

EXTRACTION OIL & GAS

Location: COLORADO Slot: SLOT#09 WIND 9 (1602'FSL & 240'FWL, SEC.31)
Field: WELD COUNTY (NAD83/TRUE NORTH) Well: WIND 9
Facility: SEC.31-T05N-R67W Wellbore: WIND 9 PWB



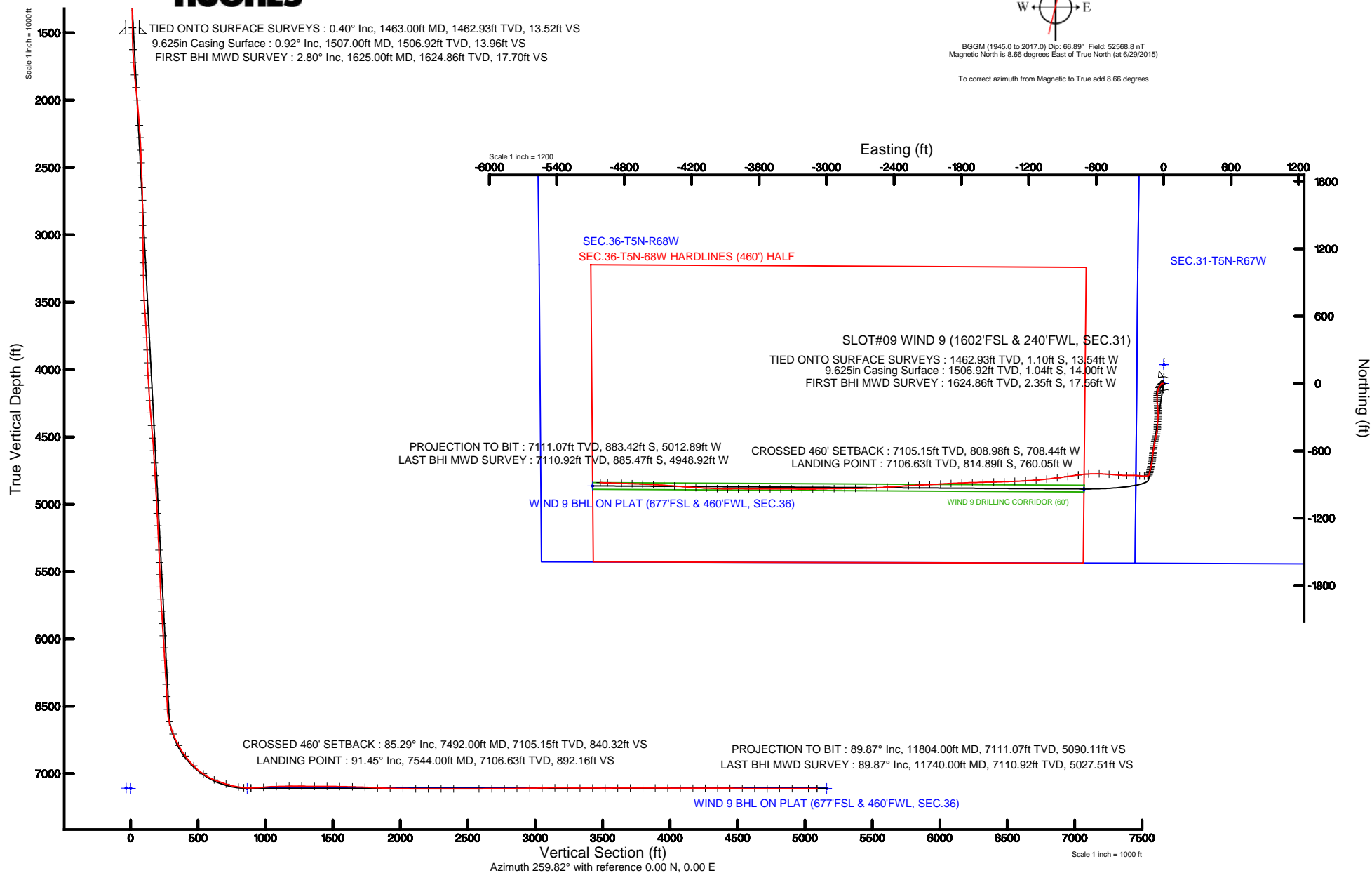
Plot reference wellpath is WIND 9 (REV-B.0) PWB

