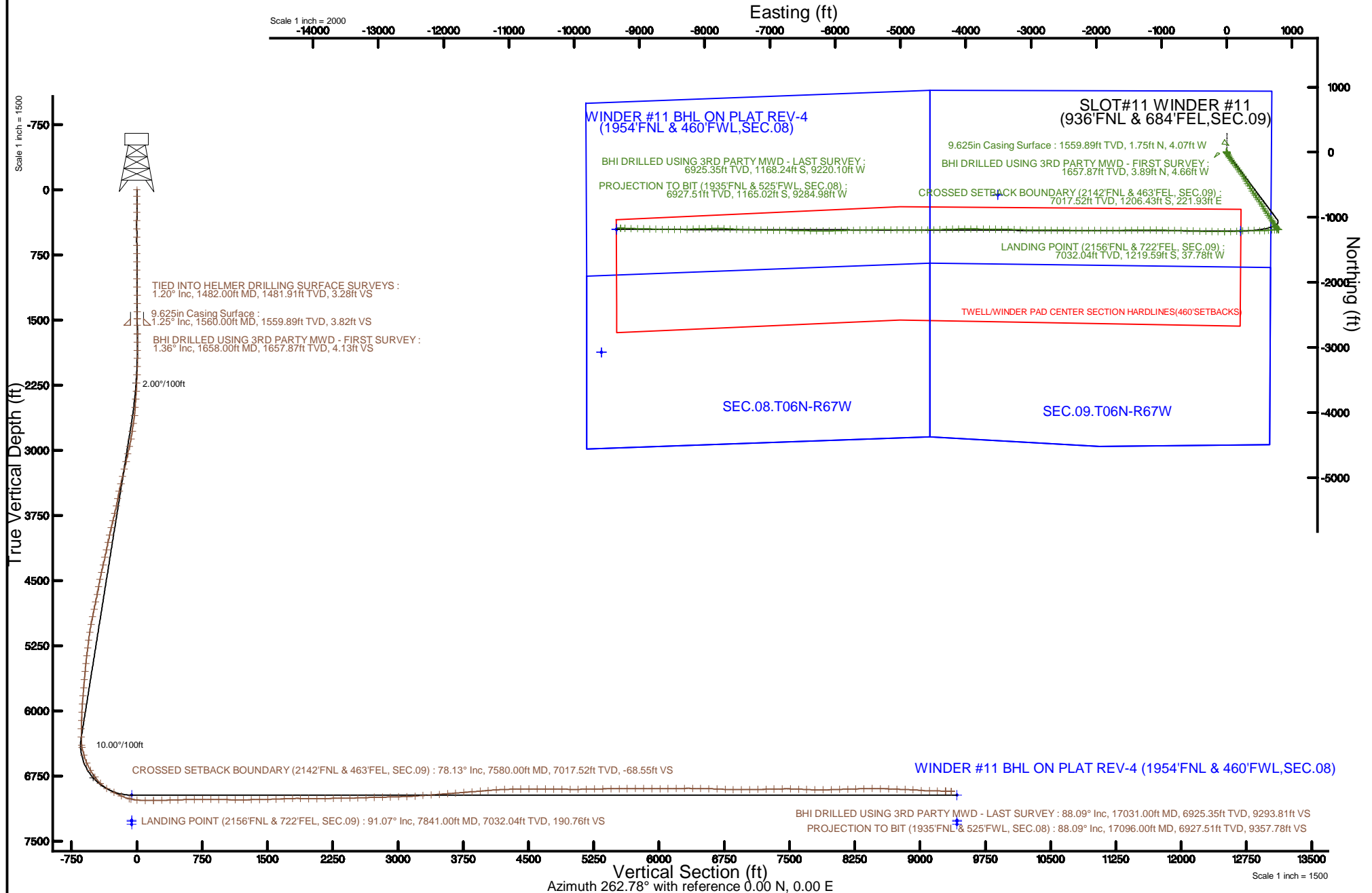
North Reference: True north

Scale: True distance

Depths are in feet

Created by: crosara on 2016-10-26

Database: WA_DEN_Denver_Deln





Actual Wellpath Report

WINDER #11 AWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#11 WINDER #11 (936'FNL & 684'FEL,SEC.09)
Area	COLORADO	Well	WINDER #11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWP
Facility	SEC.09-T06N-R67W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Croscara
Scale	0.999967	Report Generated	10/26/2016 at 11:36:22 AM
Convergence at slot	0.40° East	Database/Source file	WA_DEN_Denver_Defn/WINDER_#11_AWP.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-260.08	-2.16	3169264.85	1427915.77	40°30'23.166"N	104°53'28.640"W
Facility Reference Pt			3169265.23	1428175.85	40°30'25.736"N	104°53'28.612"W
Field Reference Pt			3185481.27	1419166.81	40°28'55.560"N	104°49'59.556"W

