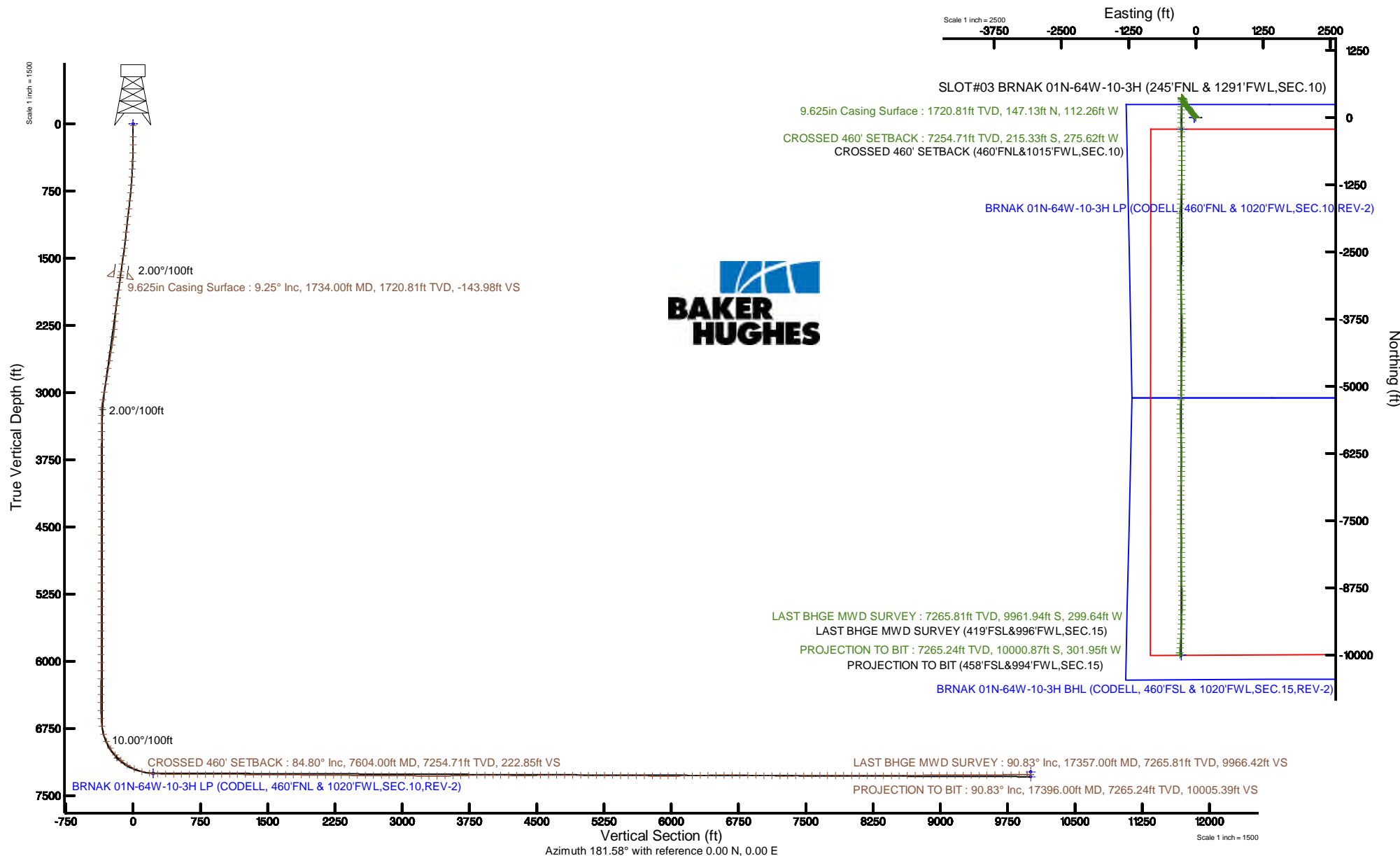


VERDAD OIL & GAS CORPORATION

Location: COLORADO Slot: SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Field: WELD COUNTY (NAD83/TN) Well: BRNAK 01N-64W-10-3H
Facility: SEC.10-T1N-R64W Wellbore: BRNAK 01N-64W-10-3H PWB