True vertical depths are referenced to SAVANNA 802 (RKB)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
Measured depths are referenced to SAVANNA 802 (RKB)	North Reference: True north
SAVANNA 802 (RKB) to Mean Sea Level: 4943 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#09 WIND 9 (1602'FSL & 240'FWL, SEC.31)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ingmjmr on 7/17/2015



BGGM (1945.0 to 2017.0) Dip: 66.89° Field: 52568.8 nT
Magnetic North is 8.66 degrees East of True North (at 6/29/2015)

To correct azimuth from Magnetic to True add 8.66 degrees





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REFERENCE WELLPATH IDENTIFICATION

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REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 4.1.1
North Reference	True	User	Ingmjmr
Scale	0.999958	Report Generated	7/17/2015 at 3:16:31 PM
Convergence at slot	0.36° East	Database/Source file	Denver/WIND_9_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-46829.57	-31060.47	3154774.94	1372106.75	40°21'12.614"N	104°56'40.751"W
Facility Reference Pt			3185481.27	1419166.81	40°28'55.560"N	104°49'59.556"W
Field Reference Pt			3185481.27	1419166.81	40°28'55.560"N	104°49'59.556"W

WELLPATH DATUM

Calculation method	Minimum curvature	SAVANNA 802 (RKB) to Facility Vertical Datum	4943.00ft
Horizontal Reference Pt	Slot	SAVANNA 802 (RKB) to Mean Sea Level	4943.00ft
Vertical Reference Pt	SAVANNA 802 (RKB)	SAVANNA 802 (RKB) to Mud Line at Slot (SLOT#09 WIND 9 (1602'FSL & 240'FWL, SEC.31))	4943.00ft
MD Reference Pt	SAVANNA 802 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	259.82°



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WELLPATH DATA (116 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00†	0.000	251.000	0.00	0.00	0.00	0.00	0.00	
15.00	0.000	251.000	15.00	0.00	0.00	0.00	0.00	
143.00	0.800	251.000	143.00	0.88	-0.29	-0.84	0.62	
416.00	0.700	259.800	415.97	4.43	-1.21	-4.29	0.06	
692.00	0.700	270.600	691.95	7.78	-1.49	-7.63	0.05	
969.00	0.400	271.400	968.94	10.39	-1.45	-10.29	0.11	
1244.00	0.400	263.900	1243.93	12.28	-1.52	-12.21	0.02	
1463.00	0.400	311.800	1462.93	13.52	-1.10	-13.54	0.15	TIED ONTO SURFACE SURVEYS
1625.00	2.800	245.610	1624.86	17.70	-2.35	-17.56	1.64	FIRST BHI MWD SURVEY
1719.00	4.350	220.460	1718.68	22.68	-6.01	-21.97	2.31	
1814.00	7.420	217.310	1813.17	29.99	-13.64	-28.02	3.25	
1908.00	9.000	212.730	1906.20	39.48	-24.65	-35.68	1.82	
2003.00	10.270	203.650	1999.86	49.25	-38.66	-43.09	2.08	
2192.00	10.460	191.120	2185.80	64.87	-70.93	-53.16	1.19	
2286.00	10.120	190.490	2278.29	70.88	-87.42	-56.31	0.38	
2381.00	12.860	180.000	2371.39	75.70	-106.21	-57.83	3.62	
2476.00	12.820	180.110	2464.01	79.45	-127.32	-57.85	0.05	
2571.00	10.870	180.320	2556.99	82.97	-146.82	-57.92	2.05	
2665.00	9.670	180.380	2649.48	86.03	-163.58	-58.03	1.28	
2760.00	10.910	172.500	2742.95	87.92	-180.47	-56.90	1.97	
2854.00	9.280	172.580	2835.50	88.70	-196.81	-54.76	1.73	
2949.00	8.140	173.280	2929.40	89.48	-211.08	-52.99	1.21	
3043.00	9.530	178.310	3022.28	91.03	-225.47	-51.98	1.69	
3137.00	7.620	178.020	3115.23	93.07	-239.48	-51.54	2.03	
3231.00	10.710	174.750	3208.02	94.71	-254.41	-50.52	3.33	
3325.00	8.640	176.420	3300.67	96.27	-270.16	-49.28	2.22	
3420.00	6.440	179.580	3394.85	97.99	-282.61	-48.80	2.36	
3514.00	10.400	185.590	3487.82	101.20	-296.33	-49.58	4.31	
3610.00	13.980	186.770	3581.64	106.94	-316.47	-51.80	3.74	
3704.00	14.330	184.220	3672.78	113.14	-339.35	-53.99	0.76	



