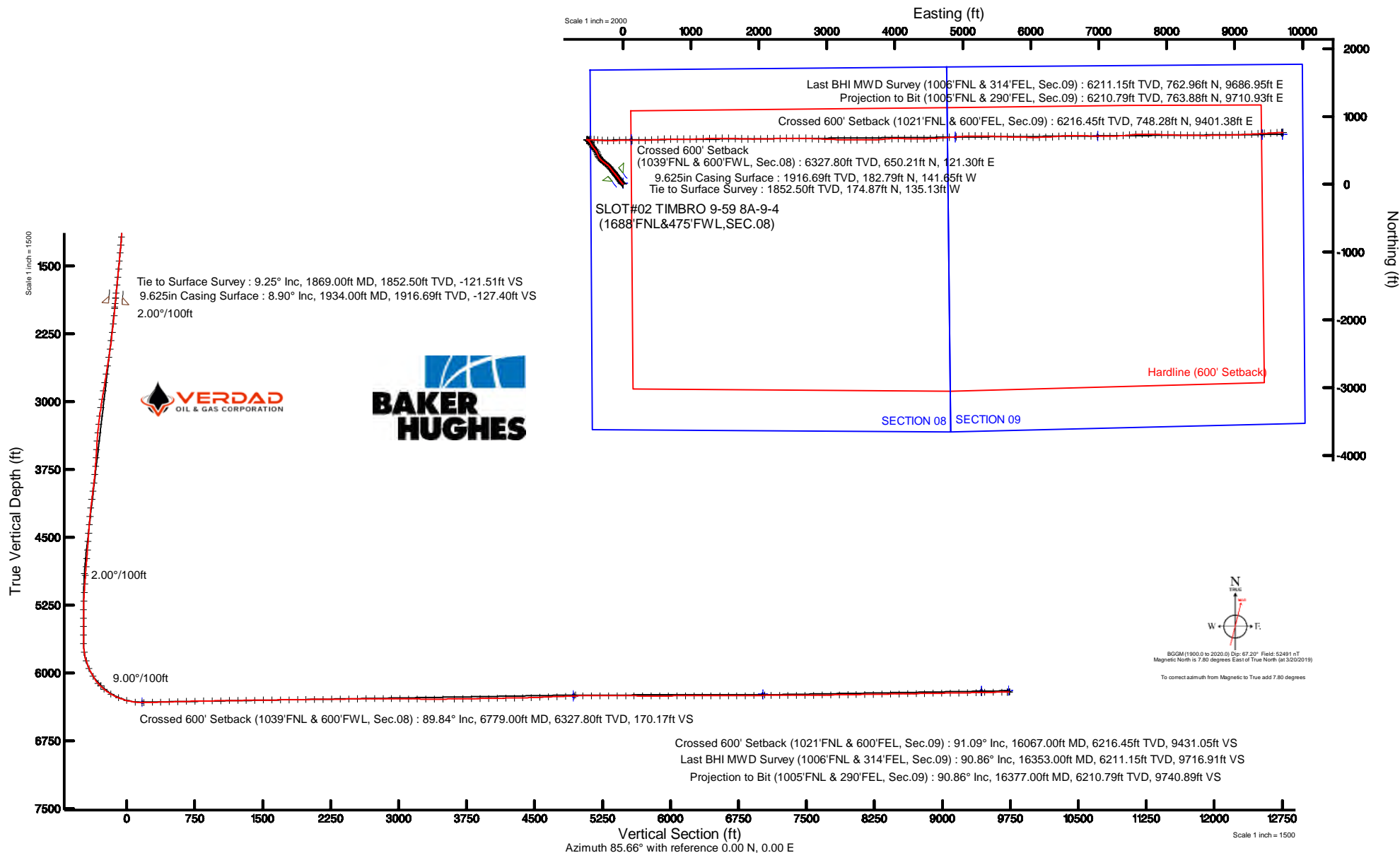


# VERDAD RESOURCES

Location: COLORADO Slot: SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)  
Field: WELD COUNTY (NAD83/TN) Well: TIMBRO 9-59 8A-9-4  
Facility: SEC.08-T09N-R59W Wellbore: TIMBRO 9-59 8A-9-4 PWB

Plot reference wellpath is TIMBRO 9-59 8A-9-4 (REV-D.0) PWP	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to Big Rig (24KB) (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Big Rig (24KB) (RKB)	North Reference: True north
Big Rig (24KB) (RKB) to Mean Sea Level: 5109 feet	Scale: True distance
Mean Sea Level to Ground level (At Slot: SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: guenaler on 2019-04-30
	Database: WA_DEN_Denver_Defn





# Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP

Page 1 of 8



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

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	0.999998	Report Generated	4/30/2019 at 5:52:44 PM
Convergence at slot	0.97° East	Database/Source file	WA_DEN_Denver_Defn/TIMBRO_9-59_8A-9-4_AWP.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-16.07	-0.03	3412704.52	1525971.05	40°46'03.572"N	104°00'36.076"W
Facility Reference Pt			3412704.28	1525987.12	40°46'03.731"N	104°00'36.076"W
Field Reference Pt			3242930.13	1254608.21	40°01'44.490"N	104°37'56.946"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Big Rig (24'KB) (RKB) to Facility Vertical Datum	5109.00ft
Horizontal Reference Pt	Slot	Big Rig (24'KB) (RKB) to Mean Sea Level	5109.00ft
Vertical Reference Pt	Big Rig (24'KB) (RKB)	Big Rig (24'KB) (RKB) to Ground Level at Slot (SLOT#02 TIMBRO 9-59 8A-9-4 (1688'FNL&475'FWL,SEC.08))	5109.00ft
MD Reference Pt	Big Rig (24'KB) (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	85.70°



Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (179 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	51.330	0.00	0.00	0.00	0.00	40°46'03.572"N	104°00'36.076"W	0.00	
24.00	0.000	51.330	24.00	0.00	0.00	0.00	40°46'03.572"N	104°00'36.076"W	0.00	
107.00	0.250	51.330	107.00	0.15	0.11	0.14	40°46'03.573"N	104°00'36.074"W	0.30	
197.00	0.340	65.800	197.00	0.56	0.35	0.54	40°46'03.575"N	104°00'36.069"W	0.13	
284.00	0.550	349.810	284.00	0.76	0.86	0.70	40°46'03.581"N	104°00'36.067"W	0.66	
376.00	3.620	311.840	375.93	-1.30	3.23	-1.54	40°46'03.604"N	104°00'36.096"W	3.48	
466.00	6.130	321.080	465.60	-6.00	8.87	-6.68	40°46'03.660"N	104°00'36.163"W	2.91	
556.00	6.600	327.230	555.04	-11.19	16.96	-12.50	40°46'03.740"N	104°00'36.238"W	0.92	
646.00	6.930	320.970	644.42	-16.75	25.52	-18.72	40°46'03.824"N	104°00'36.319"W	0.90	
736.00	7.650	316.100	733.69	-23.66	34.06	-26.29	40°46'03.909"N	104°00'36.418"W	1.05	
826.00	8.530	319.530	822.79	-31.42	43.45	-34.78	40°46'04.001"N	104°00'36.528"W	1.11	
916.00	7.560	320.060	911.91	-38.81	53.07	-42.91	40°46'04.096"N	104°00'36.634"W	1.08	
1006.00	8.520	327.230	1001.02	-45.44	63.22	-50.32	40°46'04.197"N	104°00'36.730"W	1.54	
1096.00	9.200	328.310	1089.95	-51.93	74.94	-57.71	40°46'04.313"N	104°00'36.826"W	0.78	
1186.00	8.900	328.720	1178.83	-58.39	87.02	-65.10	40°46'04.432"N	104°00'36.922"W	0.34	
1276.00	8.990	323.160	1267.73	-65.33	98.59	-72.93	40°46'04.546"N	104°00'37.024"W	0.97	
1366.00	9.600	320.600	1356.55	-73.43	110.02	-81.91	40°46'04.659"N	104°00'37.141"W	0.82	
1456.00	9.620	321.560	1445.29	-81.97	121.71	-91.35	40°46'04.775"N	104°00'37.263"W	0.18	
1546.00	9.090	320.800	1534.09	-90.26	133.11	-100.52	40°46'04.887"N	104°00'37.382"W	0.60	
1636.00	9.900	319.960	1622.86	-98.84	144.54	-109.99	40°46'05.000"N	104°00'37.505"W	0.91	
1726.00	10.020	320.160	1711.50	-107.91	156.48	-119.98	40°46'05.118"N	104°00'37.635"W	0.14	
1816.00	9.450	320.750	1800.21	-116.70	168.21	-129.67	40°46'05.234"N	104°00'37.761"W	0.64	
1869.00	9.250	320.590	1852.50	-121.64	174.87	-135.13	40°46'05.300"N	104°00'37.832"W	0.38	Tie to Surface Survey
1973.00	8.690	320.420	1955.23	-130.98	187.39	-145.44	40°46'05.424"N	104°00'37.966"W	0.54	
2067.00	11.060	324.060	2047.83	-139.82	200.16	-155.26	40°46'05.550"N	104°00'38.094"W	2.61	
2162.00	11.700	324.230	2140.96	-149.63	215.35	-166.24	40°46'05.700"N	104°00'38.237"W	0.67	
2257.00	12.220	322.540	2233.90	-160.15	231.15	-177.99	40°46'05.856"N	104°00'38.389"W	0.66	
2351.00	12.290	320.460	2325.76	-171.37	246.76	-190.41	40°46'06.010"N	104°00'38.551"W	0.48	
2446.00	12.470	315.930	2418.55	-183.76	261.93	-203.98	40°46'06.160"N	104°00'38.727"W	1.04	
2541.00	12.440	310.340	2511.32	-197.61	275.92	-218.91	40°46'06.298"N	104°00'38.921"W	1.27	



Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (179 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2635.00	12.220	309.150	2603.15	-212.03	288.76	-234.34	40°46'06.425"N	104°00'39.122"W	0.36	
2730.00	12.120	307.660	2696.02	-226.75	301.20	-250.03	40°46'06.548"N	104°00'39.326"W	0.35	
2825.00	12.230	308.340	2788.88	-241.57	313.53	-265.82	40°46'06.670"N	104°00'39.531"W	0.19	
2919.00	12.540	307.970	2880.69	-256.44	325.99	-281.68	40°46'06.793"N	104°00'39.737"W	0.34	
3014.00	12.360	307.990	2973.46	-271.59	338.59	-297.82	40°46'06.918"N	104°00'39.947"W	0.19	
3108.00	12.100	313.470	3065.33	-285.66	351.56	-312.90	40°46'07.046"N	104°00'40.143"W	1.27	
3203.00	11.970	317.450	3158.24	-298.45	365.67	-326.79	40°46'07.185"N	104°00'40.323"W	0.88	
3297.00	11.640	322.250	3250.26	-309.71	380.35	-339.18	40°46'07.330"N	104°00'40.484"W	1.10	
3392.00	11.540	327.900	3343.32	-319.43	395.98	-350.10	40°46'07.485"N	104°00'40.626"W	1.20	
3486.00	10.760	333.320	3435.55	-327.15	411.78	-359.04	40°46'07.641"N	104°00'40.742"W	1.39	
3581.00	11.070	339.850	3528.83	-333.02	428.27	-366.16	40°46'07.804"N	104°00'40.835"W	1.34	
3675.00	12.110	338.400	3620.92	-338.42	445.91	-372.90	40°46'07.978"N	104°00'40.922"W	1.15	
3770.00	12.620	334.650	3713.71	-345.11	464.55	-381.01	40°46'08.162"N	104°00'41.028"W	1.00	
3864.00	12.790	331.680	3805.41	-353.03	482.99	-390.35	40°46'08.344"N	104°00'41.149"W	0.72	
3959.00	12.730	324.890	3898.07	-362.67	500.81	-401.36	40°46'08.521"N	104°00'41.292"W	1.58	
4053.00	12.560	320.640	3989.79	-373.85	517.19	-413.79	40°46'08.682"N	104°00'41.454"W	1.01	
4148.00	11.240	318.590	4082.75	-385.37	532.12	-426.47	40°46'08.830"N	104°00'41.619"W	1.46	
4243.00	10.660	320.640	4176.02	-396.00	545.86	-438.17	40°46'08.966"N	104°00'41.771"W	0.74	
4337.00	10.450	324.720	4268.43	-405.39	559.54	-448.60	40°46'09.101"N	104°00'41.906"W	0.83	
4432.00	9.980	329.530	4361.93	-413.45	573.67	-457.75	40°46'09.240"N	104°00'42.025"W	1.02	
4527.00	10.230	332.120	4455.46	-420.46	588.22	-465.87	40°46'09.384"N	104°00'42.131"W	0.55	
4621.00	9.320	329.720	4548.09	-427.13	602.17	-473.61	40°46'09.522"N	104°00'42.231"W	1.06	
4716.00	9.310	327.760	4641.84	-434.10	615.32	-481.59	40°46'09.652"N	104°00'42.335"W	0.33	
4810.00	8.780	323.110	4734.67	-441.53	627.48	-489.96	40°46'09.772"N	104°00'42.444"W	0.96	
4904.00	6.850	315.200	4827.79	-449.03	637.20	-498.21	40°46'09.868"N	104°00'42.551"W	2.35	
4999.00	5.900	310.360	4922.21	-456.19	644.38	-505.93	40°46'09.939"N	104°00'42.651"W	1.15	
5093.00	5.450	305.440	5015.75	-463.06	650.10	-513.24	40°46'09.996"N	104°00'42.746"W	0.70	
5188.00	3.700	287.330	5110.44	-469.38	653.63	-519.85	40°46'10.030"N	104°00'42.832"W	2.37	
5283.00	2.420	257.490	5205.31	-474.21	654.11	-524.73	40°46'10.035"N	104°00'42.896"W	2.11	
5377.00	0.060	22.630	5299.29	-476.15	653.72	-526.65	40°46'10.031"N	104°00'42.921"W	2.61	



Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (179 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
5472.00	0.220	81.680	5394.29	-475.95	653.80	-526.45	40°46'10.032"N	104°00'42.918"W	0.21	
5566.00	0.220	288.340	5488.29	-475.93	653.88	-526.44	40°46'10.033"N	104°00'42.918"W	0.46	
5661.00	0.040	314.210	5583.28	-476.12	653.96	-526.64	40°46'10.034"N	104°00'42.921"W	0.19	
5756.00	0.250	58.070	5678.28	-475.96	654.09	-526.49	40°46'10.035"N	104°00'42.919"W	0.28	
5850.00	8.710	84.500	5771.91	-468.65	654.88	-519.22	40°46'10.043"N	104°00'42.824"W	9.03	
5945.00	16.480	84.950	5864.56	-447.96	656.76	-498.60	40°46'10.061"N	104°00'42.556"W	8.18	
6039.00	23.370	88.190	5952.88	-415.96	658.53	-466.65	40°46'10.079"N	104°00'42.141"W	7.42	
6134.00	31.040	93.370	6037.32	-372.79	657.68	-423.29	40°46'10.071"N	104°00'41.577"W	8.44	
6229.00	41.150	95.020	6113.98	-317.53	653.50	-367.56	40°46'10.029"N	104°00'40.853"W	10.69	
6323.00	50.480	95.350	6179.43	-251.12	647.40	-300.51	40°46'09.969"N	104°00'39.982"W	9.93	
6418.00	59.310	91.190	6234.02	-174.16	643.12	-223.01	40°46'09.927"N	104°00'38.974"W	9.96	
6512.00	68.350	87.350	6275.45	-90.06	644.30	-138.76	40°46'09.938"N	104°00'37.879"W	10.29	
6607.00	75.150	87.360	6305.18	0.07	648.46	-48.69	40°46'09.979"N	104°00'36.709"W	7.16	
6702.00	83.120	89.690	6323.08	93.17	650.84	44.49	40°46'10.003"N	104°00'35.498"W	8.73	
6779.00†	89.837	91.248	6327.80	169.71	650.21	121.30	40°46'09.997"N	104°00'34.500"W	8.95	Crossed 600' Setback (1039'FNL & 600'FWL, Sec.08)
6796.00	91.320	91.590	6327.63	186.62	649.79	138.29	40°46'09.993"N	104°00'34.279"W	8.95	
6891.00	91.350	90.480	6325.42	281.19	648.07	233.25	40°46'09.976"N	104°00'33.045"W	1.17	
6985.00	91.420	87.930	6323.15	374.97	649.37	327.21	40°46'09.988"N	104°00'31.823"W	2.71	
7080.00	91.630	86.670	6320.62	469.90	653.85	422.07	40°46'10.033"N	104°00'30.591"W	1.34	
7174.00	91.510	86.990	6318.04	563.85	659.04	515.89	40°46'10.084"N	104°00'29.371"W	0.36	
7269.00	91.760	88.080	6315.33	658.76	663.13	610.76	40°46'10.124"N	104°00'28.138"W	1.18	
7363.00	91.350	89.330	6312.78	752.59	665.25	704.70	40°46'10.145"N	104°00'26.917"W	1.40	
7458.00	90.890	91.230	6310.92	847.27	664.79	799.67	40°46'10.141"N	104°00'25.683"W	2.06	
7553.00	91.170	90.520	6309.22	941.86	663.34	894.65	40°46'10.126"N	104°00'24.449"W	0.80	
7647.00	91.080	87.930	6307.37	1035.66	664.61	988.61	40°46'10.139"N	104°00'23.227"W	2.76	
7742.00	90.740	87.990	6305.86	1130.57	667.99	1083.54	40°46'10.172"N	104°00'21.994"W	0.36	
7837.00	90.680	87.360	6304.69	1225.51	671.84	1178.45	40°46'10.210"N	104°00'20.760"W	0.67	
7931.00	90.890	88.610	6303.40	1319.42	675.15	1272.38	40°46'10.243"N	104°00'19.539"W	1.35	
8026.00	90.740	88.790	6302.05	1414.28	677.30	1367.35	40°46'10.264"N	104°00'18.305"W	0.25	
8120.00	90.710	90.260	6300.86	1508.07	678.08	1461.34	40°46'10.272"N	104°00'17.083"W	1.56	



Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (179 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8215.00	90.800	90.820	6299.60	1602.72	677.19	1556.32	40°46'10.263"N	104°00'15.849"W	0.60	
8310.00	90.830	92.340	6298.25	1697.21	674.57	1651.28	40°46'10.237"N	104°00'14.615"W	1.60	
8404.00	90.740	92.500	6296.97	1790.55	670.60	1745.18	40°46'10.198"N	104°00'13.394"W	0.20	
8499.00	90.770	91.220	6295.71	1884.99	667.52	1840.12	40°46'10.167"N	104°00'12.160"W	1.35	
8593.00	90.740	89.520	6294.47	1978.67	666.91	1934.11	40°46'10.161"N	104°00'10.939"W	1.81	
8688.00	90.740	88.330	6293.25	2073.51	668.69	2029.08	40°46'10.179"N	104°00'09.705"W	1.25	
8783.00	90.800	88.990	6291.97	2168.37	670.91	2124.05	40°46'10.200"N	104°00'08.470"W	0.70	
8877.00	90.620	88.440	6290.81	2262.24	673.02	2218.02	40°46'10.221"N	104°00'07.249"W	0.62	
8972.00	90.740	88.250	6289.68	2357.13	675.76	2312.97	40°46'10.248"N	104°00'06.015"W	0.24	
9066.00	91.020	88.640	6288.24	2451.01	678.31	2406.92	40°46'10.273"N	104°00'04.794"W	0.51	
9161.00	91.020	89.840	6286.54	2545.81	679.57	2501.90	40°46'10.286"N	104°00'03.560"W	1.26	
9255.00	89.970	91.040	6285.73	2639.48	678.85	2595.89	40°46'10.278"N	104°00'02.338"W	1.70	
9350.00	90.000	91.420	6285.76	2734.04	676.81	2690.87	40°46'10.258"N	104°00'01.104"W	0.40	
9445.00	89.970	92.380	6285.78	2828.48	673.66	2785.81	40°46'10.227"N	103°59'59.870"W	1.01	
9539.00	90.000	92.710	6285.81	2921.81	669.49	2879.72	40°46'10.186"N	103°59'58.649"W	0.35	
9634.00	89.910	91.560	6285.88	3016.21	665.95	2974.65	40°46'10.150"N	103°59'57.415"W	1.21	
9728.00	89.050	92.250	6286.73	3109.66	662.83	3068.60	40°46'10.119"N	103°59'56.194"W	1.17	
9823.00	88.920	92.060	6288.42	3204.04	659.25	3163.51	40°46'10.084"N	103°59'54.961"W	0.24	
9918.00	89.110	90.520	6290.05	3298.57	657.12	3258.47	40°46'10.063"N	103°59'53.727"W	1.63	
10012.00	90.490	90.260	6290.38	3392.25	656.48	3352.47	40°46'10.056"N	103°59'52.505"W	1.49	
10107.00	90.620	90.280	6289.46	3486.95	656.03	3447.46	40°46'10.052"N	103°59'51.270"W	0.14	
10236.00	90.890	90.780	6287.76	3615.48	654.83	3576.45	40°46'10.040"N	103°59'49.594"W	0.44	
10331.00	90.740	88.980	6286.41	3710.21	655.03	3671.43	40°46'10.042"N	103°59'48.360"W	1.90	
10425.00	90.800	85.540	6285.14	3804.15	659.53	3765.30	40°46'10.086"N	103°59'47.140"W	3.66	
10520.00	90.990	84.470	6283.66	3899.13	667.80	3859.93	40°46'10.168"N	103°59'45.910"W	1.14	
10615.00	91.050	87.490	6281.97	3994.11	674.45	3954.67	40°46'10.233"N	103°59'44.678"W	3.18	
10709.00	90.950	91.090	6280.33	4087.89	675.62	4048.63	40°46'10.244"N	103°59'43.457"W	3.83	
10804.00	90.990	92.060	6278.72	4182.38	673.01	4143.58	40°46'10.219"N	103°59'42.223"W	1.02	
10899.00	91.050	90.650	6277.03	4276.90	670.76	4238.54	40°46'10.196"N	103°59'40.989"W	1.49	
10993.00	91.140	89.800	6275.23	4370.59	670.39	4332.52	40°46'10.192"N	103°59'39.768"W	0.91	



Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (179 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11088.00	92.090	88.840	6272.55	4465.36	671.52	4427.47	40°46'10.203"N	103°59'38.534"W	1.42	
11183.00	92.150	87.770	6269.04	4560.19	674.33	4522.36	40°46'10.231"N	103°59'37.300"W	1.13	
11277.00	92.150	86.290	6265.51	4654.10	679.19	4616.17	40°46'10.279"N	103°59'36.081"W	1.57	
11372.00	92.150	86.080	6261.95	4749.03	685.51	4710.89	40°46'10.341"N	103°59'34.850"W	0.22	
11467.00	92.060	85.420	6258.46	4843.96	692.55	4805.57	40°46'10.410"N	103°59'33.619"W	0.70	
11562.00	92.150	85.550	6254.97	4938.90	700.02	4900.21	40°46'10.484"N	103°59'32.389"W	0.17	
11656.00	90.090	86.990	6253.13	5032.87	706.13	4993.98	40°46'10.544"N	103°59'31.171"W	2.67	
11751.00	89.850	87.790	6253.18	5127.83	710.46	5088.88	40°46'10.587"N	103°59'29.937"W	0.88	
11846.00	90.000	89.250	6253.31	5222.71	712.91	5183.85	40°46'10.611"N	103°59'28.703"W	1.54	
11941.00	89.940	90.710	6253.36	5317.44	712.95	5278.85	40°46'10.611"N	103°59'27.468"W	1.54	
12035.00	89.880	92.220	6253.50	5410.96	710.54	5372.81	40°46'10.587"N	103°59'26.247"W	1.61	
12130.00	89.910	92.380	6253.68	5505.33	706.73	5467.74	40°46'10.549"N	103°59'25.013"W	0.17	
12224.00	89.910	91.870	6253.83	5598.74	703.24	5561.67	40°46'10.515"N	103°59'23.793"W	0.54	
12319.00	90.030	91.670	6253.87	5693.21	700.31	5656.62	40°46'10.485"N	103°59'22.558"W	0.25	
12414.00	89.970	91.850	6253.87	5787.68	697.39	5751.58	40°46'10.456"N	103°59'21.324"W	0.20	
12508.00	89.970	91.050	6253.92	5881.21	695.01	5845.55	40°46'10.433"N	103°59'20.103"W	0.85	
12603.00	90.000	90.650	6253.95	5975.82	693.60	5940.54	40°46'10.418"N	103°59'18.869"W	0.42	
12698.00	90.340	90.240	6253.67	6070.50	692.87	6035.53	40°46'10.411"N	103°59'17.634"W	0.56	
12793.00	90.180	88.900	6253.24	6165.28	693.58	6130.53	40°46'10.418"N	103°59'16.399"W	1.42	
12887.00	90.090	88.240	6253.01	6259.16	695.93	6224.50	40°46'10.441"N	103°59'15.178"W	0.71	
12981.00	90.030	85.930	6252.92	6353.12	700.71	6318.37	40°46'10.488"N	103°59'13.958"W	2.46	
13076.00	90.030	85.370	6252.87	6448.12	707.91	6413.10	40°46'10.559"N	103°59'12.727"W	0.59	
13171.00	90.000	87.200	6252.84	6543.11	714.07	6507.89	40°46'10.619"N	103°59'11.495"W	1.93	
13266.00	90.060	89.120	6252.79	6638.02	717.12	6602.84	40°46'10.649"N	103°59'10.261"W	2.02	
13360.00	90.030	90.720	6252.72	6731.76	717.25	6696.84	40°46'10.650"N	103°59'09.039"W	1.70	
13455.00	90.150	91.560	6252.57	6826.34	715.36	6791.82	40°46'10.631"N	103°59'07.805"W	0.89	
13549.00	91.850	92.880	6250.93	6919.71	711.72	6885.73	40°46'10.595"N	103°59'06.584"W	2.29	
13644.00	90.520	91.140	6248.96	7014.11	708.39	6980.64	40°46'10.562"N	103°59'05.351"W	2.31	
13738.00	89.970	89.800	6248.56	7107.78	707.62	7074.64	40°46'10.554"N	103°59'04.129"W	1.54	
13833.00	89.940	88.880	6248.64	7202.58	708.71	7169.63	40°46'10.564"N	103°59'02.894"W	0.97	



Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (179 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13927.00	89.970	87.500	6248.71	7296.49	711.68	7263.58	40°46'10.593"N	103°59'01.673"W	1.47	
14022.00	90.030	85.250	6248.71	7391.48	717.69	7358.38	40°46'10.653"N	103°59'00.441"W	2.37	
14116.00	90.740	84.000	6248.08	7485.46	726.49	7451.96	40°46'10.739"N	103°58'59.225"W	1.53	
14211.00	90.830	86.230	6246.78	7580.44	734.58	7546.60	40°46'10.819"N	103°58'57.995"W	2.35	
14305.00	90.860	88.920	6245.39	7674.37	738.56	7640.50	40°46'10.858"N	103°58'56.774"W	2.86	
14400.00	90.770	90.640	6244.04	7769.12	738.92	7735.49	40°46'10.861"N	103°58'55.540"W	1.81	
14494.00	90.830	92.190	6242.73	7862.64	736.60	7829.45	40°46'10.838"N	103°58'54.319"W	1.65	
14589.00	90.920	92.150	6241.28	7957.02	733.00	7924.37	40°46'10.802"N	103°58'53.085"W	0.10	
14683.00	90.890	91.330	6239.79	8050.49	730.15	8018.31	40°46'10.774"N	103°58'51.864"W	0.87	
14778.00	90.920	92.120	6238.29	8144.95	727.29	8113.26	40°46'10.745"N	103°58'50.630"W	0.83	
14872.00	90.920	91.410	6236.78	8238.41	724.39	8207.20	40°46'10.716"N	103°58'49.409"W	0.76	
14967.00	90.980	91.120	6235.21	8332.95	722.30	8302.16	40°46'10.695"N	103°58'48.175"W	0.31	
15062.00	90.920	90.360	6233.63	8427.57	721.07	8397.14	40°46'10.683"N	103°58'46.941"W	0.80	
15156.00	90.920	90.620	6232.12	8521.23	720.27	8491.13	40°46'10.674"N	103°58'45.719"W	0.28	
15251.00	91.020	89.650	6230.51	8615.93	720.04	8586.11	40°46'10.672"N	103°58'44.485"W	1.03	
15346.00	90.920	89.240	6228.90	8710.71	720.96	8681.09	40°46'10.681"N	103°58'43.250"W	0.44	
15440.00	90.980	89.210	6227.35	8804.52	722.23	8775.07	40°46'10.693"N	103°58'42.029"W	0.07	
15535.00	90.920	88.380	6225.77	8899.37	724.23	8870.04	40°46'10.712"N	103°58'40.795"W	0.88	
15629.00	90.890	88.050	6224.29	8993.27	727.16	8963.98	40°46'10.741"N	103°58'39.574"W	0.35	
15724.00	90.950	87.910	6222.76	9088.18	730.51	9058.91	40°46'10.774"N	103°58'38.340"W	0.16	
15819.00	90.890	86.890	6221.24	9183.12	734.82	9153.80	40°46'10.816"N	103°58'37.107"W	1.08	
15913.00	91.140	86.660	6219.57	9277.09	740.10	9247.63	40°46'10.868"N	103°58'35.887"W	0.36	
16008.00	91.200	87.210	6217.63	9372.05	745.18	9342.48	40°46'10.918"N	103°58'34.654"W	0.58	
16067.00†	91.088	86.763	6216.45	9431.02	748.28	9401.38	40°46'10.948"N	103°58'33.889"W	0.78	Crossed 600' Setback (1021'FNL & 600'FEL, Sec.09)
16103.00	91.020	86.490	6215.79	9467.01	750.40	9437.31	40°46'10.969"N	103°58'33.422"W	0.78	
16197.00	91.140	86.750	6214.02	9560.98	755.94	9531.13	40°46'11.023"N	103°58'32.202"W	0.30	
16292.00	91.080	87.680	6212.18	9655.93	760.56	9626.00	40°46'11.068"N	103°58'30.969"W	0.98	
16353.00	90.860	87.800	6211.15	9716.88	762.96	9686.95	40°46'11.092"N	103°58'30.177"W	0.41	Last BHI MWD Survey (1006'FNL & 314'FEL, Sec.09)
16377.00	90.860	87.800	6210.79	9740.87	763.88	9710.93	40°46'11.101"N	103°58'29.866"W	0.00	Projection to Bit (1005'FNL & 290'FEL, Sec.09)

HOLE & CASING SECTIONS - Ref Wellbore: TIMBRO 9-59 8A-9-4 AWB      Ref Wellpath: TIMBRO 9-59 8A-9-4 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	24.00	1934.00	1910.00	24.00	1916.69	0.00	0.00	182.79	-141.65

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
TIMBRO 9-59 8A-9-2 SECTION 08	17.00	16.07	0.03	3412704.28	1525987.12	40°46'03.731"N	104°00'36.076"W	polygon
TIMBRO 9-59 8A-9-2 SECTION 09	17.00	16.07	0.03	3412704.28	1525987.12	40°46'03.731"N	104°00'36.076"W	polygon
TIMBRO 9-59 8A-9-4 REV-2 TARGET BOTTOM HOLE (1033'FNL&300'FEL,SEC.09)	6193.00	736.46	9701.15	3422391.88	1526870.40	40°46'10.830"N	103°58'29.993"W	point
TIMBRO 9-59 8A-9-4 Rev-2 ENDING PROD. INTERVAL (1035'FNL&600'FEL,SEC.09)	6195.16	734.15	9401.44	3422092.26	1526863.06	40°46'10.808"N	103°58'33.888"W	point
TIMBRO 9-59 8A-9-4 REV-3 TARGET BOTTOM HOLE (1033'FNL&300'FEL,SEC.09)	6197.00	736.46	9701.15	3422391.88	1526870.40	40°46'10.830"N	103°58'29.993"W	point

