

# 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-B.0) PWP

True vertical depths are referenced to Big Rig (24KB) (RKB)  
Measured depths are referenced to Big Rig (24KB) (RKB)  
Big Rig (24KB) (RKB) to Mean Sea Level: 5109 feet  
Mean Sea Level to Ground level (At Slot: SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)): 0 feet  
Coordinates are in feet referenced to Slot

Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet  
\* = Wellpath was transformed from a different geoidic datum  
North Reference: True north  
Scale: True distance  
Depths are in feet  
Created by: gunatler on 2019-03-12  
Database: WA\_DEN\_Demer\_Deln

## Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.08-T09N-R59W		3412704.278	1525987.120	40°46'03.731"N	104°00'36.076"W
Slot		Local N (ft)	Local E (ft)	Latitude	Longitude
SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08)		-16.07	-0.93	3412704.518	1525971.051
Big Rig (24KB) (RKB) to Ground level (At Slot: SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08))		5109ft			
Mean Sea Level to Ground level (At Slot: SLOT#02 TIMBRO 9-59 8A-9-4(1688'FNL&475'FWL,SEC.08))		0ft			
Big Rig (24KB) (RKB) to Mean Sea Level		5109ft			

## Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	1869.00	9.250	320.590	1852.50	174.87	-135.13	0.38	-121.51
Tangent/Projection	1931.00	9.250	320.590	1913.70	182.57	-141.46	0.00	-127.23
End of 3D Arc (J)	2053.45	11.698	321.065	2034.10	199.83	-155.51	2.00	-139.94
End of Tangent (J)	4617.17	11.698	321.065	4544.57	604.15	-482.16	0.00	-435.04
End of Drop (XS)	5202.05	0.000	89.517	5125.40	650.43	-519.55	2.00	-468.82
End of Tangent (XS)	5702.05	0.000	89.517	5625.40	650.43	-519.55	0.00	-468.82
3D Arc/Landing Point	6706.64	90.413	89.517	6262.00	655.84	121.63	9.00	170.93
End of Tangent (XS)	15987.02	90.413	89.517	6195.16	734.15	9401.44	0.00	9430.04
End of 3D Arc (J)	15989.19	90.413	89.560	6195.14	734.17	9403.62	2.00	9432.21
End of Tangent (J)	16286.74	90.413	89.560	6193.00	736.46	9701.15	0.00	9729.06

## Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
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
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
TIMBRO 9-59 8A-9-4 REV-2 TARGET BOTTOM HOLE(1033'FNL&300'FEL,SEC.09)	16286.74	6193.00	736.46	9701.15	3422391.88	1526870.40	40°46'10.830"N	103°58'29.993"W
TIMBRO 9-59 8A-9-4 Rev-2 ENDING PROD. INTERVAL(1035'FNL&600'FEL,SEC.09)	15987.02	6195.16	734.15	9401.44	3422092.26	1526863.06	40°46'10.808"N	103°58'29.993"W
TIMBRO 9-59 8A-9-4 Rev-2 BEG. PROD. INTERVAL(1033'FNL&600'FEL,SEC.09)	6706.64	6262.00	655.84	121.63	3412815.11	1526828.84	40°46'10.952"N	104°00'34.480"W
TIMBRO 9-59 8A-9-4 BEG. PROD. INTERVAL(1033'FNL&600'FEL,SEC.09)		7016.00	655.84	121.63	3412815.11	1526828.84	40°46'10.952"N	104°00'34.480"W
TIMBRO 9-59 8A-9-4 ENDING PROD. INTERVAL(1035'FNL&600'FEL,SEC.09)		7016.00	734.15	9401.44	3422092.26	1526863.06	40°46'10.808"N	103°58'29.993"W
TIMBRO 9-59 8A-9-4 REV-1 TARGET BOTTOM HOLE(1033'FNL&300'FEL,SEC.09)		7016.00	736.46	9701.15	3422391.88	1526870.40	40°46'10.830"N	103°58'29.993"W

## Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
16286.74	90.413	89.560	6193.00	736.46	9701.15	3422391.88	1526870.40	40°46'10.830"N	103°58'29.993"W

## Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
24.00	1869.00	BHI NaviTrak	BHI NaviTrak (Rotating+Axial Corr)		TIMBRO 9-59 8A-9-4 AWB
1869.00	17027.59	BHI AutoTrak Curve	BHI AutoTrak Curve (Short)		TIMBRO 9-59 8A-9-4 PWB

