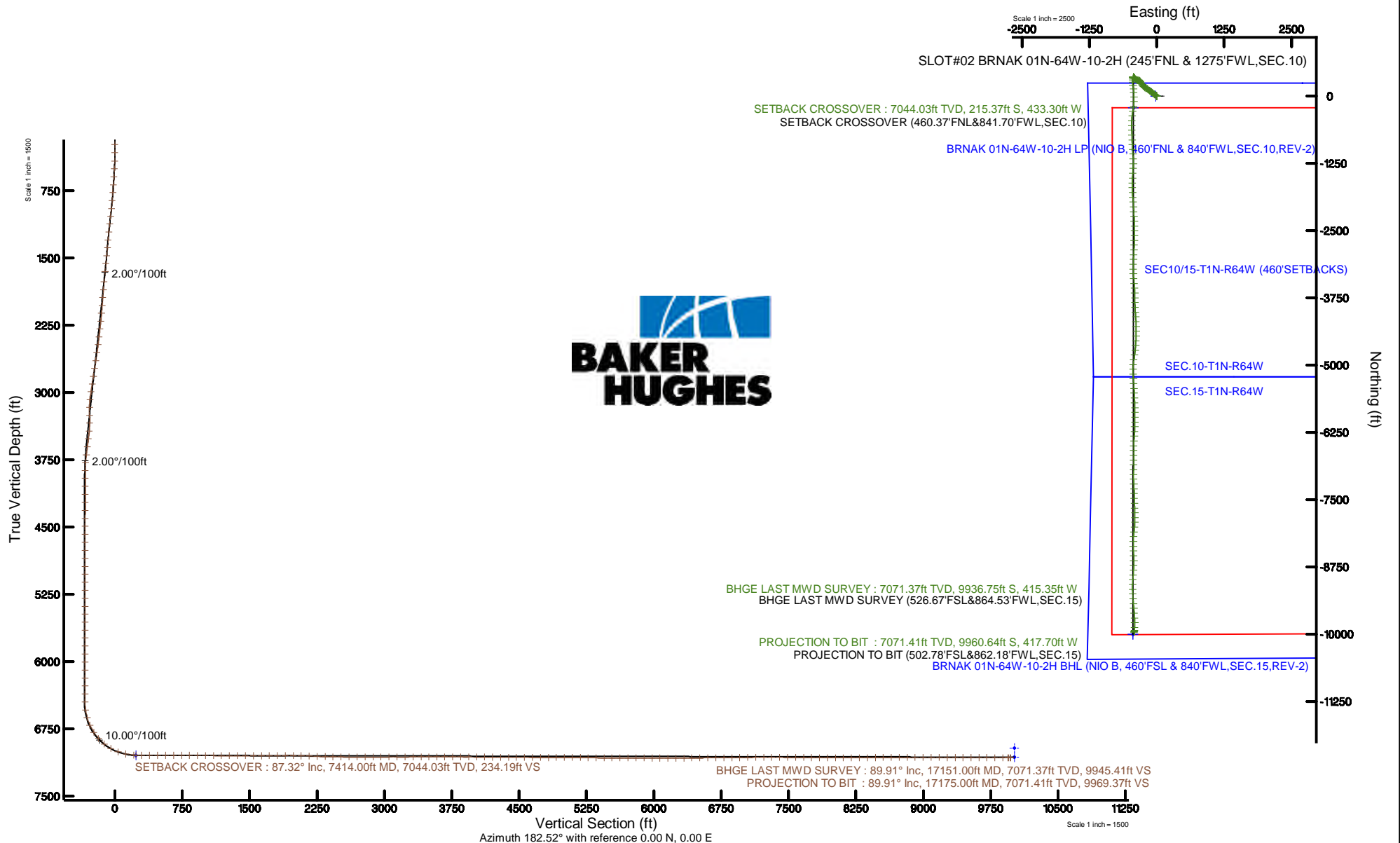


VERDAD OIL & GAS CORPORATION

Location: COLORADO Slot: SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Field: WELD COUNTY (NAD83/TN) Well: BRNAK 01N-64W-10-2H
Facility: SEC.10-T1N-R64W Wellbore: BRNAK 01N-64W-10-2H PWB