WELLPATH DATUM

Calculation method	Minimum curvature	PATTERSON 341 (25'KB) (RKB) to Facility Vertical Datum	4893.00ft
Horizontal Reference Pt	Slot	PATTERSON 341 (25'KB) (RKB) to Mean Sea Level	4893.00ft
Vertical Reference Pt	PATTERSON 341 (25'KB) (RKB)	PATTERSON 341 (25'KB) (RKB) to Mud Line at Slot (SLOT#11 WINDER #11 (936'FNL & 684'FEL,SEC.09))	4893.00ft
MD Reference Pt	PATTERSON 341 (25'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	262.78°



Actual Wellpath Report

WINDER #11 AWP
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REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	WINDER #11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWP
Facility	SEC.09-T06N-R67W		

WELLPATH DATA (183 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	207.030	0.00	0.00	0.00	0.00	40°30'23.166"N	104°53'28.640"W	0.00	
72.00	0.220	207.030	72.00	0.08	-0.12	-0.06	40°30'23.165"N	104°53'28.641"W	0.31	
166.00	0.480	93.570	166.00	-0.21	-0.31	0.25	40°30'23.163"N	104°53'28.637"W	0.64	
261.00	0.090	58.320	261.00	-0.67	-0.29	0.71	40°30'23.163"N	104°53'28.631"W	0.43	
356.00	0.480	109.390	356.00	-1.09	-0.39	1.15	40°30'23.162"N	104°53'28.625"W	0.45	
451.00	0.400	227.690	450.99	-1.17	-0.74	1.28	40°30'23.159"N	104°53'28.623"W	0.80	
546.00	0.700	158.610	545.99	-1.05	-1.51	1.24	40°30'23.151"N	104°53'28.624"W	0.71	
641.00	0.310	231.730	640.99	-0.97	-2.21	1.25	40°30'23.144"N	104°53'28.624"W	0.71	
736.00	1.010	181.810	735.98	-0.62	-3.20	1.03	40°30'23.134"N	104°53'28.627"W	0.89	
831.00	1.320	205.980	830.96	0.12	-5.02	0.52	40°30'23.116"N	104°53'28.633"W	0.60	
926.00	0.620	348.360	925.96	0.75	-5.50	-0.06	40°30'23.112"N	104°53'28.641"W	1.95	
1022.00	0.220	285.430	1021.95	0.96	-4.94	-0.35	40°30'23.117"N	104°53'28.644"W	0.58	
1117.00	0.900	327.000	1116.95	1.46	-4.27	-0.93	40°30'23.124"N	104°53'28.652"W	0.79	
1212.00	0.900	339.000	1211.94	1.96	-2.95	-1.60	40°30'23.137"N	104°53'28.661"W	0.20	
1307.00	0.700	326.500	1306.93	2.39	-1.77	-2.19	40°30'23.149"N	104°53'28.668"W	0.28	
1402.00	0.600	334.600	1401.92	2.81	-0.83	-2.72	40°30'23.158"N	104°53'28.675"W	0.14	
1482.00	1.200	328.700	1481.91	3.28	0.26	-3.34	40°30'23.169"N	104°53'28.683"W	0.76	TIED INTO HELMER DRILLING SURFACE SURVEYS
1658.00	1.360	350.070	1657.87	4.13	3.89	-4.66	40°30'23.204"N	104°53'28.700"W	0.28	BHI DRILLED USING 3RD PARTY MWD - FIRST SURVEY