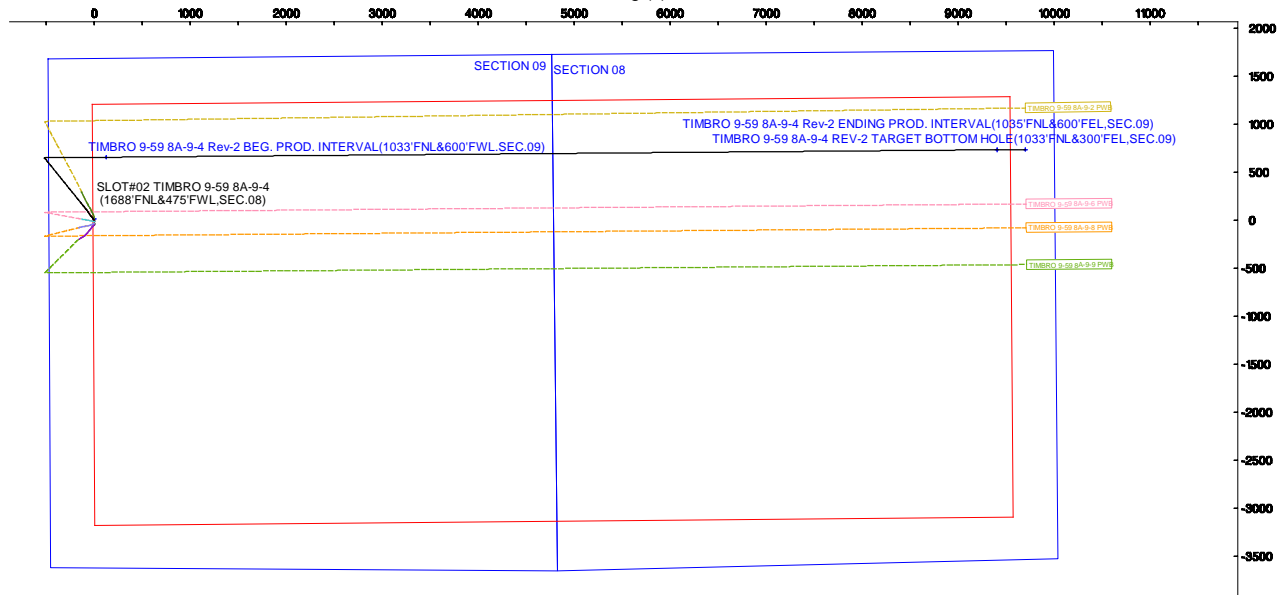


BGGM (1900.0 to 2020.0) Dip: 67.20° Field: 52495.3 nT  
Magnetic North is 7.80 degrees East of True North (at 3/6/2019)

To correct azimuth from Magnetic to True add 7.80 degrees

Scale 1 inch = 500

Easting (ft)



Northing (ft)

Scale 1 inch = 500

True Vertical Depth (ft)

1500  
2000  
2500  
3000  
3500  
4000  
4500  
5000  
5500  
6000  
6500  
7000

Tie to Surface Surveys : 9.25° Inc, 1869.00ft MD, 1852.50ft TVD, -121.51ft VS  
Tangent/Projection : 9.25° Inc, 1931.00ft MD, 1913.70ft TVD, -127.23ft VS  
2.00°/100ft  
End of 3D Arc (J) : 11.70° Inc, 2053.45ft MD, 2034.10ft TVD, -139.94ft VS

End of Tangent (J) : 11.70° Inc, 4617.17ft MD, 4544.57ft TVD, -435.04ft VS  
2.00°/100ft  
End of Drop (XS) : 0.00° Inc, 5202.05ft MD, 5125.40ft TVD, -468.82ft VS  
End of Tangent (XS) : 0.00° Inc, 5702.05ft MD, 5625.40ft TVD, -468.82ft VS  
9.00°/100ft

3D Arc/Landing Point : 90.41° Inc, 6706.64ft MD, 6262.00ft TVD, 170.93ft VS

TIMBRO 9-59 8A-9-4 Rev-2 ENDING PROD. INTERVAL(1035'FNL&600'FEL,SEC.09)  
TIMBRO 9-59 8A-9-4 REV-2 TARGET BOTTOM HOLE(1033'FNL&300'FEL,SEC.09)  
End of Tangent (J) : 90.41° Inc, 16286.74ft MD, 6193.00ft TVD, 9729.06ft VS