For reference use only - BRNAK 01N-64W-10-2H (REV. 4.0) PWB				Grid System: NAD83 / Lambert Conformal Conic, Northern Zone (2011), US Feet			
True vertical depths are referenced to XTREME 2D (16'RKB+4104'GL) (RKB)				North Reference: True north			
Measured depths are referenced to XTREME 2D (16'RKB+4104'GL) (RKB)				Scale: True distance			
XTREME 2D (16'RKB+4104'GL) (RKB) to Mean Sea Level: 5140 Feet				Depth are in feet			
Mean Sea Level to Mud line (in Slot: SLOTH02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL, SEC. 10)) 0 feet				Created by: baskinb on 2017-10-13			
Coordinates are in feet, not rounded to feet				Database: Chemvar			
Location Information							
Facility Name				Grid East (US ft)		Grid North (US ft)	
SEC.10-T1N-R64W				388953.00		470451.00	
Latitude				Latitude		Longitude	
38°52'30.00"				47°04'51.00"		104°22'30.00"	
Longitude				Grid East (US ft)		Grid North (US ft)	
38°52'30.00"				388953.00		470451.00	
XTREME 2D (16'RKB+4104'GL) (RKB) to Mud line (in Slot: SLOTH02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL, SEC. 10))				0.00		5140.00	
Mean Sea Level to Mud line (in Slot: SLOTH02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL, SEC. 10))				0.00		5140.00	
XTREME 2D (16'RKB+4104'GL) (RKB) to Mean Sea Level							
Survey Program							
Start Well ID		End Well ID		Tool		Log Name/Comment	
1601		1602		Bit		BRNAK 01N-64W-10-2H (REV. 4.0) PWB	
1601		1602		Bit		BRNAK 01N-64W-10-2H (REV. 4.0) PWB	
1601		1602		Bit		BRNAK 01N-64W-10-2H (REV. 4.0) PWB	





Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Guenaler
Scale	0.999962	Report Generated	1/17/2019 at 3:29:52 PM
Convergence at slot	0.62° East	Database/Source file	WA_DEN_Denver_Defn/BRNAK_01N-64W-10-2H_awb_awp.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.04	-3.87	3268149.36	1270722.36	40°04'21.166"N	104°32'30.519"W
Facility Reference Pt			3268153.23	1270722.36	40°04'21.166"N	104°32'30.469"W
Field Reference Pt			3242930.13	1254608.21	40°01'44.490"N	104°37'56.946"W

WELLPATH DATUM

Calculation method	Minimum curvature	XTREME 20 (16'RKB+5104'GL) (RKB) to Facility Vertical Datum	5120.00ft
Horizontal Reference Pt	Slot	XTREME 20 (16'RKB+5104'GL) (RKB) to Mean Sea Level	5120.00ft
Vertical Reference Pt	XTREME 20 (16'RKB+5104'GL) (RKB)	XTREME 20 (16'RKB+5104'GL) (RKB) to Mud Line at Slot (SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10))	5120.00ft
MD Reference Pt	XTREME 20 (16'RKB+5104'GL) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	182.52°



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (196 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	284.060	0.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.519"W	0.00	
16.00	0.000	284.060	16.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.519"W	0.00	
142.00	0.180	284.060	142.00	-0.04	0.05	-0.19	40°04'21.166"N	104°32'30.521"W	0.14	
233.00	0.100	353.420	233.00	-0.15	0.16	-0.34	40°04'21.168"N	104°32'30.523"W	0.19	
324.00	0.290	174.120	324.00	0.00	0.01	-0.33	40°04'21.166"N	104°32'30.523"W	0.43	
416.00	1.890	316.680	415.98	-0.82	0.88	-1.34	40°04'21.175"N	104°32'30.536"W	2.31	
505.00	4.780	320.770	504.82	-4.61	4.82	-4.70	40°04'21.214"N	104°32'30.579"W	3.26	
594.00	4.780	312.370	593.52	-9.76	10.20	-9.78	40°04'21.267"N	104°32'30.645"W	0.79	
683.00	6.830	312.710	682.05	-15.55	16.29	-16.41	40°04'21.327"N	104°32'30.730"W	2.30	
772.00	8.860	302.290	770.22	-22.37	23.54	-26.09	40°04'21.399"N	104°32'30.855"W	2.78	
861.00†	10.550	302.640	857.94	-29.86	31.59	-38.75	40°04'21.478"N	104°32'31.017"W	1.90	
950.00	10.970	304.850	945.38	-38.48	40.83	-52.56	40°04'21.569"N	104°32'31.195"W	0.66	
1039.00	11.440	305.520	1032.68	-47.82	50.79	-66.69	40°04'21.668"N	104°32'31.377"W	0.55	
1128.00	10.530	310.950	1120.05	-57.68	61.25	-80.02	40°04'21.771"N	104°32'31.548"W	1.55	
1217.00	9.260	312.220	1207.73	-67.31	71.40	-91.47	40°04'21.872"N	104°32'31.696"W	1.45	
1306.00	8.660	308.980	1295.64	-75.86	80.42	-101.98	40°04'21.961"N	104°32'31.831"W	0.88	
1395.00	8.310	305.630	1383.67	-83.36	88.38	-112.41	40°04'22.039"N	104°32'31.965"W	0.68	
1484.00	9.280	307.370	1471.62	-90.97	96.49	-123.34	40°04'22.119"N	104°32'32.106"W	1.13	
1573.00	9.860	309.080	1559.38	-99.61	105.65	-134.96	40°04'22.210"N	104°32'32.255"W	0.73	
1662.00	9.880	307.380	1647.07	-108.52	115.08	-146.95	40°04'22.303"N	104°32'32.409"W	0.33	
1781.00	10.080	305.160	1764.27	-119.97	127.28	-163.57	40°04'22.424"N	104°32'32.623"W	0.36	
1871.00	9.920	302.050	1852.90	-128.04	135.93	-176.58	40°04'22.509"N	104°32'32.790"W	0.63	
1959.00	9.840	299.570	1939.59	-135.20	143.66	-189.55	40°04'22.586"N	104°32'32.957"W	0.49	
2048.00	9.880	297.230	2027.28	-141.85	150.91	-202.95	40°04'22.657"N	104°32'33.130"W	0.45	
2137.00	9.920	302.040	2114.96	-148.82	158.47	-216.24	40°04'22.732"N	104°32'33.301"W	0.93	
2226.00	9.940	307.950	2202.62	-157.05	167.26	-228.79	40°04'22.819"N	104°32'33.462"W	1.14	
2315.00	9.820	312.930	2290.31	-166.42	177.15	-240.41	40°04'22.917"N	104°32'33.611"W	0.97	
2404.00	9.930	316.710	2377.99	-176.69	187.91	-251.23	40°04'23.023"N	104°32'33.751"W	0.74	
2493.00	9.720	318.050	2465.68	-187.40	199.08	-261.51	40°04'23.133"N	104°32'33.883"W	0.35	
2582.00	9.920	328.730	2553.39	-199.14	211.22	-270.51	40°04'23.253"N	104°32'33.999"W	2.06	