1752.00	1.410	206.280	1751.86	4.82	3.95	-5.36	40°30'23.205"N	104°53'28.709"W	2.80	
1847.00	1.070	212.240	1846.83	6.03	2.16	-6.35	40°30'23.187"N	104°53'28.722"W	0.38	
1942.00	2.110	152.310	1941.80	5.98	-0.14	-6.01	40°30'23.165"N	104°53'28.718"W	1.92	
2037.00	3.030	150.890	2036.71	4.43	-3.89	-3.98	40°30'23.128"N	104°53'28.691"W	0.97	
2131.00	3.600	131.610	2130.55	1.56	-8.02	-0.56	40°30'23.087"N	104°53'28.647"W	1.32	
2226.00	4.830	146.510	2225.29	-2.17	-13.33	3.88	40°30'23.034"N	104°53'28.590"W	1.72	
2320.00	9.730	147.480	2318.51	-7.32	-23.34	10.33	40°30'22.935"N	104°53'28.506"W	5.21	
2415.00	10.900	152.730	2411.97	-13.83	-38.09	18.77	40°30'22.790"N	104°53'28.397"W	1.58	
2510.00	12.880	155.300	2504.93	-20.09	-55.70	27.31	40°30'22.616"N	104°53'28.287"W	2.16	
2605.00	15.380	147.710	2597.06	-28.61	-75.97	38.46	40°30'22.415"N	104°53'28.142"W	3.27	
2700.00	16.820	143.980	2688.33	-40.57	-97.74	53.28	40°30'22.200"N	104°53'27.950"W	1.87	
2795.00	18.460	147.810	2778.87	-53.54	-121.59	69.37	40°30'21.965"N	104°53'27.742"W	2.11	
2890.00	21.160	145.140	2868.24	-67.85	-148.39	87.19	40°30'21.700"N	104°53'27.511"W	3.00	
2984.00	23.620	140.040	2955.15	-85.91	-176.75	108.99	40°30'21.419"N	104°53'27.229"W	3.33	
3079.00	23.870	144.990	3042.12	-105.17	-207.09	132.24	40°30'21.120"N	104°53'26.928"W	2.11	
3174.00	25.690	144.970	3128.37	-123.74	-239.69	155.09	40°30'20.797"N	104°53'26.632"W	1.92	
3269.00	25.620	141.540	3214.01	-144.00	-272.64	179.69	40°30'20.472"N	104°53'26.314"W	1.56	
3364.00	25.970	145.730	3299.55	-164.11	-305.91	204.18	40°30'20.143"N	104°53'25.997"W	1.95	
3459.00	25.540	143.270	3385.11	-183.66	-339.52	228.14	40°30'19.811"N	104°53'25.687"W	1.21	
3554.00	26.080	146.590	3470.64	-202.96	-373.37	251.88	40°30'19.477"N	104°53'25.379"W	1.62	
3649.00	25.360	151.250	3556.24	-219.65	-408.64	273.17	40°30'19.128"N	104°53'25.104"W	2.26	
3743.00	26.060	147.890	3640.93	-235.72	-443.78	293.83	40°30'18.781"N	104°53'24.836"W	1.72	
3838.00	28.830	145.780	3725.24	-254.91	-480.40	317.81	40°30'18.419"N	104°53'24.526"W	3.09	
3933.00	29.100	147.420	3808.35	-275.20	-518.81	343.13	40°30'18.039"N	104°53'24.198"W	0.88	
4028.00	29.490	149.210	3891.21	-294.45	-558.36	367.54	40°30'17.649"N	104°53'23.882"W	1.01	
4123.00	27.520	148.510	3974.69	-312.82	-597.17	390.97	40°30'17.265"N	104°53'23.579"W	2.10	
4218.00	24.700	144.140	4059.99	-331.36	-631.98	414.07	40°30'16.921"N	104°53'23.280"W	3.59	