Vertical Section (ft)  
Azimuth 85.66° with reference 0.00 N, 0.00 E

Scale 1 inch = 500

## Approval

Baker Hughes Representatives			
Prepared by		Reviewed by	
Signature		Signature	
Position		Position	
Date		Date	
VERDAD RESOURCES Representative			
Approved by		Position	
Signature		Date	
Comment			



# Planned Wellpath Report

TIMBRO 9-59 8A-9-4 (REV-B.0) PWP

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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 PWB
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	3/12/2019 at 3:47:55 PM
Convergence at slot	0.97° East	Database/Source file	WA_DEN_Denver_Defn/TIMBRO_9-59_8A-9-4__REV-B.0__PWP.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	85.66°



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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 PWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (176 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	-1.29	3.23	-1.54	40°46'03.604"N	104°00'36.096"W	3.48	
466.00	6.130	321.080	465.60	-5.99	8.87	-6.68	40°46'03.660"N	104°00'36.163"W	2.91	
556.00	6.600	327.230	555.04	-11.18	16.96	-12.50	40°46'03.740"N	104°00'36.238"W	0.92	
646.00	6.930	320.970	644.42	-16.73	25.52	-18.72	40°46'03.824"N	104°00'36.319"W	0.90	
736.00	7.650	316.100	733.69	-23.64	34.06	-26.29	40°46'03.909"N	104°00'36.418"W	1.05	
826.00	8.530	319.530	822.79	-31.39	43.45	-34.78	40°46'04.001"N	104°00'36.528"W	1.11	
916.00	7.560	320.060	911.91	-38.77	53.07	-42.91	40°46'04.096"N	104°00'36.634"W	1.08	
1006.00	8.520	327.230	1001.02	-45.39	63.22	-50.32	40°46'04.197"N	104°00'36.730"W	1.54	
1096.00	9.200	328.310	1089.95	-51.87	74.94	-57.71	40°46'04.313"N	104°00'36.826"W	0.78	
1186.00	8.900	328.720	1178.83	-58.33	87.02	-65.10	40°46'04.432"N	104°00'36.922"W	0.34	
1276.00	8.990	323.160	1267.73	-65.26	98.59	-72.93	40°46'04.546"N	104°00'37.024"W	0.97	
1366.00	9.600	320.600	1356.55	-73.35	110.02	-81.91	40°46'04.659"N	104°00'37.141"W	0.82	
1456.00	9.620	321.560	1445.29	-81.88	121.71	-91.35	40°46'04.775"N	104°00'37.263"W	0.18	
1546.00	9.090	320.800	1534.09	-90.15	133.11	-100.52	40°46'04.887"N	104°00'37.382"W	0.60	
1636.00	9.900	319.960	1622.86	-98.73	144.54	-109.99	40°46'05.000"N	104°00'37.505"W	0.91	
1726.00	10.020	320.160	1711.50	-107.79	156.48	-119.98	40°46'05.118"N	104°00'37.635"W	0.14	
1816.00	9.450	320.750	1800.21	-116.57	168.21	-129.67	40°46'05.234"N	104°00'37.761"W	0.64	
1869.00	9.250	320.590	1852.50	-121.51	174.87	-135.13	40°46'05.300"N	104°00'37.832"W	0.38	Tie On; Tie to Surface Surveys
1931.00	9.250	320.590	1913.70	-127.23	182.57	-141.46	40°46'05.376"N	104°00'37.914"W	0.00	Tangent/Projection
1969.00†	10.009	320.762	1951.16	-130.88	187.49	-145.49	40°46'05.425"N	104°00'37.967"W	2.00	
2053.45	11.698	321.065	2034.10	-139.94	199.83	-155.51	40°46'05.547"N	104°00'38.097"W	2.00	End of 3D Arc (J)
2069.00†	11.698	321.065	2049.32	-141.73	202.29	-157.49	40°46'05.571"N	104°00'38.123"W	0.00	
2169.00†	11.698	321.065	2147.25	-153.24	218.06	-170.23	40°46'05.727"N	104°00'38.288"W	0.00	
2269.00†	11.698	321.065	2245.17	-164.75	233.83	-182.97	40°46'05.882"N	104°00'38.454"W	0.00	
2369.00†	11.698	321.065	2343.09	-176.26	249.60	-195.71	40°46'06.038"N	104°00'38.620"W	0.00	