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (196 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2671.00	9.910	332.470	2641.06	-212.14	224.57	-278.03	40°04'23.385"N	104°32'34.095"W	0.72	
2760.00	9.860	332.040	2728.74	-225.33	238.09	-285.15	40°04'23.519"N	104°32'34.187"W	0.10	
2849.00	9.980	328.570	2816.41	-238.30	251.40	-292.74	40°04'23.650"N	104°32'34.285"W	0.68	
2938.00	10.030	331.110	2904.05	-251.31	264.77	-300.51	40°04'23.782"N	104°32'34.385"W	0.50	
3026.00	10.200	329.770	2990.69	-264.40	278.21	-308.13	40°04'23.915"N	104°32'34.483"W	0.33	
3115.00	10.370	313.910	3078.27	-276.33	290.58	-317.87	40°04'24.038"N	104°32'34.608"W	3.18	
3204.00	11.540	278.600	3165.75	-282.58	297.47	-332.46	40°04'24.106"N	104°32'34.796"W	7.53	
3292.00	9.880	258.340	3252.24	-281.66	297.26	-348.57	40°04'24.104"N	104°32'35.003"W	4.64	
3381.00	9.910	279.050	3339.95	-280.66	296.92	-363.61	40°04'24.100"N	104°32'35.196"W	3.98	
3470.00	10.040	300.710	3427.63	-285.20	302.09	-377.85	40°04'24.151"N	104°32'35.379"W	4.19	
3560.00	9.980	316.760	3516.28	-294.35	311.78	-389.94	40°04'24.247"N	104°32'35.535"W	3.09	
3649.00	9.910	330.300	3603.95	-306.21	324.05	-399.02	40°04'24.368"N	104°32'35.652"W	2.62	
3738.00	8.920	326.110	3691.76	-318.24	336.43	-406.66	40°04'24.491"N	104°32'35.750"W	1.35	
3826.00	7.470	311.250	3778.86	-327.32	345.87	-414.77	40°04'24.584"N	104°32'35.854"W	2.90	
3915.00	5.370	270.280	3867.34	-330.77	349.71	-423.29	40°04'24.622"N	104°32'35.964"W	5.50	
4004.00	3.210	273.200	3956.09	-330.64	349.87	-429.94	40°04'24.623"N	104°32'36.049"W	2.44	
4094.00	1.250	273.080	4046.02	-330.68	350.06	-433.44	40°04'24.625"N	104°32'36.094"W	2.18	
4183.00	0.200	61.430	4135.01	-330.77	350.19	-434.27	40°04'24.627"N	104°32'36.105"W	1.60	
4272.00	0.030	224.190	4224.01	-330.83	350.24	-434.15	40°04'24.627"N	104°32'36.104"W	0.26	
4361.00	0.060	353.570	4313.01	-330.86	350.27	-434.17	40°04'24.627"N	104°32'36.104"W	0.09	
4450.00	0.150	279.760	4402.01	-330.92	350.34	-434.29	40°04'24.628"N	104°32'36.105"W	0.16	
4539.00	0.030	330.440	4491.01	-330.96	350.38	-434.42	40°04'24.628"N	104°32'36.107"W	0.15	
4628.00	0.030	75.130	4580.01	-330.98	350.41	-434.41	40°04'24.629"N	104°32'36.107"W	0.05	
4718.00	0.170	339.330	4670.01	-331.11	350.54	-434.43	40°04'24.630"N	104°32'36.107"W	0.20	
4807.00	0.090	293.800	4759.01	-331.26	350.69	-434.54	40°04'24.632"N	104°32'36.109"W	0.14	
4896.00	0.070	8.330	4848.01	-331.34	350.77	-434.60	40°04'24.632"N	104°32'36.109"W	0.11	
4985.00	0.040	21.320	4937.01	-331.42	350.85	-434.58	40°04'24.633"N	104°32'36.109"W	0.04	
5074.00	0.070	7.100	5026.01	-331.51	350.94	-434.56	40°04'24.634"N	104°32'36.109"W	0.04	
5163.00	0.060	356.480	5115.01	-331.61	351.04	-434.56	40°04'24.635"N	104°32'36.109"W	0.02	
5252.00	0.030	57.280	5204.01	-331.67	351.10	-434.54	40°04'24.636"N	104°32'36.109"W	0.06	