East reference depths in BRNAK 01N-64W-10-3H (CODELL, REV.1) (3) PWB				Grid System: NAD83 / Lambert Conformal 87° Northern Zone 1801, US feet			
True vertical depths are referenced to XTRMSE 20 (167000+10450) (RHS)				North Reference: True north			
Measured depths are referenced to XTRMSE 20 (167000+10450) (RHS)				Scale: True distance			
XTRMSE 20 (167000+10450) (RHS) to Mean Sea Level: 3120 feet				Depth: sea in feet			
Mean Sea Level to Mud line (M) Slot: SLOTHED BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL, SEC.10) (1) east				Created by: Southworth on 2017-10-13			
Coordinates are in feet referenced to Slot				Database: Dmcr			
Location Information							
Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.10-T1N-R64W				3208103.220	1270122.362	40°54'21.168"N	104°52'30.460"W
Star Name				Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOTHED BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL, SEC.10)				0.04	12.13	3208103.220	1270122.324
XTRMSE 20 (167000+10450) (RHS) to Mud line (Facility - SEC.10-T1N-R64W)						40°54'21.168"N	104°52'30.312"W
Mean Sea Level to Mud line (Facility - SEC.10-T1N-R64W)						0.000	
XTRMSE 20 (167000+10450) (RHS) to Mean Sea Level						0.000	
Survey Program							
Start MD (ft)	End MD (ft)	Tool	Name		Log Name/Comment		Remarks
1635	1000	BH MWD 100	Custom BH MWD Tool (Standard Reading) (Unit: Degrees 0.000 ft)		BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL, SEC.10)		BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL, SEC.10)
1000	1000	BH MWD 100	Custom BH MWD Tool (Unit: Degrees 0.000 ft)		BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL, SEC.10)		BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL, SEC.10)



Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.1
North Reference	True	User	Bushjamh
Scale	0.999962	Report Generated	10/13/2017 at 1:45:56 PM
Convergence at slot	0.62° East	Database/Source file	Denver/BRNAK_01N-64W-10-3H_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	12.13	3268165.36	1270722.53	40°04'21.166"N	104°32'30.313"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#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'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	181.58°

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (199 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	266.410	0.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.313"W	0.00	
16.00	0.000	266.410	16.00	0.00	0.00	0.00	40°04'21.166"N	104°32'30.313"W	0.00	
142.00	0.440	266.410	142.00	0.04	-0.03	-0.48	40°04'21.166"N	104°32'30.319"W	0.35	
233.00	0.970	318.950	232.99	-0.49	0.53	-1.34	40°04'21.171"N	104°32'30.330"W	0.86	
324.00	1.700	336.080	323.97	-2.28	2.34	-2.39	40°04'21.189"N	104°32'30.344"W	0.91	
416.00	2.170	338.080	415.91	-5.11	5.21	-3.59	40°04'21.217"N	104°32'30.359"W	0.52	
505.00	3.300	327.570	504.81	-8.77	8.93	-5.60	40°04'21.254"N	104°32'30.385"W	1.38	
594.00	5.020	323.050	593.57	-13.94	14.21	-9.31	40°04'21.306"N	104°32'30.433"W	1.97	
683.00	6.470	318.750	682.13	-20.67	21.09	-14.96	40°04'21.374"N	104°32'30.506"W	1.70	
772.00	7.250	320.380	770.49	-28.57	29.18	-21.85	40°04'21.454"N	104°32'30.594"W	0.90	
861.00	8.260	320.570	858.67	-37.62	38.45	-29.49	40°04'21.546"N	104°32'30.692"W	1.14	
950.00	8.650	322.390	946.71	-47.63	48.69	-37.63	40°04'21.647"N	104°32'30.797"W	0.53	
1039.00	8.380	321.270	1034.72	-57.77	59.05	-45.78	40°04'21.750"N	104°32'30.902"W	0.36	
1128.00	8.600	320.250	1122.75	-67.71	69.23	-54.09	40°04'21.850"N	104°32'31.009"W	0.30	
1217.00	7.880	319.880	1210.83	-77.26	79.01	-62.27	40°04'21.947"N	104°32'31.114"W	0.81	
1306.00	8.250	319.680	1298.95	-86.57	88.54	-70.34	40°04'22.041"N	104°32'31.218"W	0.42	
1395.00	9.970	320.450	1386.82	-97.12	99.35	-79.38	40°04'22.148"N	104°32'31.334"W	1.94	
1484.00	10.330	324.840	1474.43	-109.32	111.82	-88.88	40°04'22.271"N	104°32'31.456"W	0.96	
1573.00	10.020	326.600	1562.03	-122.06	124.80	-97.73	40°04'22.399"N	104°32'31.570"W	0.49	
1662.00	9.480	327.180	1649.75	-134.45	137.43	-105.97	40°04'22.524"N	104°32'31.676"W	0.62	
1701.00	9.110	326.890	1688.23	-139.64	142.71	-109.40	40°04'22.576"N	104°32'31.720"W	0.96	
1781.00	9.440	327.840	1767.19	-150.30	153.57	-116.35	40°04'22.684"N	104°32'31.810"W	0.45	
1870.00	10.280	330.750	1854.87	-163.19	166.68	-124.11	40°04'22.813"N	104°32'31.910"W	1.10	
1959.00	10.210	325.060	1942.46	-176.35	180.07	-132.51	40°04'22.946"N	104°32'32.018"W	1.14	
2048.00	10.830	313.250	2029.97	-188.25	192.27	-143.12	40°04'23.066"N	104°32'32.154"W	2.52	
2137.00	10.190	290.280	2117.52	-196.34	200.73	-156.60	40°04'23.150"N	104°32'32.328"W	4.73	
2226.00	9.920	296.380	2205.15	-202.08	206.87	-170.85	40°04'23.210"N	104°32'32.511"W	1.23	
2315.00	10.110	310.650	2292.81	-210.22	215.36	-183.65	40°04'23.294"N	104°32'32.676"W	2.79	
2404.00	10.090	323.400	2380.44	-221.27	226.71	-194.23	40°04'23.406"N	104°32'32.812"W	2.51	
2493.00	10.090	334.490	2468.07	-234.34	240.01	-202.23	40°04'23.538"N	104°32'32.915"W	2.18	