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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 PWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2469.00†	11.698	321.065	2441.02	-187.77	265.37	-208.46	40°46'06.194"N	104°00'38.785"W	0.00	
2569.00†	11.698	321.065	2538.94	-199.28	281.14	-221.20	40°46'06.350"N	104°00'38.951"W	0.00	
2669.00†	11.698	321.065	2636.86	-210.79	296.91	-233.94	40°46'06.506"N	104°00'39.116"W	0.00	
2769.00†	11.698	321.065	2734.79	-222.30	312.68	-246.68	40°46'06.662"N	104°00'39.282"W	0.00	
2869.00†	11.698	321.065	2832.71	-233.81	328.45	-259.42	40°46'06.817"N	104°00'39.448"W	0.00	
2969.00†	11.698	321.065	2930.63	-245.32	344.22	-272.16	40°46'06.973"N	104°00'39.613"W	0.00	
3069.00†	11.698	321.065	3028.55	-256.84	359.99	-284.90	40°46'07.129"N	104°00'39.779"W	0.00	
3169.00†	11.698	321.065	3126.48	-268.35	375.76	-297.64	40°46'07.285"N	104°00'39.944"W	0.00	
3269.00†	11.698	321.065	3224.40	-279.86	391.54	-310.39	40°46'07.441"N	104°00'40.110"W	0.00	
3369.00†	11.698	321.065	3322.32	-291.37	407.31	-323.13	40°46'07.597"N	104°00'40.276"W	0.00	
3469.00†	11.698	321.065	3420.25	-302.88	423.08	-335.87	40°46'07.752"N	104°00'40.441"W	0.00	
3569.00†	11.698	321.065	3518.17	-314.39	438.85	-348.61	40°46'07.908"N	104°00'40.607"W	0.00	
3669.00†	11.698	321.065	3616.09	-325.90	454.62	-361.35	40°46'08.064"N	104°00'40.772"W	0.00	
3769.00†	11.698	321.065	3714.02	-337.41	470.39	-374.09	40°46'08.220"N	104°00'40.938"W	0.00	
3869.00†	11.698	321.065	3811.94	-348.92	486.16	-386.83	40°46'08.376"N	104°00'41.104"W	0.00	
3969.00†	11.698	321.065	3909.86	-360.43	501.93	-399.58	40°46'08.532"N	104°00'41.269"W	0.00	
4069.00†	11.698	321.065	4007.79	-371.95	517.70	-412.32	40°46'08.687"N	104°00'41.435"W	0.00	
4169.00†	11.698	321.065	4105.71	-383.46	533.47	-425.06	40°46'08.843"N	104°00'41.600"W	0.00	
4269.00†	11.698	321.065	4203.63	-394.97	549.24	-437.80	40°46'08.999"N	104°00'41.766"W	0.00	
4369.00†	11.698	321.065	4301.56	-406.48	565.01	-450.54	40°46'09.155"N	104°00'41.932"W	0.00	
4469.00†	11.698	321.065	4399.48	-417.99	580.79	-463.28	40°46'09.311"N	104°00'42.097"W	0.00	
4569.00†	11.698	321.065	4497.40	-429.50	596.56	-476.02	40°46'09.467"N	104°00'42.263"W	0.00	
4617.17	11.698	321.065	4544.57	-435.04	604.15	-482.16	40°46'09.542"N	104°00'42.342"W	0.00	End of Tangent (J)
4669.00†	10.661	321.065	4595.42	-440.75	611.97	-488.48	40°46'09.619"N	104°00'42.425"W	2.00	
4769.00†	8.661	321.065	4693.99	-450.28	625.02	-499.02	40°46'09.748"N	104°00'42.562"W	2.00	
4869.00†	6.661	321.065	4793.10	-457.85	635.39	-507.40	40°46'09.850"N	104°00'42.670"W	2.00	
4969.00†	4.661	321.065	4892.60	-463.45	643.06	-513.60	40°46'09.926"N	104°00'42.751"W	2.00	
5069.00†	2.661	321.065	4992.39	-467.07	648.03	-517.61	40°46'09.975"N	104°00'42.803"W	2.00	
5169.00†	0.661	321.065	5092.35	-468.72	650.29	-519.43	40°46'09.997"N	104°00'42.827"W	2.00	
5202.05	0.000	89.517	5125.40	-468.82	650.43	-519.55	40°46'09.999"N	104°00'42.828"W	2.00	End of Drop (XS)