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (196 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5341.00	0.120	41.690	5293.01	-331.75	351.18	-434.46	40°04'24.636"N	104°32'36.108"W	0.10	
5430.00	0.030	317.440	5382.01	-331.84	351.26	-434.41	40°04'24.637"N	104°32'36.107"W	0.14	
5519.00	0.100	28.580	5471.01	-331.93	351.35	-434.39	40°04'24.638"N	104°32'36.107"W	0.11	
5608.00	0.090	327.290	5560.01	-332.05	351.48	-434.39	40°04'24.639"N	104°32'36.107"W	0.11	
5697.00	0.030	314.600	5649.01	-332.13	351.55	-434.44	40°04'24.640"N	104°32'36.107"W	0.07	
5785.00	0.070	332.040	5737.01	-332.19	351.62	-434.49	40°04'24.641"N	104°32'36.108"W	0.05	
5875.00	0.090	341.920	5827.01	-332.30	351.73	-434.53	40°04'24.642"N	104°32'36.109"W	0.03	
5964.00	0.030	22.940	5916.01	-332.39	351.82	-434.55	40°04'24.643"N	104°32'36.109"W	0.08	
6053.00	0.070	272.270	6005.01	-332.41	351.84	-434.59	40°04'24.643"N	104°32'36.109"W	0.10	
6142.00	0.040	316.930	6094.01	-332.43	351.87	-434.67	40°04'24.643"N	104°32'36.110"W	0.06	
6231.00	0.070	32.930	6183.01	-332.50	351.94	-434.66	40°04'24.644"N	104°32'36.110"W	0.08	
6320.00	0.070	290.370	6272.01	-332.57	352.00	-434.68	40°04'24.645"N	104°32'36.110"W	0.12	
6410.00	0.030	357.660	6362.01	-332.61	352.04	-434.73	40°04'24.645"N	104°32'36.111"W	0.07	
6498.00	0.180	39.350	6450.01	-332.74	352.17	-434.65	40°04'24.646"N	104°32'36.110"W	0.18	
6587.00	8.460	196.270	6538.69	-326.48	345.99	-436.40	40°04'24.585"N	104°32'36.133"W	9.69	
6677.00	15.370	196.970	6626.70	-308.48	328.20	-441.74	40°04'24.409"N	104°32'36.201"W	7.68	
6766.00	24.950	185.970	6710.18	-278.24	298.17	-447.15	40°04'24.113"N	104°32'36.271"W	11.53	
6855.00	33.230	175.730	6787.93	-235.18	255.08	-447.28	40°04'23.687"N	104°32'36.273"W	10.83	
6943.00	42.680	170.860	6857.26	-181.90	201.45	-440.73	40°04'23.157"N	104°32'36.188"W	11.26	
7033.00	50.910	173.320	6918.82	-117.43	136.53	-431.81	40°04'22.515"N	104°32'36.073"W	9.36	
7122.00	60.520	176.460	6968.91	-44.63	63.37	-425.38	40°04'21.792"N	104°32'35.991"W	11.18	
7211.00	70.290	178.630	7005.91	35.90	-17.37	-421.98	40°04'20.994"N	104°32'35.947"W	11.20	
7300.00	77.940	182.240	7030.26	121.36	-102.89	-422.68	40°04'20.149"N	104°32'35.956"W	9.44	
7389.00	86.120	187.290	7042.60	209.33	-190.62	-430.03	40°04'19.282"N	104°32'36.051"W	10.77	
7414.00†	87.322	187.760	7044.03	234.19	-215.37	-433.30	40°04'19.038"N	104°32'36.093"W	5.16	SETBACK CROSSOVER (460.37'FNL&841.70'FWL,SEC.10)
7478.00	90.400	188.960	7045.30	297.84	-278.66	-442.61	40°04'18.412"N	104°32'36.212"W	5.16	
7567.00	89.880	186.780	7045.08	386.45	-366.82	-454.79	40°04'17.541"N	104°32'36.369"W	2.52	
7657.00	89.970	183.320	7045.20	476.34	-456.46	-462.71	40°04'16.655"N	104°32'36.471"W	3.85	
7746.00	90.150	179.270	7045.11	565.30	-545.42	-464.72	40°04'15.776"N	104°32'36.497"W	4.56	
7835.00	90.060	178.040	7044.94	654.10	-634.39	-462.63	40°04'14.897"N	104°32'36.470"W	1.39	