Actual Wellpath Report

WINDER #11 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#11 WINDER #11 (936'FNL & 684'FEL, SEC.09)
Area	COLORADO	Well	WINDER #11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWP
Facility	SEC.09-T06N-R67W		

WELLPATH DATA (183 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4312.00	24.700	146.730	4145.39	-349.40	-664.32	436.35	40°30'16.602"N	104°53'22.991"W	1.15	
4407.00	24.770	143.990	4231.68	-367.70	-697.01	458.94	40°30'16.278"N	104°53'22.699"W	1.21	
4502.00	25.200	143.860	4317.79	-387.07	-729.45	482.57	40°30'15.958"N	104°53'22.393"W	0.46	
4597.00	27.230	146.940	4403.02	-406.32	-764.00	506.36	40°30'15.617"N	104°53'22.085"W	2.57	
4691.00	25.220	147.970	4487.34	-424.10	-799.00	528.71	40°30'15.271"N	104°53'21.796"W	2.19	
4785.00	24.990	151.200	4572.46	-439.81	-833.38	548.90	40°30'14.931"N	104°53'21.534"W	1.48	
4880.00	25.640	147.350	4658.35	-456.02	-868.28	569.66	40°30'14.586"N	104°53'21.266"W	1.86	
4975.00	25.440	146.530	4744.06	-473.87	-902.60	592.00	40°30'14.247"N	104°53'20.976"W	0.43	
5070.00	25.190	145.480	4829.94	-492.16	-936.28	614.71	40°30'13.914"N	104°53'20.682"W	0.54	
5165.00	23.390	146.650	4916.53	-509.74	-968.69	636.54	40°30'13.594"N	104°53'20.400"W	1.96	
5259.00	22.340	144.650	5003.14	-526.38	-998.85	657.13	40°30'13.296"N	104°53'20.133"W	1.39	
5355.00	17.940	145.490	5093.25	-541.77	-1025.93	676.07	40°30'13.028"N	104°53'19.888"W	4.59	
5449.00	16.700	148.320	5182.99	-554.00	-1049.35	691.37	40°30'12.797"N	104°53'19.690"W	1.59	
5543.00	15.840	148.680	5273.22	-564.83	-1071.81	705.13	40°30'12.575"N	104°53'19.512"W	0.92	
5638.00	16.940	149.630	5364.36	-575.57	-1094.83	718.87	40°30'12.347"N	104°53'19.334"W	1.19	
5733.00	13.120	146.710	5456.09	-585.75	-1115.79	731.79	40°30'12.140"N	104°53'19.167"W	4.10	
5827.00	13.390	147.890	5547.59	-595.02	-1133.92	743.43	40°30'11.961"N	104°53'19.016"W	0.41	
5922.00	12.200	150.380	5640.23	-603.48	-1151.97	754.24	40°30'11.783"N	104°53'18.876"W	1.38	
6017.00	8.700	141.850	5733.65	-611.00	-1166.35	763.64	40°30'11.641"N	104°53'18.755"W	4.02	
6112.00	7.410	130.630	5827.71	-618.80	-1175.99	772.73	40°30'11.545"N	104°53'18.637"W	2.13	
6207.00	4.850	124.920	5922.16	-625.89	-1182.28	780.67	40°30'11.483"N	104°53'18.534"W	2.77	
6301.00	3.570	114.760	6015.91	-631.32	-1185.78	786.59	40°30'11.449"N	104°53'18.457"W	1.57	
6396.00	2.390	110.800	6110.78	-635.58	-1187.72	791.13	40°30'11.429"N	104°53'18.399"W	1.26	
6491.00	1.050	108.000	6205.73	-638.12	-1188.69	793.81	40°30'11.420"N	104°53'18.364"W	1.41	
6585.00	0.210	340.950	6299.73	-638.86	-1188.80	794.57	40°30'11.419"N	104°53'18.354"W	1.26	
6679.00	6.120	266.620	6393.55	-633.82	-1188.93	789.51	40°30'11.418"N	104°53'18.420"W	6.45	
6704.00	9.510	264.570	6418.31	-630.43	-1189.20	786.12	40°30'11.415"N	104°53'18.464"W	13.60	
6798.00	17.040	269.380	6509.74	-608.95	-1190.09	764.58	40°30'11.406"N	104°53'18.742"W	8.09	
6893.00	23.410	267.690	6598.83	-576.29	-1191.00	731.78	40°30'11.397"N	104°53'19.167"W	6.73	
6988.00	29.800	264.710	6683.73	-533.85	-1193.94	689.37	40°30'11.368"N	104°53'19.716"W	6.87	
7082.00	36.530	263.480	6762.38	-482.47	-1199.28	638.25	40°30'11.315"N	104°53'20.378"W	7.19	
7178.00	45.850	266.210	6834.55	-419.37	-1204.81	575.36	40°30'11.261"N	104°53'21.192"W	9.89	
7272.00	56.640	272.550	6893.34	-346.77	-1205.30	502.23	40°30'11.256"N	104°53'22.139"W	12.62	
7367.00	65.120	270.780	6939.53	-264.84	-1202.94	419.35	40°30'11.279"N	104°53'23.211"W	9.07	
7462.00	64.640	270.600	6979.86	-179.64	-1201.90	333.34	40°30'11.289"N	104°53'24.325"W	0.53	
7557.00	75.440	265.870	7012.26	-90.91	-1204.78	244.26	40°30'11.261"N	104°53'25.478"W	12.29	
7580.00†	78.127	265.636	7017.52	-68.55	-1206.43	221.93	40°30'11.245"N	104°53'25.767"W	11.72	CROSSED SETBACK BOUNDARY (2142'FNL & 463'FEL, SEC.09)
7652.00	86.540	264.930	7027.11	2.68	-1212.30	150.88	40°30'11.187"N	104°53'26.687"W	11.72	
7747.00	88.220	267.740	7031.46	97.38	-1218.36	56.19	40°30'11.127"N	104°53'27.913"W	3.44	
7841.00	91.070	270.770	7032.04	190.76	-1219.59	-37.78	40°30'11.115"N	104°53'29.129"W	4.42	LANDING POINT (2156'FNL & 722'FEL, SEC.09)
7936.00	91.160	270.770	7030.19	284.82	-1218.31	-132.76	40°30'11.127"N	104°53'30.359"W	0.09	
8031.00	91.460	270.730	7028.02	378.88	-1217.07	-227.72	40°30'11.140"N	104°53'31.588"W	0.32	
8125.00	91.530	270.770	7025.56	471.94	-1215.84	-321.68	40°30'11.152"N	104°53'32.804"W	0.09	
8221.00	92.040	271.780	7022.57	566.84	-1213.70	-417.61	40°30'11.173"N	104°53'34.046"W	1.18	
8316.00	90.340	272.070	7020.60	660.61	-1210.51	-512.53	40°30'11.204"N	104°53'35.275"W	1.82	



Actual Wellpath Report

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Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWP
Facility	SEC.09-T06N-R67W		