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
TIMBRO 9-59 8A-9-4 Rev-3 ENDING PROD. INTERVAL (1035'FNL&600'FEL,SEC.09)	6200.97	733.94	9401.44	3422092.26	1526862.85	40°46'10.806"N	103°58'33.888"W	point
TIMBRO 9-59 8A-9-4 Rev-4 ENDING PROD. INTERVAL (1035'FNL&600'FEL,SEC.09)	6202.00	733.94	9401.44	3422092.26	1526862.85	40°46'10.806"N	103°58'33.888"W	point
TIMBRO 9-59 8A-9-4 Target 2	6233.00	713.61	6986.03	3419677.54	1526801.94	40°46'10.613"N	103°59'05.281"W	point
TIMBRO 9-59 8A-9-4 rev-2 Target 2	6242.00	713.61	6986.03	3419677.54	1526801.94	40°46'10.613"N	103°59'05.281"W	point
TIMBRO 9-59 8A-9-4 rev-2 Target 1	6245.00	695.98	4891.35	3417583.46	1526749.11	40°46'10.444"N	103°59'32.505"W	point
TIMBRO 9-59 8A-9-4 Target 1	6260.77	695.98	4891.35	3417583.46	1526749.11	40°46'10.444"N	103°59'32.505"W	point
TIMBRO 9-59 8A-9-4 Rev-2 BEG. PROD. INTERVAL (1033'FNL&600'FWL,SEC.09)	6262.00	655.84	121.63	3412815.11	1526628.84	40°46'10.052"N	104°00'34.495"W	point

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
TIMBRO 9-59 8A-9-4 Rev-3 BEG. PROD. INTERVAL (1033'FNL&600'FWL,SEC.09)	6324.00	655.84	121.63	3412815.11	1526628.84	40°46'10.052"N	104°00'34.495"W	point
TIMBRO 9-59 8A-9-2 Hardline (600' Setback)	6999.00	16.07	0.03	3412704.28	1525987.12	40°46'03.731"N	104°00'36.076"W	polygon
TIMBRO 9-59 8A-9-4 BEG. PROD. INTERVAL (1033'FNL&600'FWL,SEC.09)	7018.00	655.84	121.63	3412815.11	1526628.84	40°46'10.052"N	104°00'34.495"W	point
TIMBRO 9-59 8A-9-4 ENDING PROD. INTERVAL (1035'FNL&600'FEL,SEC.09)	7018.00	734.15	9401.44	3422092.26	1526863.06	40°46'10.808"N	103°58'33.888"W	point
TIMBRO 9-59 8A-9-4 REV-1 TARGET BOTTOM HOLE (1033'FNL&300'FEL,SEC.09)	7018.00	736.46	9701.15	3422391.88	1526870.40	40°46'10.830"N	103°58'29.993"W	point

WELLPATH COMPOSITION - Ref Wellbore: TIMBRO 9-59 8A-9-4 AWB      Ref Wellpath: TIMBRO 9-59 8A-9-4 AWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.00	1869.00	BHI NaviTrak (Rotating+Axial Corr)	BHI/Navirak MWD <89'-1851'>	TIMBRO 9-59 8A-9-4 AWB
1869.00	16353.00	BHI AutoTrak Curve (Short)	BH/ATC 8.5" Hole AutoTrak Curve (Short) <1973'-16353'>	TIMBRO 9-59 8A-9-4 AWB
16353.00	16377.00	Blind Drilling (std)	Projection to bit	TIMBRO 9-59 8A-9-4 AWB



Actual Wellpath Report

TIMBRO 9-59 8A-9-4 AWP



REFERENCE WELLPATH IDENTIFICATION			
Operator	VERDAD RESOURCES	Slot	SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)
Area	COLORADO	Well	TIMBRO 9-59 8A-9-4
Field	WELD COUNTY (NAD83/TN)	Wellbore	TIMBRO 9-59 8A-9-4 AWB
Facility	SEC.08-T09N-R59W		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
1869.00	9.250	320.590	1852.50	Tie to Surface Survey	
6779.00	89.837	91.248	6327.80	Crossed 600' Setback (1039'FNL & 600'FWL, Sec.08)	
16067.00	91.088	86.763	6216.45	Crossed 600' Setback (1021'FNL & 600'FEL, Sec.09)	
16353.00	90.860	87.800	6211.15	Last BHI MWD Survey (1006'FNL & 314'FEL, Sec.09)	
16377.00	90.860	87.800	6210.79	Projection to Bit (1005'FNL & 290'FEL, Sec.09)	