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (199 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2582.00	10.120	342.150	2555.70	-248.66	254.49	-207.99	40°04'23.681"N	104°32'32.989"W	1.51	
2671.00	10.100	342.640	2643.31	-263.41	269.38	-212.71	40°04'23.828"N	104°32'33.049"W	0.10	
2760.00	10.130	342.620	2730.93	-278.20	284.30	-217.38	40°04'23.975"N	104°32'33.109"W	0.03	
2849.00	9.660	344.770	2818.61	-292.75	298.97	-221.68	40°04'24.120"N	104°32'33.165"W	0.67	
2938.00	10.110	354.680	2906.29	-307.65	313.96	-224.37	40°04'24.269"N	104°32'33.199"W	1.97	
3026.00	10.040	351.370	2992.94	-322.87	329.23	-226.23	40°04'24.420"N	104°32'33.223"W	0.66	
3115.00	9.760	344.290	3080.61	-337.71	344.16	-229.44	40°04'24.567"N	104°32'33.265"W	1.40	
3203.00	8.670	312.740	3167.53	-349.20	355.85	-236.33	40°04'24.683"N	104°32'33.353"W	5.79	
3292.00	5.340	269.260	3255.91	-353.45	360.36	-245.41	40°04'24.727"N	104°32'33.470"W	6.78	
3381.00	4.880	251.870	3344.56	-352.01	359.12	-253.15	40°04'24.715"N	104°32'33.570"W	1.81	
3470.00	3.060	272.010	3433.35	-350.75	358.03	-259.12	40°04'24.704"N	104°32'33.646"W	2.55	
3560.00	2.930	308.240	3523.23	-352.14	359.54	-263.33	40°04'24.719"N	104°32'33.701"W	2.07	
3648.00	1.640	295.020	3611.16	-353.99	361.46	-266.24	40°04'24.738"N	104°32'33.738"W	1.57	
3738.00	0.070	31.720	3701.15	-354.55	362.05	-267.38	40°04'24.744"N	104°32'33.753"W	1.83	
3826.00	0.040	336.430	3789.15	-354.62	362.13	-267.36	40°04'24.745"N	104°32'33.752"W	0.07	
3915.00	0.060	169.810	3878.15	-354.60	362.11	-267.36	40°04'24.744"N	104°32'33.752"W	0.11	
4004.00	0.100	189.360	3967.15	-354.48	361.99	-267.37	40°04'24.743"N	104°32'33.752"W	0.05	
4094.00	0.120	102.960	4057.15	-354.38	361.89	-267.29	40°04'24.742"N	104°32'33.751"W	0.17	
4183.00	0.060	356.630	4146.15	-354.41	361.91	-267.20	40°04'24.742"N	104°32'33.750"W	0.17	
4272.00	0.030	121.850	4235.15	-354.45	361.95	-267.18	40°04'24.743"N	104°32'33.750"W	0.09	
4361.00	0.040	110.910	4324.15	-354.42	361.93	-267.14	40°04'24.743"N	104°32'33.749"W	0.01	
4450.00	0.030	273.190	4413.15	-354.41	361.92	-267.13	40°04'24.743"N	104°32'33.749"W	0.08	
4539.00	0.200	149.430	4502.15	-354.28	361.78	-267.07	40°04'24.741"N	104°32'33.749"W	0.25	
4628.00	0.190	223.130	4591.15	-354.04	361.54	-267.10	40°04'24.739"N	104°32'33.749"W	0.26	
4718.00	0.340	327.920	4681.15	-354.15	361.66	-267.34	40°04'24.740"N	104°32'33.752"W	0.48	
4807.00	0.040	319.920	4770.15	-354.39	361.91	-267.50	40°04'24.742"N	104°32'33.754"W	0.34	
4896.00	0.030	344.770	4859.15	-354.44	361.95	-267.53	40°04'24.743"N	104°32'33.754"W	0.02	
4985.00	0.140	319.160	4948.15	-354.54	362.06	-267.60	40°04'24.744"N	104°32'33.755"W	0.13	
5074.00	1.090	332.650	5037.14	-355.36	362.89	-268.06	40°04'24.752"N	104°32'33.761"W	1.07	
5163.00	0.150	331.100	5126.14	-356.21	363.75	-268.51	40°04'24.761"N	104°32'33.767"W	1.06	