WELLPATH DATA (183 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8411.00	90.030	273.260	7020.29	754.19	-1206.09	-607.43	40°30'11.248"N	104°53'36.503"W	1.29	
8506.00	89.870	270.460	7020.38	847.99	-1203.01	-702.37	40°30'11.278"N	104°53'37.732"W	2.95	
8601.00	88.950	270.700	7021.36	942.11	-1202.05	-797.36	40°30'11.288"N	104°53'38.962"W	1.00	
8695.00	89.120	270.730	7022.94	1035.19	-1200.88	-891.34	40°30'11.299"N	104°53'40.178"W	0.18	
8790.00	88.280	270.930	7025.09	1129.23	-1199.50	-986.30	40°30'11.313"N	104°53'41.408"W	0.91	
8885.00	91.490	271.610	7025.28	1223.18	-1197.40	-1081.26	40°30'11.334"N	104°53'42.637"W	3.45	
8979.00	90.950	270.620	7023.28	1316.16	-1195.57	-1175.22	40°30'11.352"N	104°53'43.853"W	1.20	
9074.00	91.060	269.720	7021.62	1410.36	-1195.29	-1270.21	40°30'11.355"N	104°53'45.083"W	0.95	
9169.00	91.450	269.000	7019.54	1504.71	-1196.35	-1365.18	40°30'11.344"N	104°53'46.312"W	0.86	
9264.00	92.210	269.170	7016.50	1599.09	-1197.86	-1460.12	40°30'11.329"N	104°53'47.541"W	0.82	
9358.00	92.330	268.210	7012.78	1692.51	-1200.01	-1554.02	40°30'11.308"N	104°53'48.757"W	1.03	
9453.00	91.960	270.080	7009.22	1786.86	-1201.43	-1648.94	40°30'11.294"N	104°53'49.986"W	2.01	
9548.00	88.720	269.600	7008.66	1881.12	-1201.69	-1743.92	40°30'11.291"N	104°53'51.215"W	3.45	
9642.00	88.620	269.640	7010.84	1974.43	-1202.31	-1837.89	40°30'11.285"N	104°53'52.432"W	0.11	
9737.00	90.220	269.940	7011.80	2068.71	-1202.66	-1932.88	40°30'11.281"N	104°53'53.661"W	1.71	
9832.00	91.580	270.150	7010.31	2162.93	-1202.59	-2027.87	40°30'11.282"N	104°53'54.891"W	1.45	
9926.00	91.060	269.860	7008.15	2256.16	-1202.58	-2121.85	40°30'11.282"N	104°53'56.108"W	0.63	
10021.00	91.130	270.060	7006.33	2350.40	-1202.65	-2216.83	40°30'11.281"N	104°53'57.337"W	0.22	
10117.00	90.600	270.780	7004.88	2445.54	-1201.94	-2312.81	40°30'11.288"N	104°53'58.580"W	0.93	
10211.00	92.400	270.870	7002.42	2538.57	-1200.59	-2406.77	40°30'11.301"N	104°53'59.796"W	1.92	
10306.00	91.830	270.230	6998.91	2632.64	-1199.68	-2501.70	40°30'11.310"N	104°54'01.025"W	0.90	
10401.00	91.440	270.350	6996.20	2726.78	-1199.20	-2596.66	40°30'11.315"N	104°54'02.254"W	0.43	
10496.00	90.760	270.530	6994.38	2820.92	-1198.47	-2691.64	40°30'11.322"N	104°54'03.484"W	0.74	
10590.00	92.230	270.710	6991.93	2914.01	-1197.45	-2785.60	40°30'11.332"N	104°54'04.700"W	1.58	
10684.00	91.530	269.960	6988.84	3007.14	-1196.90	-2879.54	40°30'11.337"N	104°54'05.916"W	1.09	
10779.00	91.430	270.790	6986.39	3101.27	-1196.28	-2974.51	40°30'11.343"N	104°54'07.145"W	0.88	
10874.00	94.260	271.270	6981.68	3195.16	-1194.58	-3069.37	40°30'11.360"N	104°54'08.373"W	3.02	
10968.00	93.960	271.780	6974.94	3287.83	-1192.08	-3163.09	40°30'11.384"N	104°54'09.587"W	0.63	
11063.00	93.970	272.640	6968.37	3381.32	-1188.43	-3257.79	40°30'11.420"N	104°54'10.813"W	0.90	
11158.00	94.690	270.330	6961.20	3474.95	-1185.97	-3352.48	40°30'11.445"N	104°54'12.038"W	2.54	
11253.00	94.370	270.960	6953.69	3568.76	-1184.90	-3447.18	40°30'11.455"N	104°54'13.264"W	0.74	
11348.00	94.450	270.490	6946.39	3662.57	-1183.71	-3541.89	40°30'11.467"N	104°54'14.490"W	0.50	
11443.00	94.420	270.950	6939.04	3756.38	-1182.52	-3636.60	40°30'11.478"N	104°54'15.716"W	0.48	
11538.00	94.280	270.570	6931.84	3850.19	-1181.26	-3731.32	40°30'11.491"N	104°54'16.942"W	0.43	
11633.00	94.580	270.650	6924.50	3944.02	-1180.25	-3826.03	40°30'11.500"N	104°54'18.169"W	0.33	
11727.00	94.530	270.080	6917.03	4036.91	-1179.65	-3919.73	40°30'11.506"N	104°54'19.381"W	0.61	
11822.00	93.510	270.270	6910.37	4130.88	-1179.36	-4014.49	40°30'11.509"N	104°54'20.608"W	1.09	
11917.00	92.680	268.400	6905.24	4225.12	-1180.47	-4109.34	40°30'11.498"N	104°54'21.836"W	2.15	
12011.00	90.970	268.570	6902.25	4318.60	-1182.95	-4203.26	40°30'11.473"N	104°54'23.052"W	1.83	
12105.00	90.790	268.520	6900.81	4412.12	-1185.34	-4297.22	40°30'11.449"N	104°54'24.268"W	0.20	
12200.00	90.560	268.070	6899.69	4506.67	-1188.16	-4392.17	40°30'11.421"N	104°54'25.497"W	0.53	
12294.00	89.910	268.260	6899.30	4600.25	-1191.17	-4486.12	40°30'11.391"N	104°54'26.713"W	0.72	
12389.00	88.490	269.150	6900.63	4694.73	-1193.32	-4581.08	40°30'11.370"N	104°54'27.943"W	1.76	
12484.00	89.780	269.520	6902.06	4789.10	-1194.42	-4676.06	40°30'11.359"N	104°54'29.172"W	1.41	
12579.00	89.690	270.000	6902.50	4883.39	-1194.82	-4771.06	40°30'11.355"N	104°54'30.402"W	0.51	