# Planned Wellpath Report

TIMBRO 9-59 8A-9-4 (REV-B.0) PWP

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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 PWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station											
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments	
5269.00†	0.000	89.517	5192.35	-468.82	650.43	-519.55	40°46'09.999"N	104°00'42.828"W	0.00		
5369.00†	0.000	89.517	5292.35	-468.82	650.43	-519.55	40°46'09.999"N	104°00'42.828"W	0.00		
5469.00†	0.000	89.517	5392.35	-468.82	650.43	-519.55	40°46'09.999"N	104°00'42.828"W	0.00		
5569.00†	0.000	89.517	5492.35	-468.82	650.43	-519.55	40°46'09.999"N	104°00'42.828"W	0.00		
5669.00†	0.000	89.517	5592.35	-468.82	650.43	-519.55	40°46'09.999"N	104°00'42.828"W	0.00		
5702.05	0.000	89.517	5625.40	-468.82	650.43	-519.55	40°46'09.999"N	104°00'42.828"W	0.00	End of Tangent (XS)	
5769.00†	6.025	89.517	5692.22	-465.32	650.46	-516.03	40°46'09.999"N	104°00'42.783"W	9.00		
5869.00†	15.025	89.517	5790.44	-447.11	650.62	-497.79	40°46'10.001"N	104°00'42.546"W	9.00		
5969.00†	24.025	89.517	5884.59	-413.80	650.90	-464.40	40°46'10.003"N	104°00'42.112"W	9.00		
6069.00†	33.025	89.517	5972.36	-366.20	651.30	-416.69	40°46'10.007"N	104°00'41.492"W	9.00		
6169.00†	42.025	89.517	6051.59	-305.49	651.82	-355.85	40°46'10.013"N	104°00'40.701"W	9.00		
6269.00†	51.025	89.517	6120.32	-233.16	652.43	-283.36	40°46'10.019"N	104°00'39.759"W	9.00		
6369.00†	60.025	89.517	6176.87	-150.99	653.12	-201.01	40°46'10.025"N	104°00'38.688"W	9.00		
6469.00†	69.025	89.517	6219.83	-61.01	653.88	-110.83	40°46'10.033"N	104°00'37.516"W	9.00		
6569.00†	78.025	89.517	6248.16	34.57	654.69	-15.03	40°46'10.041"N	104°00'36.271"W	9.00		
6669.00†	87.025	89.517	6261.16	133.39	655.53	84.01	40°46'10.049"N	104°00'34.984"W	9.00		
6706.64	90.413	89.517	6262.00†	170.93	655.84	121.63	40°46'10.052"N	104°00'34.495"W	9.00	3D Arc/Landing Point	
6769.00†	90.413	89.517	6261.55	233.15	656.37	183.99	40°46'10.058"N	104°00'33.685"W	0.00		
6869.00†	90.413	89.517	6260.83	332.92	657.22	283.99	40°46'10.066"N	104°00'32.385"W	0.00		
6969.00†	90.413	89.517	6260.11	432.69	658.06	383.98	40°46'10.074"N	104°00'31.086"W	0.00		
7069.00†	90.413	89.517	6259.39	532.46	658.90	483.97	40°46'10.083"N	104°00'29.786"W	0.00		
7169.00†	90.413	89.517	6258.67	632.23	659.75	583.97	40°46'10.091"N	104°00'28.486"W	0.00		
7269.00†	90.413	89.517	6257.95	732.00	660.59	683.96	40°46'10.099"N	104°00'27.187"W	0.00		
7369.00†	90.413	89.517	6257.23	831.77	661.43	783.96	40°46'10.108"N	104°00'25.887"W	0.00		
7469.00†	90.413	89.517	6256.51	931.54	662.28	883.95	40°46'10.116"N	104°00'24.588"W	0.00		
7569.00†	90.413	89.517	6255.79	1031.32	663.12	983.94	40°46'10.124"N	104°00'23.288"W	0.00		
7669.00†	90.413	89.517	6255.07	1131.09	663.97	1083.94	40°46'10.132"N	104°00'21.988"W	0.00		
7769.00†	90.413	89.517	6254.35	1230.86	664.81	1183.93	40°46'10.141"N	104°00'20.689"W	0.00		
7869.00†	90.413	89.517	6253.63	1330.63	665.65	1283.92	40°46'10.149"N	104°00'19.389"W	0.00		
7969.00†	90.413	89.517	6252.91	1430.40	666.50	1383.92	40°46'10.157"N	104°00'18.090"W	0.00		