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (199 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5252.00	0.570	346.310	5215.13	-356.73	364.28	-268.67	40°04'24.766"N	104°32'33.769"W	0.48	
5341.00	0.060	12.370	5304.13	-357.21	364.75	-268.76	40°04'24.771"N	104°32'33.770"W	0.58	
5430.00	0.260	318.980	5393.13	-357.40	364.95	-268.89	40°04'24.773"N	104°32'33.772"W	0.26	
5519.00	0.220	343.560	5482.13	-357.71	365.27	-269.07	40°04'24.776"N	104°32'33.774"W	0.12	
5608.00	0.110	336.000	5571.13	-357.95	365.51	-269.15	40°04'24.778"N	104°32'33.775"W	0.13	
5697.00	0.060	354.620	5660.13	-358.07	365.63	-269.19	40°04'24.779"N	104°32'33.776"W	0.06	
5785.00	0.070	359.750	5748.13	-358.17	365.73	-269.19	40°04'24.780"N	104°32'33.776"W	0.01	
5875.00	0.090	91.360	5838.13	-358.23	365.79	-269.12	40°04'24.781"N	104°32'33.775"W	0.13	
5964.00	0.040	348.700	5927.13	-358.26	365.82	-269.06	40°04'24.781"N	104°32'33.774"W	0.12	
6053.00	0.040	341.920	6016.13	-358.32	365.88	-269.08	40°04'24.782"N	104°32'33.774"W	0.01	
6142.00	0.030	39.240	6105.13	-358.37	365.92	-269.07	40°04'24.782"N	104°32'33.774"W	0.04	
6231.00	0.100	352.330	6194.13	-358.46	366.02	-269.07	40°04'24.783"N	104°32'33.774"W	0.09	
6320.00	0.030	333.830	6283.13	-358.56	366.12	-269.09	40°04'24.784"N	104°32'33.775"W	0.08	
6409.00	0.070	324.820	6372.13	-358.62	366.18	-269.13	40°04'24.785"N	104°32'33.775"W	0.05	
6498.00	0.040	295.980	6461.13	-358.68	366.24	-269.19	40°04'24.785"N	104°32'33.776"W	0.04	
6587.00	0.030	356.400	6550.13	-358.72	366.28	-269.22	40°04'24.786"N	104°32'33.776"W	0.04	
6676.00	1.520	174.090	6639.12	-357.57	365.13	-269.10	40°04'24.774"N	104°32'33.775"W	1.74	
6765.00	9.490	170.480	6727.64	-349.18	356.70	-267.76	40°04'24.691"N	104°32'33.757"W	8.96	
6855.00	17.780	175.720	6815.03	-328.20	335.64	-265.50	40°04'24.483"N	104°32'33.728"W	9.30	
6942.00	25.080	181.640	6895.97	-296.50	303.92	-265.04	40°04'24.169"N	104°32'33.722"W	8.74	
7031.00	33.020	183.320	6973.71	-253.33	260.79	-266.99	40°04'23.743"N	104°32'33.748"W	8.97	
7120.00	41.490	183.300	7044.49	-199.52	207.05	-270.09	40°04'23.212"N	104°32'33.787"W	9.52	
7209.00	49.380	183.380	7106.89	-136.19	143.80	-273.79	40°04'22.587"N	104°32'33.835"W	8.87	
7298.00	57.750	182.300	7159.70	-64.67	72.35	-277.30	40°04'21.881"N	104°32'33.880"W	9.45	
7388.00	66.150	180.410	7201.99	14.68	-6.99	-279.12	40°04'21.097"N	104°32'33.904"W	9.51	
7477.00	73.910	179.160	7232.36	98.22	-90.57	-278.79	40°04'20.271"N	104°32'33.899"W	8.82	
7566.00	82.530	178.250	7250.52	185.15	-177.59	-276.81	40°04'19.411"N	104°32'33.874"W	9.74	
7604.00†	84.797	178.143	7254.71	222.85	-215.33	-275.62	40°04'19.038"N	104°32'33.858"W	5.97	CROSSED 460' SETBACK (460'FNL&1015'FWL,SEC.10)
7655.00	87.840	178.000	7257.98	273.64	-266.19	-273.91	40°04'18.535"N	104°32'33.836"W	5.97	
7744.00	87.840	177.870	7261.34	362.40	-355.07	-270.70	40°04'17.657"N	104°32'33.795"W	0.15	