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REFERENCE WELLPATH IDENTIFICATION

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Area	COLORADO	Well	WIND 9
Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WIND 9 AWB
Facility	SEC.31-T05N-R67W		

WELLPATH DATA (116 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
3798.00	13.420	182.360	3764.04	118.40	-361.85	-55.30	1.08	
3892.00	10.330	181.140	3856.02	122.43	-381.18	-55.91	3.30	
3987.00	8.730	176.770	3949.71	124.97	-396.90	-55.68	1.85	
4082.00	11.640	190.770	4043.21	129.28	-413.51	-57.06	4.00	
4177.00	10.480	189.190	4136.45	135.57	-431.46	-60.23	1.26	
4272.00	9.810	190.360	4229.96	141.28	-447.95	-63.07	0.74	
4366.00	12.750	193.540	4322.14	148.26	-465.92	-66.94	3.20	
4461.00	11.760	193.720	4414.97	156.40	-485.51	-71.69	1.04	
4556.00	10.670	193.410	4508.15	163.84	-503.47	-76.02	1.15	
4651.00	9.700	192.270	4601.66	170.42	-519.85	-79.76	1.04	
4745.00	12.110	189.050	4693.95	176.70	-537.33	-83.00	2.64	
4840.00	9.650	189.730	4787.24	182.69	-555.02	-85.91	2.59	
4935.00	8.020	189.790	4881.11	187.67	-569.40	-88.38	1.72	
5029.00	11.040	186.300	4973.80	192.46	-584.81	-90.49	3.27	
5124.00	8.900	188.000	5067.36	197.34	-601.13	-92.51	2.27	
5216.00	7.270	187.610	5158.44	201.34	-613.95	-94.27	1.77	
5308.00	9.880	189.870	5249.41	205.82	-627.50	-96.39	2.86	
5401.00	8.270	185.110	5341.24	210.32	-642.02	-98.36	1.91	
5493.00	10.430	182.730	5432.01	213.93	-656.93	-99.34	2.38	
5585.00	8.740	185.540	5522.73	217.69	-672.21	-100.42	1.91	
5677.00	6.670	184.340	5613.89	220.92	-684.49	-101.49	2.26	
5768.00	9.340	190.930	5704.00	224.91	-697.02	-103.29	3.10	
5860.00	9.910	192.670	5794.70	230.67	-712.07	-106.45	0.70	
5952.00	7.880	194.970	5885.59	236.43	-725.89	-109.81	2.24	
6044.00	10.110	192.010	5976.46	242.16	-739.88	-113.12	2.47	
6135.00	7.980	192.150	6066.32	247.58	-753.87	-116.11	2.34	
6228.00	10.270	192.300	6158.14	253.20	-768.28	-119.24	2.46	
6317.00	7.510	193.430	6246.06	258.57	-781.69	-122.28	3.11	
6409.00	8.670	194.870	6337.14	263.91	-794.24	-125.46	1.28	
6500.00	6.490	194.150	6427.34	268.94	-805.86	-128.47	2.40	