Planned Wellpath Report  
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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 PWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8069.00†	90.413	89.517	6252.19	1530.17	667.34	1483.91	40°46'10.166"N	104°00'16.790"W	0.00	
8169.00†	90.413	89.517	6251.47	1629.94	668.18	1583.91	40°46'10.174"N	104°00'15.490"W	0.00	
8269.00†	90.413	89.517	6250.75	1729.71	669.03	1683.90	40°46'10.182"N	104°00'14.191"W	0.00	
8369.00†	90.413	89.517	6250.03	1829.48	669.87	1783.89	40°46'10.190"N	104°00'12.891"W	0.00	
8469.00†	90.413	89.517	6249.31	1929.25	670.72	1883.89	40°46'10.199"N	104°00'11.592"W	0.00	
8569.00†	90.413	89.517	6248.59	2029.02	671.56	1983.88	40°46'10.207"N	104°00'10.292"W	0.00	
8669.00†	90.413	89.517	6247.87	2128.79	672.40	2083.88	40°46'10.215"N	104°00'08.993"W	0.00	
8769.00†	90.413	89.517	6247.15	2228.57	673.25	2183.87	40°46'10.223"N	104°00'07.693"W	0.00	
8869.00†	90.413	89.517	6246.43	2328.34	674.09	2283.86	40°46'10.232"N	104°00'06.393"W	0.00	
8969.00†	90.413	89.517	6245.71	2428.11	674.94	2383.86	40°46'10.240"N	104°00'05.094"W	0.00	
9069.00†	90.413	89.517	6244.99	2527.88	675.78	2483.85	40°46'10.248"N	104°00'03.794"W	0.00	
9169.00†	90.413	89.517	6244.27	2627.65	676.62	2583.84	40°46'10.256"N	104°00'02.495"W	0.00	
9269.00†	90.413	89.517	6243.55	2727.42	677.47	2683.84	40°46'10.265"N	104°00'01.195"W	0.00	
9369.00†	90.413	89.517	6242.82	2827.19	678.31	2783.83	40°46'10.273"N	103°59'59.895"W	0.00	
9469.00†	90.413	89.517	6242.10	2926.96	679.15	2883.83	40°46'10.281"N	103°59'58.596"W	0.00	
9569.00†	90.413	89.517	6241.38	3026.73	680.00	2983.82	40°46'10.289"N	103°59'57.296"W	0.00	
9669.00†	90.413	89.517	6240.66	3126.50	680.84	3083.81	40°46'10.297"N	103°59'55.997"W	0.00	
9769.00†	90.413	89.517	6239.94	3226.27	681.69	3183.81	40°46'10.306"N	103°59'54.697"W	0.00	
9869.00†	90.413	89.517	6239.22	3326.04	682.53	3283.80	40°46'10.314"N	103°59'53.397"W	0.00	
9969.00†	90.413	89.517	6238.50	3425.82	683.37	3383.80	40°46'10.322"N	103°59'52.098"W	0.00	
10069.00†	90.413	89.517	6237.78	3525.59	684.22	3483.79	40°46'10.330"N	103°59'50.798"W	0.00	
10169.00†	90.413	89.517	6237.06	3625.36	685.06	3583.78	40°46'10.339"N	103°59'49.499"W	0.00	
10269.00†	90.413	89.517	6236.34	3725.13	685.90	3683.78	40°46'10.347"N	103°59'48.199"W	0.00	
10369.00†	90.413	89.517	6235.62	3824.90	686.75	3783.77	40°46'10.355"N	103°59'46.899"W	0.00	
10469.00†	90.413	89.517	6234.90	3924.67	687.59	3883.76	40°46'10.363"N	103°59'45.600"W	0.00	
10569.00†	90.413	89.517	6234.18	4024.44	688.44	3983.76	40°46'10.371"N	103°59'44.300"W	0.00	
10669.00†	90.413	89.517	6233.46	4124.21	689.28	4083.75	40°46'10.379"N	103°59'43.001"W	0.00	
10769.00†	90.413	89.517	6232.74	4223.98	690.12	4183.75	40°46'10.388"N	103°59'41.701"W	0.00	
10869.00†	90.413	89.517	6232.02	4323.75	690.97	4283.74	40°46'10.396"N	103°59'40.402"W	0.00	
10969.00†	90.413	89.517	6231.30	4423.52	691.81	4383.73	40°46'10.404"N	103°59'39.102"W	0.00	