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (199 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
7833.00	89.420	178.590	7263.47	451.22	-444.00	-267.95	40°04'16.778"N	104°32'33.760"W	1.95	
7922.00	90.120	178.250	7263.82	540.08	-532.97	-265.50	40°04'15.899"N	104°32'33.728"W	0.87	
8011.00	90.180	179.580	7263.59	628.98	-621.95	-263.81	40°04'15.020"N	104°32'33.707"W	1.50	
8101.00	90.180	180.310	7263.31	718.95	-711.95	-263.73	40°04'14.130"N	104°32'33.705"W	0.81	
8190.00	90.180	180.190	7263.03	807.92	-800.95	-264.12	40°04'13.251"N	104°32'33.710"W	0.13	
8279.00	89.850	180.220	7263.00	896.90	-889.95	-264.43	40°04'12.371"N	104°32'33.715"W	0.37	
8368.00	89.690	180.280	7263.36	985.87	-978.94	-264.82	40°04'11.492"N	104°32'33.720"W	0.19	
8457.00	90.000	181.430	7263.60	1074.86	-1067.93	-266.15	40°04'10.612"N	104°32'33.737"W	1.34	
8546.00	89.570	181.140	7263.94	1163.86	-1156.91	-268.15	40°04'09.733"N	104°32'33.762"W	0.58	
8635.00	89.780	181.410	7264.44	1252.86	-1245.89	-270.13	40°04'08.854"N	104°32'33.788"W	0.38	
8724.00	89.690	180.720	7264.85	1341.85	-1334.87	-271.78	40°04'07.975"N	104°32'33.809"W	0.78	
8813.00	89.940	182.050	7265.14	1430.85	-1423.84	-273.93	40°04'07.095"N	104°32'33.837"W	1.52	
8902.00	90.370	183.390	7264.90	1519.83	-1512.74	-278.16	40°04'06.217"N	104°32'33.891"W	1.58	
8992.00	89.110	182.900	7265.31	1609.79	-1602.60	-283.09	40°04'05.329"N	104°32'33.954"W	1.50	
9081.00	89.200	183.660	7266.62	1698.74	-1691.44	-288.19	40°04'04.451"N	104°32'34.020"W	0.86	
9170.00	89.080	183.300	7267.96	1787.68	-1780.27	-293.59	40°04'03.573"N	104°32'34.089"W	0.43	
9259.00	89.110	182.110	7269.36	1876.65	-1869.16	-297.79	40°04'02.695"N	104°32'34.143"W	1.34	
9348.00	89.110	180.410	7270.74	1965.64	-1958.12	-299.74	40°04'01.815"N	104°32'34.169"W	1.91	
9437.00	89.690	179.100	7271.68	2054.59	-2047.11	-299.36	40°04'00.936"N	104°32'34.164"W	1.61	
9527.00	89.510	178.840	7272.30	2144.49	-2137.10	-297.74	40°04'00.047"N	104°32'34.143"W	0.35	
9616.00	89.600	178.340	7273.00	2233.37	-2226.07	-295.55	40°03'59.168"N	104°32'34.115"W	0.57	
9705.00	89.570	177.970	7273.64	2322.21	-2315.02	-292.69	40°03'58.289"N	104°32'34.078"W	0.42	
9794.00	89.600	178.290	7274.29	2411.04	-2403.97	-289.79	40°03'57.409"N	104°32'34.040"W	0.36	
9883.00	89.630	179.380	7274.88	2499.94	-2492.95	-287.98	40°03'56.530"N	104°32'34.017"W	1.23	
9972.00	89.630	179.690	7275.46	2588.88	-2581.94	-287.25	40°03'55.651"N	104°32'34.008"W	0.35	
10061.00	90.180	179.650	7275.61	2677.83	-2670.94	-286.74	40°03'54.771"N	104°32'34.001"W	0.62	
10150.00	90.120	179.900	7275.37	2766.78	-2759.94	-286.39	40°03'53.892"N	104°32'33.997"W	0.29	
10239.00	90.090	180.060	7275.21	2855.75	-2848.94	-286.36	40°03'53.012"N	104°32'33.996"W	0.18	
10328.00	89.290	180.270	7275.69	2944.72	-2937.93	-286.62	40°03'52.133"N	104°32'34.000"W	0.93	
10417.00	88.950	179.330	7277.06	3033.66	-3026.92	-286.31	40°03'51.253"N	104°32'33.996"W	1.12	