Actual Wellpath Report

WINDER #11 AWP
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REFERENCE WELLPATH IDENTIFICATION

Operator	EXTRACTION OIL & GAS	Slot	SLOT#11 WINDER #11 (936'FNL & 684'FEL, SEC.09)
Area	COLORADO	Well	WINDER #11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWP
Facility	SEC.09-T06N-R67W		

WELLPATH DATA (183 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12673.00	88.960	269.310	6903.61	4976.71	-1195.39	-4865.05	40°30'11.349"N	104°54'31.619"W	1.07	
12768.00	90.860	270.030	6903.76	5071.02	-1195.93	-4960.04	40°30'11.344"N	104°54'32.849"W	2.14	
12863.00	91.430	270.950	6901.86	5165.14	-1195.12	-5055.02	40°30'11.351"N	104°54'34.078"W	1.14	
12958.00	91.040	270.660	6899.81	5259.19	-1193.79	-5149.99	40°30'11.364"N	104°54'35.307"W	0.51	
13053.00	90.710	269.720	6898.36	5353.38	-1193.47	-5244.97	40°30'11.367"N	104°54'36.537"W	1.05	
13147.00	90.590	270.060	6897.29	5446.65	-1193.65	-5338.97	40°30'11.365"N	104°54'37.754"W	0.38	
13242.00	90.640	269.450	6896.27	5540.94	-1194.06	-5433.96	40°30'11.361"N	104°54'38.983"W	0.64	
13336.00	90.320	268.950	6895.49	5634.35	-1195.37	-5527.95	40°30'11.348"N	104°54'40.200"W	0.63	
13430.00	90.040	269.120	6895.19	5727.79	-1196.95	-5621.93	40°30'11.332"N	104°54'41.417"W	0.35	
13525.00	89.890	269.080	6895.25	5822.21	-1198.45	-5716.92	40°30'11.317"N	104°54'42.646"W	0.16	
13619.00	89.060	268.480	6896.11	5915.69	-1200.45	-5810.90	40°30'11.297"N	104°54'43.863"W	1.09	
13714.00	90.560	268.480	6896.43	6010.22	-1202.97	-5905.86	40°30'11.272"N	104°54'45.092"W	1.58	
13808.00	90.360	267.650	6895.67	6103.82	-1206.14	-5999.80	40°30'11.240"N	104°54'46.308"W	0.91	
13903.00	90.790	268.150	6894.72	6198.43	-1209.62	-6094.73	40°30'11.206"N	104°54'47.537"W	0.69	
13997.00	90.760	270.940	6893.45	6291.76	-1210.37	-6188.71	40°30'11.198"N	104°54'48.754"W	2.97	
14092.00	89.160	270.700	6893.51	6385.82	-1209.01	-6283.70	40°30'11.211"N	104°54'49.983"W	1.70	
14186.00	89.080	270.970	6894.96	6478.88	-1207.64	-6377.68	40°30'11.225"N	104°54'51.200"W	0.30	
14281.00	88.580	271.090	6896.90	6572.88	-1205.93	-6472.64	40°30'11.241"N	104°54'52.429"W	0.54	
14375.00	87.520	271.170	6900.10	6665.83	-1204.08	-6566.57	40°30'11.259"N	104°54'53.645"W	1.13	
14470.00	86.660	271.850	6904.92	6759.61	-1201.58	-6661.41	40°30'11.284"N	104°54'54.873"W	1.15	
14565.00	90.270	270.350	6907.46	6853.55	-1199.76	-6756.34	40°30'11.302"N	104°54'56.102"W	4.11	
14660.00	90.370	270.270	6906.93	6947.73	-1199.24	-6851.34	40°30'11.306"N	104°54'57.332"W	0.13	
14754.00	90.270	270.440	6906.41	7040.91	-1198.66	-6945.34	40°30'11.312"N	104°54'58.548"W	0.21	
14849.00	91.090	270.830	6905.28	7135.01	-1197.61	-7040.32	40°30'11.322"N	104°54'59.778"W	0.96	
14944.00	92.010	270.310	6902.71	7229.10	-1196.66	-7135.28	40°30'11.331"N	104°55'01.007"W	1.11	
15039.00	90.600	271.440	6900.55	7323.13	-1195.21	-7230.24	40°30'11.345"N	104°55'02.237"W	1.90	