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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 PWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
11069.00†	90.413	89.517	6230.58	4523.29	692.66	4483.73	40°46'10.412"N	103°59'37.802"W	0.00	
11169.00†	90.413	89.517	6229.86	4623.07	693.50	4583.72	40°46'10.420"N	103°59'36.503"W	0.00	
11269.00†	90.413	89.517	6229.14	4722.84	694.34	4683.72	40°46'10.428"N	103°59'35.203"W	0.00	
11369.00†	90.413	89.517	6228.42	4822.61	695.19	4783.71	40°46'10.437"N	103°59'33.904"W	0.00	
11469.00†	90.413	89.517	6227.70	4922.38	696.03	4883.70	40°46'10.445"N	103°59'32.604"W	0.00	
11569.00†	90.413	89.517	6226.98	5022.15	696.87	4983.70	40°46'10.453"N	103°59'31.304"W	0.00	
11669.00†	90.413	89.517	6226.26	5121.92	697.72	5083.69	40°46'10.461"N	103°59'30.005"W	0.00	
11769.00†	90.413	89.517	6225.54	5221.69	698.56	5183.68	40°46'10.469"N	103°59'28.705"W	0.00	
11869.00†	90.413	89.517	6224.82	5321.46	699.41	5283.68	40°46'10.477"N	103°59'27.406"W	0.00	
11969.00†	90.413	89.517	6224.10	5421.23	700.25	5383.67	40°46'10.485"N	103°59'26.106"W	0.00	
12069.00†	90.413	89.517	6223.38	5521.00	701.09	5483.67	40°46'10.493"N	103°59'24.806"W	0.00	
12169.00†	90.413	89.517	6222.66	5620.77	701.94	5583.66	40°46'10.502"N	103°59'23.507"W	0.00	
12269.00†	90.413	89.517	6221.94	5720.54	702.78	5683.65	40°46'10.510"N	103°59'22.207"W	0.00	
12369.00†	90.413	89.517	6221.22	5820.32	703.62	5783.65	40°46'10.518"N	103°59'20.908"W	0.00	
12469.00†	90.413	89.517	6220.50	5920.09	704.47	5883.64	40°46'10.526"N	103°59'19.608"W	0.00	
12569.00†	90.413	89.517	6219.78	6019.86	705.31	5983.64	40°46'10.534"N	103°59'18.308"W	0.00	
12669.00†	90.413	89.517	6219.06	6119.63	706.16	6083.63	40°46'10.542"N	103°59'17.009"W	0.00	
12769.00†	90.413	89.517	6218.34	6219.40	707.00	6183.62	40°46'10.550"N	103°59'15.709"W	0.00	
12869.00†	90.413	89.517	6217.62	6319.17	707.84	6283.62	40°46'10.558"N	103°59'14.410"W	0.00	
12969.00†	90.413	89.517	6216.90	6418.94	708.69	6383.61	40°46'10.566"N	103°59'13.110"W	0.00	
13069.00†	90.413	89.517	6216.18	6518.71	709.53	6483.60	40°46'10.574"N	103°59'11.810"W	0.00	
13169.00†	90.413	89.517	6215.46	6618.48	710.38	6583.60	40°46'10.583"N	103°59'10.511"W	0.00	
13269.00†	90.413	89.517	6214.74	6718.25	711.22	6683.59	40°46'10.591"N	103°59'09.211"W	0.00	
13369.00†	90.413	89.517	6214.02	6818.02	712.06	6783.59	40°46'10.599"N	103°59'07.912"W	0.00	
13469.00†	90.413	89.517	6213.30	6917.79	712.91	6883.58	40°46'10.607"N	103°59'06.612"W	0.00	
13569.00†	90.413	89.517	6212.58	7017.57	713.75	6983.57	40°46'10.615"N	103°59'05.312"W	0.00	
13669.00†	90.413	89.517	6211.86	7117.34	714.59	7083.57	40°46'10.623"N	103°59'04.013"W	0.00	
13769.00†	90.413	89.517	6211.13	7217.11	715.44	7183.56	40°46'10.631"N	103°59'02.713"W	0.00	
13869.00†	90.413	89.517	6210.41	7316.88	716.28	7283.56	40°46'10.639"N	103°59'01.414"W	0.00	
13969.00†	90.413	89.517	6209.69	7416.65	717.13	7383.55	40°46'10.647"N	103°59'00.114"W	0.00	