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (199 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
10506.00	88.460	178.610	7279.07	3122.55	-3115.88	-284.71	40°03'50.374"N	104°32'33.975"W	0.98	
10595.00	89.080	177.400	7280.98	3211.35	-3204.81	-281.61	40°03'49.495"N	104°32'33.935"W	1.53	
10684.00	89.850	176.780	7281.81	3300.08	-3293.69	-277.09	40°03'48.617"N	104°32'33.877"W	1.11	
10773.00	89.970	176.250	7281.95	3388.73	-3382.52	-271.68	40°03'47.739"N	104°32'33.807"W	0.61	
10862.00	91.390	177.380	7280.89	3477.41	-3471.38	-266.74	40°03'46.861"N	104°32'33.744"W	2.04	
10951.00	91.290	178.610	7278.81	3566.21	-3560.30	-263.62	40°03'45.982"N	104°32'33.704"W	1.39	
11040.00	91.390	178.870	7276.73	3655.08	-3649.25	-261.67	40°03'45.103"N	104°32'33.679"W	0.31	
11129.00	91.690	179.360	7274.34	3743.96	-3738.21	-260.29	40°03'44.224"N	104°32'33.661"W	0.65	
11218.00	90.280	177.560	7272.81	3832.81	-3827.16	-257.90	40°03'43.345"N	104°32'33.630"W	2.57	
11307.00	89.690	177.490	7272.83	3921.59	-3916.07	-254.06	40°03'42.467"N	104°32'33.581"W	0.67	
11396.00	89.720	178.290	7273.29	4010.40	-4005.01	-250.78	40°03'41.588"N	104°32'33.539"W	0.90	
11485.00	89.750	180.920	7273.70	4099.34	-4094.00	-250.17	40°03'40.708"N	104°32'33.531"W	2.96	
11574.00	89.540	181.400	7274.25	4188.33	-4182.98	-251.97	40°03'39.829"N	104°32'33.554"W	0.59	
11662.00	89.570	181.680	7274.94	4276.33	-4270.94	-254.33	40°03'38.960"N	104°32'33.584"W	0.32	
11751.00	89.540	181.980	7275.63	4365.33	-4359.90	-257.18	40°03'38.081"N	104°32'33.621"W	0.34	
11840.00	90.990	182.830	7275.22	4454.31	-4448.81	-260.91	40°03'37.202"N	104°32'33.669"W	1.89	
11929.00	90.830	182.200	7273.80	4543.29	-4537.72	-264.82	40°03'36.323"N	104°32'33.719"W	0.73	
12018.00	90.920	181.410	7272.44	4632.28	-4626.66	-267.62	40°03'35.444"N	104°32'33.755"W	0.89	
12107.00	89.600	180.610	7272.04	4721.27	-4715.64	-269.19	40°03'34.565"N	104°32'33.775"W	1.73	
12196.00	89.510	179.060	7272.73	4810.22	-4804.64	-268.93	40°03'33.686"N	104°32'33.772"W	1.74	
12285.00	89.600	180.040	7273.42	4899.17	-4893.63	-268.23	40°03'32.806"N	104°32'33.763"W	1.11	
12374.00	89.540	180.620	7274.09	4988.14	-4982.63	-268.74	40°03'31.927"N	104°32'33.769"W	0.66	
12463.00	89.630	182.360	7274.74	5077.14	-5071.59	-271.06	40°03'31.047"N	104°32'33.799"W	1.96	
12552.00	89.480	182.350	7275.43	5166.12	-5160.51	-274.72	40°03'30.169"N	104°32'33.846"W	0.17	
12641.00	89.750	183.980	7276.03	5255.09	-5249.37	-279.63	40°03'29.291"N	104°32'33.909"W	1.86	
12730.00	89.780	184.820	7276.39	5343.98	-5338.11	-286.46	40°03'28.414"N	104°32'33.997"W	0.94	
12819.00	89.510	182.460	7276.94	5432.91	-5426.92	-292.11	40°03'27.536"N	104°32'34.070"W	2.67	
12908.00	89.540	180.150	7277.68	5521.90	-5515.89	-294.13	40°03'26.657"N	104°32'34.096"W	2.60	
12997.00	89.480	178.910	7278.44	5610.84	-5604.88	-293.40	40°03'25.777"N	104°32'34.086"W	1.39	
13086.00	89.600	177.830	7279.16	5699.69	-5693.84	-290.87	40°03'24.898"N	104°32'34.054"W	1.22	