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (196 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7924.00	89.880	178.490	7044.99	742.86	-723.35	-459.94	40°04'14.018"N	104°32'36.435"W	0.54	
8013.00	89.720	177.330	7045.30	831.57	-812.29	-456.69	40°04'13.139"N	104°32'36.393"W	1.32	
8102.00	89.410	176.670	7045.98	920.15	-901.16	-452.04	40°04'12.260"N	104°32'36.333"W	0.82	
8191.00	89.480	175.580	7046.84	1008.59	-989.95	-446.02	40°04'11.383"N	104°32'36.256"W	1.23	
8280.00	89.600	176.060	7047.55	1096.98	-1078.71	-439.53	40°04'10.506"N	104°32'36.173"W	0.56	
8370.00	89.510	177.390	7048.25	1186.52	-1168.56	-434.39	40°04'09.618"N	104°32'36.106"W	1.48	
8458.00	89.630	181.090	7048.91	1274.35	-1256.54	-433.23	40°04'08.749"N	104°32'36.091"W	4.21	
8547.00	90.000	184.080	7049.20	1363.34	-1345.43	-437.24	40°04'07.870"N	104°32'36.143"W	3.39	
8636.00	89.660	183.380	7049.46	1452.32	-1434.24	-443.03	40°04'06.992"N	104°32'36.217"W	0.87	
8725.00	89.750	182.600	7049.92	1541.32	-1523.12	-447.67	40°04'06.114"N	104°32'36.277"W	0.88	
8815.00	90.460	180.810	7049.76	1631.30	-1613.08	-450.35	40°04'05.225"N	104°32'36.312"W	2.14	
8904.00	90.180	179.160	7049.26	1720.21	-1702.07	-450.33	40°04'04.346"N	104°32'36.311"W	1.88	
8993.00	90.490	178.200	7048.74	1809.01	-1791.05	-448.28	40°04'03.466"N	104°32'36.285"W	1.13	
9082.00	90.950	175.890	7047.62	1897.59	-1879.92	-443.69	40°04'02.588"N	104°32'36.226"W	2.65	
9171.00	88.770	175.060	7047.84	1985.91	-1968.63	-436.67	40°04'01.712"N	104°32'36.136"W	2.62	
9260.00	88.680	176.760	7049.82	2074.30	-2057.38	-430.32	40°04'00.835"N	104°32'36.054"W	1.91	
9350.00	87.940	176.750	7052.47	2163.80	-2147.20	-425.23	40°03'59.947"N	104°32'35.988"W	0.82	
9439.00	87.200	177.190	7056.25	2252.31	-2235.99	-420.53	40°03'59.069"N	104°32'35.928"W	0.97	
9528.00	88.430	177.880	7059.64	2340.90	-2324.84	-416.70	40°03'58.191"N	104°32'35.879"W	1.58	
9617.00	89.230	179.030	7061.46	2429.66	-2413.79	-414.31	40°03'57.312"N	104°32'35.848"W	1.57	
9706.00	89.480	180.040	7062.46	2518.53	-2502.78	-413.58	40°03'56.433"N	104°32'35.838"W	1.17	
9795.00	89.600	180.710	7063.17	2607.47	-2591.77	-414.17	40°03'55.554"N	104°32'35.846"W	0.76	
9884.00	89.350	181.690	7063.99	2696.44	-2680.75	-416.03	40°03'54.674"N	104°32'35.870"W	1.14	
9973.00	90.310	181.940	7064.25	2785.43	-2769.70	-418.85	40°03'53.795"N	104°32'35.906"W	1.11	
10062.00	90.490	182.360	7063.63	2874.42	-2858.64	-422.19	40°03'52.916"N	104°32'35.949"W	0.51	
10151.00	90.030	182.610	7063.23	2963.42	-2947.55	-426.05	40°03'52.038"N	104°32'35.999"W	0.59	
10241.00	90.650	182.690	7062.69	3053.42	-3037.45	-430.21	40°03'51.149"N	104°32'36.052"W	0.69	
10330.00	89.350	182.820	7062.69	3142.42	-3126.35	-434.48	40°03'50.271"N	104°32'36.107"W	1.47	
10419.00	90.430	179.760	7062.86	3231.39	-3215.31	-436.49	40°03'49.392"N	104°32'36.133"W	3.65	
10508.00	90.150	176.330	7062.41	3320.10	-3304.25	-433.45	40°03'48.513"N	104°32'36.094"W	3.87	