15133.00	91.830	271.610	6898.55	7416.01	-1192.71	-7324.18	40°30'11.370"N	104°55'03.453"W	1.32	
15228.00	88.260	272.450	6898.48	7509.76	-1189.35	-7419.11	40°30'11.402"N	104°55'04.682"W	3.86	
15323.00	88.170	273.680	6901.44	7603.19	-1184.27	-7513.93	40°30'11.452"N	104°55'05.909"W	1.30	
15418.00	86.310	274.080	6906.01	7696.30	-1177.85	-7608.59	40°30'11.516"N	104°55'07.134"W	2.00	
15513.00	89.480	271.010	6909.50	7789.83	-1173.64	-7703.41	40°30'11.557"N	104°55'08.362"W	4.64	
15607.00	90.250	270.080	6909.72	7882.97	-1172.74	-7797.41	40°30'11.565"N	104°55'09.579"W	1.28	
15703.00	91.870	268.960	6907.95	7978.28	-1173.55	-7893.38	40°30'11.557"N	104°55'10.821"W	2.05	
15798.00	92.080	268.850	6904.67	8072.69	-1175.36	-7988.31	40°30'11.539"N	104°55'12.050"W	0.25	
15893.00	91.530	268.730	6901.68	8167.12	-1177.37	-8083.24	40°30'11.519"N	104°55'13.279"W	0.59	
15988.00	91.500	267.800	6899.17	8261.65	-1180.24	-8178.16	40°30'11.490"N	104°55'14.508"W	0.98	
16082.00	91.820	267.650	6896.45	8355.26	-1183.97	-8272.05	40°30'11.453"N	104°55'15.723"W	0.38	
16177.00	89.540	270.230	6895.32	8449.69	-1185.73	-8367.01	40°30'11.435"N	104°55'16.952"W	3.62	
16272.00	89.150	270.440	6896.40	8543.86	-1185.17	-8462.00	40°30'11.440"N	104°55'18.182"W	0.47	
16367.00	88.450	269.940	6898.39	8638.04	-1184.86	-8556.98	40°30'11.443"N	104°55'19.411"W	0.91	
16462.00	87.270	270.560	6901.94	8732.17	-1184.44	-8651.91	40°30'11.447"N	104°55'20.640"W	1.40	
16557.00	87.680	271.290	6906.13	8826.12	-1182.91	-8746.81	40°30'11.462"N	104°55'21.869"W	0.88	
16652.00	87.350	272.190	6910.25	8919.87	-1180.03	-8841.67	40°30'11.490"N	104°55'23.097"W	1.01	
16747.00	85.340	271.680	6916.30	9013.46	-1176.83	-8936.42	40°30'11.521"N	104°55'24.323"W	2.18	
16841.00	89.250	271.190	6920.74	9106.27	-1174.48	-9030.27	40°30'11.544"N	104°55'25.538"W	4.19	



Actual Wellpath Report

WINDER #11 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#11 WINDER #11 (936'FNL & 684'FEL, SEC.09)
Area	COLORADO	Well	WINDER #11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWB
Facility	SEC.09-T06N-R67W		

WELLPATH DATA (183 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
16936.00	88.550	271.750	6922.56	9200.16	-1172.04	-9125.22	40°30'11.568"N	104°55'26.767"W	0.94	
17031.00	88.090	272.840	6925.35	9293.81	-1168.24	-9220.10	40°30'11.605"N	104°55'27.996"W	1.24	BHI DRILLED USING 3RD PARTY MWD - LAST SURVEY
17096.00	88.090	272.840	6927.51	9357.78	-1165.02	-9284.98	40°30'11.637"N	104°55'28.836"W	0.00	PROJECTION TO BIT (1935'FNL & 525'FWL, SEC.08)

HOLE & CASING SECTIONS - Ref Wellbore: WINDER #11 AWB Ref Wellpath: WINDER #11 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	0.00	1584.00	1584.00	0.00	1583.89	0.00	0.00	2.25	-4.25
9.625in Casing Surface	0.00	1560.00	1560.00	0.00	1559.89	0.00	0.00	1.75	-4.07
7.875in Open Hole	1584.00	17096.00	15512.00	1583.89	6927.51	2.25	-4.25	-1165.02	-9284.98