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WELLPATH DATA (116 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
6596.00	5.470	197.300	6522.82	273.28	-815.49	-131.16	1.12	
6690.00	13.750	252.360	6615.57	286.47	-823.18	-143.18	12.24	
6785.00	22.320	273.050	6705.91	315.31	-825.65	-172.04	11.13	
6880.00	30.380	276.120	6790.97	355.99	-822.12	-214.01	8.60	
6975.00	36.560	270.290	6870.20	406.94	-819.41	-266.25	7.33	
7070.00	44.880	270.220	6942.13	467.83	-819.14	-328.17	8.76	
7165.00	56.180	274.730	7002.44	539.18	-815.75	-401.27	12.44	
7260.00	68.830	274.370	7046.21	620.52	-809.09	-485.11	13.32	
7355.00	72.560	271.150	7077.62	707.88	-804.80	-574.63	5.06	
7450.00	80.320	267.260	7099.89	798.91	-806.13	-666.89	9.09	
7492.00†	85.289	264.909	7105.15	840.32	-808.98	-708.44	13.07	CROSSED 460' SETBACK
7544.00	91.450	262.040	7106.63	892.16	-814.89	-760.05	13.07	LANDING POINT
7638.00	95.050	261.420	7101.30	985.94	-828.38	-852.91	3.89	
7733.00	91.260	263.350	7096.07	1080.68	-840.95	-946.91	4.48	
7828.00	91.230	263.600	7094.01	1175.46	-851.74	-1041.27	0.26	
7922.00	89.080	265.480	7093.75	1269.13	-860.68	-1134.83	3.04	
8017.00	89.350	266.430	7095.05	1363.58	-867.38	-1229.59	1.04	
8112.00	90.180	268.010	7095.44	1457.78	-871.99	-1324.47	1.88	
8206.00	88.830	268.010	7096.26	1550.82	-875.26	-1418.41	1.44	
8301.00	88.580	268.660	7098.40	1644.74	-878.02	-1513.34	0.73	
8396.00	87.540	268.430	7101.62	1738.59	-880.43	-1608.26	1.12	
8490.00	86.920	268.200	7106.16	1831.45	-883.19	-1702.11	0.70	
8585.00	88.710	267.670	7109.78	1925.42	-886.61	-1796.97	1.96	
8680.00	88.800	267.200	7111.85	2019.56	-890.86	-1891.85	0.50	
8775.00	89.660	266.750	7113.12	2113.81	-895.87	-1986.71	1.02	
8870.00	89.880	267.220	7113.51	2208.07	-900.87	-2081.58	0.55	
8965.00	90.370	266.960	7113.30	2302.30	-905.69	-2176.46	0.58	
9059.00	89.880	266.010	7113.09	2395.66	-911.45	-2270.28	1.14	
9249.00	90.340	266.670	7112.73	2584.43	-923.58	-2459.89	0.42	
9343.00	90.000	266.270	7112.45	2677.80	-929.37	-2553.71	0.56	



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Field	WELD COUNTY (NAD83/TRUE NORTH)	Wellbore	WIND 9 AWB
Facility	SEC.31-T05N-R67W		