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (199 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13175.00	89.570	176.970	7279.80	5788.45	-5782.75	-286.84	40°03'24.020"N	104°32'34.002"W	0.97	
13264.00	89.750	176.840	7280.33	5877.16	-5871.61	-282.03	40°03'23.141"N	104°32'33.940"W	0.25	
13353.00	89.690	176.240	7280.76	5965.81	-5960.45	-276.66	40°03'22.264"N	104°32'33.871"W	0.68	
13442.00	91.050	177.410	7280.19	6054.50	-6049.31	-271.73	40°03'21.385"N	104°32'33.808"W	2.02	
13531.00	90.800	178.230	7278.75	6143.30	-6138.23	-268.34	40°03'20.507"N	104°32'33.764"W	0.96	
13620.00	90.920	179.050	7277.42	6232.17	-6227.20	-266.23	40°03'19.628"N	104°32'33.737"W	0.93	
13709.00	90.890	180.250	7276.01	6321.10	-6316.18	-265.69	40°03'18.748"N	104°32'33.730"W	1.35	
13798.00	90.950	181.240	7274.58	6410.08	-6405.16	-266.85	40°03'17.869"N	104°32'33.745"W	1.11	
13886.00	89.630	181.620	7274.14	6498.08	-6493.13	-269.04	40°03'17.000"N	104°32'33.773"W	1.56	
13975.00	90.980	181.370	7273.66	6587.08	-6582.10	-271.36	40°03'16.120"N	104°32'33.803"W	1.54	
14065.00	90.710	181.690	7272.33	6677.07	-6672.05	-273.77	40°03'15.231"N	104°32'33.834"W	0.47	
14153.00	88.920	181.530	7272.62	6765.06	-6760.02	-276.24	40°03'14.362"N	104°32'33.866"W	2.04	
14242.00	88.770	181.530	7274.41	6854.04	-6848.97	-278.62	40°03'13.483"N	104°32'33.896"W	0.17	
14331.00	88.920	180.190	7276.21	6943.02	-6937.94	-279.95	40°03'12.604"N	104°32'33.913"W	1.51	
14420.00	88.920	180.890	7277.88	7031.99	-7026.92	-280.79	40°03'11.725"N	104°32'33.924"W	0.79	
14509.00	89.480	181.230	7279.13	7120.97	-7115.89	-282.44	40°03'10.845"N	104°32'33.945"W	0.74	
14599.00	89.780	180.330	7279.71	7210.96	-7205.88	-283.66	40°03'09.956"N	104°32'33.961"W	1.05	
14687.00	89.880	178.820	7279.97	7298.90	-7293.87	-283.01	40°03'09.086"N	104°32'33.953"W	1.72	
14776.00	91.050	179.610	7279.25	7387.82	-7382.86	-281.79	40°03'08.207"N	104°32'33.937"W	1.59	
14866.00	90.830	179.960	7277.77	7477.77	-7472.85	-281.45	40°03'07.318"N	104°32'33.932"W	0.46	
14954.00	90.860	178.210	7276.47	7565.67	-7560.82	-280.05	40°03'06.448"N	104°32'33.914"W	1.99	
15043.00	89.600	177.210	7276.12	7654.46	-7649.75	-276.49	40°03'05.570"N	104°32'33.869"W	1.81	
15132.00	89.660	177.110	7276.69	7743.20	-7738.64	-272.08	40°03'04.691"N	104°32'33.812"W	0.13	
15221.00	90.030	177.960	7276.93	7831.97	-7827.55	-268.25	40°03'03.812"N	104°32'33.763"W	1.04	
15309.00	89.910	180.150	7276.98	7919.88	-7915.54	-266.80	40°03'02.943"N	104°32'33.744"W	2.49	
15398.00	89.850	181.830	7277.16	8008.88	-8004.52	-268.34	40°03'02.064"N	104°32'33.764"W	1.89	
15487.00	89.940	181.640	7277.33	8097.87	-8093.48	-271.03	40°03'01.185"N	104°32'33.798"W	0.24	
15576.00	89.940	180.510	7277.42	8186.87	-8182.46	-272.70	40°03'00.305"N	104°32'33.820"W	1.27	
15666.00	89.940	179.430	7277.51	8276.83	-8272.46	-272.66	40°02'59.416"N	104°32'33.819"W	1.20	
15755.00	89.910	178.920	7277.63	8365.75	-8361.45	-271.37	40°02'58.536"N	104°32'33.803"W	0.57	

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH DATA (199 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
15843.00	89.820	177.140	7277.84	8453.58	-8449.40	-268.35	40°02'57.667"N	104°32'33.764"W	2.03	
15932.00	90.710	178.480	7277.43	8542.39	-8538.33	-264.95	40°02'56.788"N	104°32'33.720"W	1.81	
16021.00	90.490	179.660	7276.49	8631.29	-8627.31	-263.50	40°02'55.909"N	104°32'33.702"W	1.35	
16110.00	90.710	178.550	7275.56	8720.20	-8716.29	-262.11	40°02'55.030"N	104°32'33.684"W	1.27	
16199.00	90.680	178.070	7274.48	8809.05	-8805.25	-259.49	40°02'54.151"N	104°32'33.650"W	0.54	
16288.00	90.280	178.500	7273.74	8897.90	-8894.20	-256.83	40°02'53.272"N	104°32'33.616"W	0.66	
16377.00	90.250	180.040	7273.33	8986.83	-8983.19	-255.69	40°02'52.392"N	104°32'33.601"W	1.73	
16466.00	90.220	181.240	7272.96	9075.81	-9072.18	-256.69	40°02'51.513"N	104°32'33.614"W	1.35	
16555.00	89.510	182.230	7273.17	9164.81	-9161.14	-259.38	40°02'50.634"N	104°32'33.648"W	1.37	
16644.00	89.600	180.700	7273.86	9253.80	-9250.11	-261.66	40°02'49.754"N	104°32'33.678"W	1.72	
16733.00	90.340	181.570	7273.91	9342.80	-9339.09	-263.42	40°02'48.875"N	104°32'33.700"W	1.28	
16822.00	90.770	182.510	7273.05	9431.79	-9428.03	-266.59	40°02'47.996"N	104°32'33.741"W	1.16	
16911.00	90.860	184.040	7271.78	9520.74	-9516.87	-271.67	40°02'47.118"N	104°32'33.806"W	1.72	
17000.00	90.710	183.970	7270.56	9609.65	-9605.64	-277.89	40°02'46.241"N	104°32'33.886"W	0.19	
17089.00	90.740	183.810	7269.43	9698.57	-9694.43	-283.92	40°02'45.364"N	104°32'33.964"W	0.18	
17178.00	90.740	183.110	7268.28	9787.52	-9783.26	-289.29	40°02'44.486"N	104°32'34.033"W	0.79	
17267.00	90.800	183.370	7267.09	9876.47	-9872.11	-294.32	40°02'43.608"N	104°32'34.098"W	0.30	
17357.00	90.830	183.400	7265.81	9966.42	-9961.94	-299.64	40°02'42.720"N	104°32'34.166"W	0.05	LAST BHGE MWD SURVEY (419'FSL&994'FWL,SEC.15)
17396.00	90.830	183.400	7265.24	10005.39	-10000.87	-301.95	40°02'42.335"N	104°32'34.196"W	0.00	PROJECTION TO BIT (458'FSL&994'FWL,SEC.15)