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (196 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10597.00	90.520	175.500	7061.89	3408.51	-3393.02	-427.11	40°03'47.635"N	104°32'36.012"W	1.02	
10686.00	89.780	175.170	7061.66	3496.81	-3481.72	-419.87	40°03'46.759"N	104°32'35.919"W	0.91	
10774.00	89.910	175.550	7061.90	3584.12	-3569.43	-412.76	40°03'45.892"N	104°32'35.828"W	0.46	
10863.00	89.660	178.160	7062.23	3672.68	-3658.29	-407.87	40°03'45.014"N	104°32'35.765"W	2.95	
10952.00	90.620	180.130	7062.02	3761.52	-3747.28	-406.55	40°03'44.135"N	104°32'35.748"W	2.46	
11041.00	89.080	178.140	7062.25	3850.36	-3836.26	-405.20	40°03'43.255"N	104°32'35.730"W	2.83	
11130.00	90.460	177.520	7062.61	3939.06	-3925.19	-401.83	40°03'42.376"N	104°32'35.687"W	1.70	
11219.00	88.830	175.470	7063.16	4027.55	-4014.02	-396.39	40°03'41.499"N	104°32'35.617"W	2.94	
11308.00	89.780	176.290	7064.24	4115.95	-4102.78	-390.00	40°03'40.621"N	104°32'35.535"W	1.41	
11397.00	89.380	178.110	7064.89	4204.56	-4191.67	-385.65	40°03'39.743"N	104°32'35.479"W	2.09	
11486.00	89.820	178.890	7065.51	4293.34	-4280.63	-383.32	40°03'38.864"N	104°32'35.449"W	1.01	
11575.00	89.450	179.600	7066.08	4382.19	-4369.62	-382.15	40°03'37.984"N	104°32'35.434"W	0.90	
11664.00	90.090	181.900	7066.43	4471.14	-4458.61	-383.31	40°03'37.105"N	104°32'35.449"W	2.68	
11753.00	89.600	182.910	7066.68	4560.14	-4547.53	-387.05	40°03'36.226"N	104°32'35.497"W	1.26	
11841.00	88.770	183.060	7067.93	4648.13	-4635.40	-391.63	40°03'35.358"N	104°32'35.556"W	0.96	
11930.00	89.230	186.370	7069.48	4737.04	-4724.07	-398.94	40°03'34.482"N	104°32'35.650"W	3.75	
12020.00	90.370	188.760	7069.79	4826.68	-4813.28	-410.79	40°03'33.600"N	104°32'35.802"W	2.94	
12108.00	90.090	190.150	7069.44	4914.03	-4900.08	-425.25	40°03'32.742"N	104°32'35.988"W	1.61	
12198.00	90.860	184.260	7068.69	5003.69	-4989.33	-436.53	40°03'31.860"N	104°32'36.133"W	6.60	
12286.00	90.340	180.040	7067.77	5091.66	-5077.24	-439.83	40°03'30.992"N	104°32'36.175"W	4.83	
12375.00	88.520	177.220	7068.66	5180.44	-5166.20	-437.70	40°03'30.113"N	104°32'36.148"W	3.77	
12464.00	88.800	175.950	7070.74	5268.93	-5255.01	-432.40	40°03'29.235"N	104°32'36.080"W	1.46	
12553.00	88.920	176.440	7072.51	5357.38	-5343.80	-426.50	40°03'28.357"N	104°32'36.004"W	0.57	
12642.00	89.940	177.440	7073.40	5445.95	-5432.66	-421.75	40°03'27.479"N	104°32'35.943"W	1.60	
12731.00	90.030	177.510	7073.42	5534.60	-5521.58	-417.83	40°03'26.601"N	104°32'35.892"W	0.13	
12821.00	90.120	177.390	7073.30	5624.25	-5611.49	-413.82	40°03'25.712"N	104°32'35.841"W	0.17	
12910.00	89.630	177.620	7073.50	5712.91	-5700.40	-409.95	40°03'24.833"N	104°32'35.791"W	0.61	
12999.00	89.850	178.790	7073.90	5801.66	-5789.36	-407.16	40°03'23.954"N	104°32'35.755"W	1.34	
13088.00	89.660	179.180	7074.28	5890.49	-5878.34	-405.58	40°03'23.075"N	104°32'35.735"W	0.49	
13177.00	89.600	179.800	7074.85	5979.36	-5967.34	-404.79	40°03'22.196"N	104°32'35.725"W	0.70	