Actual Wellpath Report

WINDER #11 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#11 WINDER #11 (936'FNL & 684'FEL, SEC.09)
Area	COLORADO	Well	WINDER #11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWB
Facility	SEC.09-T06N-R67W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
TWELL/WINDER 1/2 SECTION 08	57.00	-3074.10	-9582.54	3159703.97	1424776.07	40°29'52.771"N	104°55'32.678"W	polygon
TWELL/WINDER 1/2 SECTION 09	57.00	-3074.10	-9582.54	3159703.97	1424776.07	40°29'52.771"N	104°55'32.678"W	polygon
TWELL/WINDER SECTION 08	57.00	-3074.10	-9582.54	3159703.97	1424776.07	40°29'52.771"N	104°55'32.678"W	polygon
TWELL/WINDER SECTION 09	57.00	-3074.10	-9582.54	3159703.97	1424776.07	40°29'52.771"N	104°55'32.678"W	polygon
WINDER #11 BHL ON PLAT REV-4 (1954'FNL & 460'FWL, SEC.08)	6970.00	-1184.49	-9349.91	3159923.63	1426667.17	40°30'11.444"N	104°55'29.676"W	point
WINDER #11 LANDING POINT ON PLAT REV-4 (2145'FNL & 460'FEL, SEC.09)	6970.00	-1209.54	213.83	3169486.97	1426707.77	40°30'11.214"N	104°53'25.872"W	point
WINDER #11 BHL ON PLAT REV-2 (1954'FNL & 460'FWL, SEC.08)	7261.00	-1184.49	-9349.91	3159923.63	1426667.17	40°30'11.444"N	104°55'29.676"W	point
WINDER #11 LANDING POINT ON PLAT REV-2 (2145'FNL & 460'FEL, SEC.09)	7261.00	-1209.54	213.83	3169486.97	1426707.77	40°30'11.214"N	104°53'25.872"W	point
WINDER #11 BHL ON PLAT REV-1 (1954'FNL & 460'FWL, SEC.08)	7271.00	-1184.45	-9349.91	3159923.63	1426667.21	40°30'11.444"N	104°55'29.676"W	point
WINDER #11 LANDING POINT ON PLAT (2145'FNL & 460'FEL, SEC.09)	7271.00	-1209.54	213.83	3169486.97	1426707.77	40°30'11.214"N	104°53'25.872"W	point
WINDER #11 BHL ON PLAT REV-3 (1954'FNL & 460'FWL, SEC.08)	7307.00	-1184.49	-9349.91	3159923.63	1426667.17	40°30'11.444"N	104°55'29.676"W	point
WINDER #11 LANDING POINT ON PLAT REV-3 (2145'FNL & 460'FEL, SEC.09)	7307.00	-1209.54	213.83	3169486.97	1426707.77	40°30'11.214"N	104°53'25.872"W	point
TWELL/WINDER PAD CENTER SECTION HARDLINES(460'SETBACKS)	7419.00	-3074.10	-9582.54	3159703.97	1424776.07	40°29'52.771"N	104°55'32.678"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: WINDER #11 AWB				Ref Wellpath: WINDER #11 AWP
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	1482.00	ISCWSA MWD, Rev. 4 (Standard)	HELMER DIRECTIONAL SURFACE SURVEYS <72 - 1482>	WINDER #11 AWB
1482.00	17031.00	ISCWSA MWD, Rev. 4 (Standard)	BHI DRILLED USING 3RD PARTY MWD 7 7/8" MONOBORE SURVEYS <1658-17031>	WINDER #11 AWB
17031.00	17096.00	Blind Drilling (std)	Projection to bit	WINDER #11 AWB



Actual Wellpath Report

WINDER #11 AWP
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REFERENCE WELLPATH IDENTIFICATION			
Operator	EXTRACTION OIL & GAS	Slot	SLOT#11 WINDER #11 (936'FNL & 684'FEL, SEC.09)
Area	COLORADO	Well	WINDER #11
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WINDER #11 AWB
Facility	SEC.09-T06N-R67W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1482.00	1.200	328.700	1481.91	TIED INTO HELMER DRILLING SURFACE SURVEYS
1658.00	1.360	350.070	1657.87	BHI DRILLED USING 3RD PARTY MWD - FIRST SURVEY
7580.00	78.127	265.636	7017.52	CROSSED SETBACK BOUNDARY (2142'FNL & 463'FEL, SEC.09)
7841.00	91.070	270.770	7032.04	LANDING POINT (2156'FNL & 722'FEL, SEC.09)
17031.00	88.090	272.840	6925.35	BHI DRILLED USING 3RD PARTY MWD - LAST SURVEY
17096.00	88.090	272.840	6927.51	PROJECTION TO BIT (1935'FNL & 525'FWL, SEC.08)