HOLE & CASING SECTIONS - Ref Wellbore: BRNAK 01N-64W-10-3H awb Ref Wellpath: BRNAK 01N-64W-10-3H 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	16.00	1765.00	1749.00	16.00	1751.40	0.00	0.00	151.36	-114.95
9.625in Casing Surface	16.00	1734.00	1718.00	16.00	1720.81	0.00	0.00	147.13	-112.26
8.5in Open Hole	1765.00	17396.00	15631.00	1751.40	7265.24	151.36	-114.95	-10000.87	-301.95

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H 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	-32.00	3268133.36	1270722.15	40°04'21.166"N	104°32'30.725"W	polygon
SEC.15-T1N-R64W	0.00	-0.04	-32.00	3268133.36	1270722.15	40°04'21.166"N	104°32'30.725"W	polygon
SEC10/15-T1N-R64W (460'SETBACKS)	7000.00	-0.04	-32.00	3268133.36	1270722.15	40°04'21.166"N	104°32'30.725"W	polygon
BRNAK 01N-64W-10-3H BHL (CODELL, 460'FSL & 1020'FWL,SEC.15,REV-1)	7235.00	-10002.72	-275.84	3267997.63	1260717.82	40°02'42.317"N	104°32'33.860"W	point
BRNAK 01N-64W-10-3H LP (CODELL, 460'FNL & 1020'FWL,SEC.10,REV-2)	7250.00	-215.34	-267.11	3267900.61	1270504.33	40°04'19.038"N	104°32'33.749"W	point
BRNAK 01N-64W-10-3H LP (CODELL, 460'FNL & 1020'FWL,SEC.10,REV-1)	7255.00	-215.34	-267.11	3267900.61	1270504.33	40°04'19.038"N	104°32'33.749"W	point
BRNAK 01N-64W-10-3H BHL (CODELL, 460'FSL & 1020'FWL,SEC.15,REV-2)	7290.00	-10002.72	-275.84	3267997.63	1260717.82	40°02'42.317"N	104°32'33.860"W	point

WELLPATH COMPOSITION - Ref Wellbore: BRNAK 01N-64W-10-3H awb					Ref Wellpath: BRNAK 01N-64W-10-3H awp	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model			Log Name/Comment	Wellbore
16.00	1701.00	Custom BHI NaviTrak (Standard Rotating+Axial Corr) (Rockies 0.03Gt model)			BHI/NAVITRAK (AXIAL) MWD 12.25"<16-1701>	BRNAK 01N-64W-10-3H awb
1701.00	17357.00	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)			BHI/ATC (SS,AXIAL) MWD 8.5"-<1781-17357>	BRNAK 01N-64W-10-3H awb
17357.00	17396.00	Blind Drilling (std)			Projection to bit	BRNAK 01N-64W-10-3H awb

Actual Wellpath Report

BRNAK 01N-64W-10-3H awp

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REFERENCE WELLPATH IDENTIFICATION

Operator	VERDAD OIL & GAS CORPORATION	Slot	SLOT#03 BRNAK 01N-64W-10-3H (245'FNL & 1291'FWL,SEC.10)
Area	COLORADO	Well	BRNAK 01N-64W-10-3H
Field	WELD COUNTY (NAD83/TN)	Wellbore	BRNAK 01N-64W-10-3H awb
Facility	SEC.10-T1N-R64W		

WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
7604.00	84.797	178.143	7254.71	CROSSED 460' SETBACK (460'FNL&1015'FWL,SEC.10)
17357.00	90.830	183.400	7265.81	LAST BHGE MWD SURVEY (419'FSL&994'FWL,SEC.15)
17396.00	90.830	183.400	7265.24	PROJECTION TO BIT (458'FSL&994'FWL,SEC.15)