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (196 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13266.00	89.720	181.350	7075.38	6068.30	-6056.33	-405.68	40°03'21.316"N	104°32'35.736"W	1.75	
13355.00	89.660	181.370	7075.86	6157.28	-6145.30	-407.80	40°03'20.437"N	104°32'35.763"W	0.07	
13443.00	89.660	182.990	7076.39	6245.28	-6233.23	-411.14	40°03'19.568"N	104°32'35.806"W	1.84	
13532.00	90.920	184.200	7075.94	6334.26	-6322.05	-416.72	40°03'18.690"N	104°32'35.878"W	1.96	
13621.00	91.080	183.310	7074.38	6423.22	-6410.85	-422.55	40°03'17.813"N	104°32'35.953"W	1.02	
13710.00	90.770	181.900	7072.95	6512.21	-6499.74	-426.60	40°03'16.934"N	104°32'36.005"W	1.62	
13799.00	90.280	180.120	7072.13	6601.17	-6588.72	-428.16	40°03'16.055"N	104°32'36.025"W	2.07	
13888.00	90.520	179.330	7071.51	6690.06	-6677.72	-427.74	40°03'15.175"N	104°32'36.020"W	0.93	
13977.00	89.910	179.970	7071.18	6778.95	-6766.71	-427.19	40°03'14.296"N	104°32'36.013"W	0.99	
14066.00	90.120	180.290	7071.15	6867.87	-6855.71	-427.40	40°03'13.416"N	104°32'36.015"W	0.43	
14155.00	90.980	181.110	7070.30	6956.82	-6944.70	-428.48	40°03'12.537"N	104°32'36.029"W	1.34	
14244.00	91.170	180.350	7068.63	7045.76	-7033.68	-429.62	40°03'11.658"N	104°32'36.044"W	0.88	
14333.00	90.800	178.790	7067.10	7134.63	-7122.66	-428.95	40°03'10.778"N	104°32'36.035"W	1.80	
14422.00	89.600	176.260	7066.79	7223.28	-7211.57	-425.11	40°03'09.900"N	104°32'35.986"W	3.15	
14511.00	90.000	178.240	7067.10	7311.90	-7300.46	-420.84	40°03'09.021"N	104°32'35.931"W	2.27	
14600.00	89.660	179.160	7067.36	7400.70	-7389.44	-418.82	40°03'08.142"N	104°32'35.905"W	1.10	
14689.00	89.910	178.970	7067.70	7489.54	-7478.42	-417.36	40°03'07.263"N	104°32'35.886"W	0.35	
14778.00	89.380	177.120	7068.25	7578.26	-7567.36	-414.33	40°03'06.384"N	104°32'35.847"W	2.16	
14867.00	89.510	177.970	7069.11	7666.92	-7656.28	-410.52	40°03'05.505"N	104°32'35.798"W	0.97	
14956.00	89.480	177.850	7069.89	7755.63	-7745.22	-407.27	40°03'04.626"N	104°32'35.756"W	0.14	
15045.00	89.540	179.610	7070.65	7844.43	-7834.19	-405.30	40°03'03.747"N	104°32'35.731"W	1.98	
15133.00	89.420	181.820	7071.45	7932.38	-7922.17	-406.40	40°03'02.877"N	104°32'35.745"W	2.51	
15222.00	89.480	185.610	7072.31	8021.34	-8010.96	-412.16	40°03'02.000"N	104°32'35.819"W	4.26	
15311.00	90.490	186.340	7072.33	8110.17	-8099.48	-421.43	40°03'01.125"N	104°32'35.938"W	1.40	
15400.00	90.620	183.980	7071.47	8199.07	-8188.11	-429.43	40°03'00.249"N	104°32'36.041"W	2.66	
15489.00	90.150	180.690	7070.87	8288.05	-8277.02	-433.05	40°02'59.371"N	104°32'36.088"W	3.73	
15578.00	90.250	178.670	7070.56	8376.94	-8366.01	-432.56	40°02'58.491"N	104°32'36.081"W	2.27	
15667.00	90.430	178.520	7070.03	8465.73	-8454.98	-430.38	40°02'57.612"N	104°32'36.053"W	0.26	
15756.00	90.370	177.670	7069.41	8554.46	-8543.93	-427.42	40°02'56.733"N	104°32'36.015"W	0.96	
15845.00	89.850	179.050	7069.24	8643.22	-8632.89	-424.87	40°02'55.854"N	104°32'35.982"W	1.66	