WELLPATH DATA (116 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
9438.00	90.670	268.840	7111.89	2771.92	-933.42	-2648.61	2.80	
9533.00	90.830	269.460	7110.65	2865.66	-934.83	-2743.59	0.67	
9628.00	91.260	269.370	7108.92	2959.31	-935.80	-2838.57	0.46	
9722.00	91.440	269.160	7106.70	3052.01	-937.01	-2932.54	0.29	
9817.00	90.000	268.890	7105.51	3145.77	-938.62	-3027.51	1.54	
9912.00	89.600	268.810	7105.84	3239.59	-940.53	-3122.49	0.43	
10007.00	89.840	270.850	7106.31	3333.14	-940.81	-3217.49	2.16	
10102.00	89.350	270.810	7106.98	3426.39	-939.44	-3312.48	0.52	
10197.00	89.900	270.340	7107.60	3519.72	-938.48	-3407.47	0.76	
10291.00	90.460	270.030	7107.30	3612.18	-938.18	-3501.47	0.68	
10386.00	90.240	269.890	7106.72	3705.69	-938.25	-3596.46	0.27	
10481.00	90.120	270.190	7106.42	3799.18	-938.18	-3691.46	0.34	
10574.00	89.840	270.120	7106.46	3890.67	-937.93	-3784.46	0.31	
10668.00	89.070	269.400	7107.35	3983.26	-938.32	-3878.46	1.12	
10763.00	89.620	272.230	7108.44	4076.50	-936.97	-3973.43	3.03	
10858.00	90.000	272.710	7108.75	4169.19	-932.88	-4068.34	0.64	
10953.00	90.030	273.340	7108.73	4261.67	-927.86	-4163.21	0.66	
11047.00	90.030	274.550	7108.68	4352.83	-921.40	-4256.98	1.29	
11142.00	89.660	274.370	7108.94	4444.74	-914.01	-4351.70	0.43	
11236.00	88.460	273.880	7110.48	4535.81	-907.25	-4445.44	1.38	
11331.00	89.840	273.070	7111.89	4628.11	-901.49	-4540.25	1.68	
11426.00	89.630	272.400	7112.33	4720.70	-896.96	-4635.14	0.74	
11520.00	90.550	271.750	7112.18	4812.56	-893.55	-4729.08	1.20	
11615.00	90.490	272.410	7111.32	4905.39	-890.11	-4824.01	0.70	
11740.00	89.870	271.840	7110.92	5027.51	-885.47	-4948.92	0.67	LAST BHI MWD SURVEY
11804.00	89.870	271.840	7111.07	5090.11	-883.42	-5012.89	0.00	PROJECTION TO BIT



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Facility	SEC.31-T05N-R67W		

HOLE & CASING SECTIONS - Ref Wellbore: WIND 9 AWB Ref Wellpath: WIND 9 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]
9.625in Casing Surface	15.00	1507.00	1492.00	15.00	1506.92	0.00	0.00	-1.04	-14.00
7.875in Open Hole	15.00	11804.00	11789.00	15.00	7111.07	0.00	0.00	-883.42	-5012.89

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.31-T5N-R67W	3.00	167.99	2.25	3154776.14	1372274.74	40°21'14.274"N	104°56'40.722"W	polygon
SEC.36-T5N-R68W	3.00	167.99	2.25	3154776.14	1372274.74	40°21'14.274"N	104°56'40.722"W	polygon
SEC.36-T5N-68W HARDLINES (460') HALF	7108.00	167.99	2.25	3154776.14	1372274.74	40°21'14.274"N	104°56'40.722"W	polygon
WIND 9 BHL ON PLAT (677'FSL & 460'FWL, SEC.36)	7110.00	-912.78	-5081.13	3149699.85	1371162.20	40°21'03.589"N	104°57'46.379"W	point
WIND 9 DRILLING CORRIDOR (60')	7110.00	0.00	0.00	3154774.94	1372106.74	40°21'12.614"N	104°56'40.751"W	polygon
WIND 9 LANDING POINT	7110.00	-940.21	-708.81	3154072.07	1371162.15	40°21'03.323"N	104°56'49.906"W	point

WELLPATH COMPOSITION - Ref Wellbore: WIND 9 AWB Ref Wellpath: WIND 9 AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
15.00	1463.00	ISCWSA MWD, Rev. 3 (Standard)	NEWSO SURVEYS <143-1463>	WIND 9 AWB
1463.00	11740.00	NaviTrak (Standard)	BHI MWD/NAVITRAK (STD) 7/78 HOLE <1625-11740>	WIND 9 AWB
11740.00	11804.00	Blind Drilling (std)	Projection to bit	WIND 9 AWB



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WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1463.00	0.400	311.800	1462.93	TIED ONTO SURFACE SURVEYS
1625.00	2.800	245.610	1624.86	FIRST BHI MWD SURVEY
7492.00	85.289	264.909	7105.15	CROSSED 460' SETBACK
7544.00	91.450	262.040	7106.63	LANDING POINT
11740.00	89.870	271.840	7110.92	LAST BHI MWD SURVEY
11804.00	89.870	271.840	7111.07	PROJECTION TO BIT