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (196 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15934.00	89.970	181.910	7069.38	8732.16	-8721.88	-425.62	40°02'54.974"N	104°32'35.992"W	3.22	
16022.00	90.000	183.640	7069.40	8820.15	-8809.77	-429.88	40°02'54.106"N	104°32'36.047"W	1.97	
16111.00	90.090	184.600	7069.33	8909.12	-8898.54	-436.27	40°02'53.229"N	104°32'36.129"W	1.08	
16200.00	89.940	182.970	7069.31	8998.09	-8987.35	-442.15	40°02'52.351"N	104°32'36.204"W	1.84	
16290.00	90.000	181.310	7069.36	9088.09	-9077.28	-445.51	40°02'51.462"N	104°32'36.248"W	1.85	
16379.00	89.600	179.200	7069.67	9177.01	-9166.27	-445.90	40°02'50.583"N	104°32'36.253"W	2.41	
16468.00	90.000	177.850	7069.98	9265.79	-9255.24	-443.61	40°02'49.704"N	104°32'36.223"W	1.58	
16557.00	90.120	176.190	7069.89	9354.38	-9344.12	-438.98	40°02'48.825"N	104°32'36.164"W	1.87	
16646.00	89.880	175.020	7069.89	9442.73	-9432.85	-432.16	40°02'47.948"N	104°32'36.076"W	1.34	
16735.00	89.940	175.370	7070.02	9531.01	-9521.54	-424.71	40°02'47.072"N	104°32'35.980"W	0.40	
16824.00	89.940	176.330	7070.12	9619.40	-9610.31	-418.27	40°02'46.195"N	104°32'35.897"W	1.08	
16913.00	89.910	175.770	7070.23	9707.84	-9699.09	-412.14	40°02'45.317"N	104°32'35.818"W	0.63	
17002.00	89.780	179.350	7070.48	9796.49	-9788.00	-408.35	40°02'44.439"N	104°32'35.770"W	4.03	
17091.00	89.480	183.520	7071.05	9885.45	-9876.95	-410.58	40°02'43.560"N	104°32'35.798"W	4.70	
17151.00	89.910	185.610	7071.37	9945.41	-9936.75	-415.35	40°02'42.969"N	104°32'35.860"W	3.56	BHGE LAST MWD SURVEY (526.67'FSL&864.53'FWL,SEC.15)
17175.00	89.910	185.610	7071.41	9969.37	-9960.64	-417.70	40°02'42.733"N	104°32'35.890"W	0.00	PROJECTION TO BIT (502.78'FSL&862.18'FWL,SEC.15)



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.10-T1N-R64W	0.00	-0.04	-16.00	3268133.36	1270722.15	40°04'21.166"N	104°32'30.725"W	polygon
SEC.15-T1N-R64W	0.00	-0.04	-16.00	3268133.36	1270722.15	40°04'21.166"N	104°32'30.725"W	polygon
BRNAK 01N-64W-10-2H BHL (NIO, 460'FSL & 840'FWL,SEC.15,REV-1)	6963.00	-10003.42	-439.88	3267817.61	1260715.17	40°02'42.310"N	104°32'36.175"W	point
BRNAK 01N-64W-10-2H LP (NIO, 460'FNL & 840'FWL,SEC.10,REV-1)	6983.00	-215.33	-431.08	3267720.65	1270502.39	40°04'19.038"N	104°32'36.064"W	point
SEC10/15-T1N-R64W (460'SETBACKS)	7000.00	-0.04	-16.00	3268133.36	1270722.15	40°04'21.166"N	104°32'30.725"W	polygon
BRNAK 01N-64W-10-2H LP (NIO B, 460'FNL & 840'FWL,SEC.10,REV-2)	7045.00	-215.33	-431.08	3267720.65	1270502.39	40°04'19.038"N	104°32'36.064"W	point
BRNAK 01N-64W-10-2H BHL (NIO B, 460'FSL & 840'FWL,SEC.15,REV-2)	7065.00	-10003.42	-439.88	3267817.61	1260715.17	40°02'42.310"N	104°32'36.175"W	point

WELLPATH COMPOSITION - Ref Wellbore: BRNAK 01N-64W-10-2H awb Ref Wellpath: BRNAK 01N-64W-10-2H awb_awp				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	1662.00	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)	BHI/NAVITRAK (AXIAL) MWD 12.25-<142-1662>	BRNAK 01N-64W-10-2H awb
1662.00	17151.00	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)	BHI/ATC (SS,AXIAL) MWD 8.5"-<1781-17151>	BRNAK 01N-64W-10-2H awb
17151.00	17175.00	Blind Drilling (std)	Projection to bit	BRNAK 01N-64W-10-2H awb



Actual Wellpath Report

BRNAK 01N-64W-10-2H awb_awp



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#02 BRNAK 01N-64W-10-2H (245'FNL & 1275'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-2H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-2H awb
Facility	SEC.10-T1N-R64W		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
7414.00	87.322	187.760	7044.03	SETBACK CROSSOVER (460.37'FNL&841.70'FWL,SEC.10)
17151.00	89.910	185.610	7071.37	BHGE LAST MWD SURVEY (526.67'FSL&864.53'FWL,SEC.15)
17175.00	89.910	185.610	7071.41	PROJECTION TO BIT (502.78'FSL&862.18'FWL,SEC.15)