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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 PWB
Facility	SEC.08-T09N-R59W		

WELLPATH DATA (176 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
14069.00†	90.413	89.517	6208.97	7516.42	717.97	7483.54	40°46'10.655"N	103°58'58.815"W	0.00	
14169.00†	90.413	89.517	6208.25	7616.19	718.81	7583.54	40°46'10.663"N	103°58'57.515"W	0.00	
14269.00†	90.413	89.517	6207.53	7715.96	719.66	7683.53	40°46'10.671"N	103°58'56.215"W	0.00	
14369.00†	90.413	89.517	6206.81	7815.73	720.50	7783.52	40°46'10.679"N	103°58'54.916"W	0.00	
14469.00†	90.413	89.517	6206.09	7915.50	721.34	7883.52	40°46'10.687"N	103°58'53.616"W	0.00	
14569.00†	90.413	89.517	6205.37	8015.27	722.19	7983.51	40°46'10.695"N	103°58'52.317"W	0.00	
14669.00†	90.413	89.517	6204.65	8115.04	723.03	8083.51	40°46'10.703"N	103°58'51.017"W	0.00	
14769.00†	90.413	89.517	6203.93	8214.82	723.88	8183.50	40°46'10.711"N	103°58'49.717"W	0.00	
14869.00†	90.413	89.517	6203.21	8314.59	724.72	8283.49	40°46'10.719"N	103°58'48.418"W	0.00	
14969.00†	90.413	89.517	6202.49	8414.36	725.56	8383.49	40°46'10.727"N	103°58'47.118"W	0.00	
15069.00†	90.413	89.517	6201.77	8514.13	726.41	8483.48	40°46'10.735"N	103°58'45.819"W	0.00	
15169.00†	90.413	89.517	6201.05	8613.90	727.25	8583.48	40°46'10.743"N	103°58'44.519"W	0.00	
15269.00†	90.413	89.517	6200.33	8713.67	728.10	8683.47	40°46'10.751"N	103°58'43.219"W	0.00	
15369.00†	90.413	89.517	6199.61	8813.44	728.94	8783.46	40°46'10.759"N	103°58'41.920"W	0.00	
15469.00†	90.413	89.517	6198.89	8913.21	729.78	8883.46	40°46'10.767"N	103°58'40.620"W	0.00	
15569.00†	90.413	89.517	6198.17	9012.98	730.63	8983.45	40°46'10.775"N	103°58'39.321"W	0.00	
15669.00†	90.413	89.517	6197.45	9112.75	731.47	9083.44	40°46'10.783"N	103°58'38.021"W	0.00	
15769.00†	90.413	89.517	6196.73	9212.52	732.31	9183.44	40°46'10.791"N	103°58'36.721"W	0.00	
15869.00†	90.413	89.517	6196.01	9312.29	733.16	9283.43	40°46'10.799"N	103°58'35.422"W	0.00	
15969.00†	90.413	89.517	6195.29	9412.07	734.00	9383.43	40°46'10.807"N	103°58'34.122"W	0.00	
15987.02	90.413	89.517	6195.16 <sup>2</sup>	9430.04	734.15	9401.44	40°46'10.808"N	103°58'33.888"W	0.00	End of Tangent (XS)
15989.19	90.413	89.560	6195.14	9432.21	734.17	9403.62	40°46'10.809"N	103°58'33.860"W	2.00	End of 3D Arc (J)
16069.00†	90.413	89.560	6194.57	9511.83	734.78	9483.42	40°46'10.814"N	103°58'32.823"W	0.00	
16169.00†	90.413	89.560	6193.85	9611.60	735.55	9583.41	40°46'10.822"N	103°58'31.523"W	0.00	
16269.00†	90.413	89.560	6193.13	9711.36	736.32	9683.41	40°46'10.829"N	103°58'30.223"W	0.00	
16286.74	90.413	89.560	6193.00 <sup>3</sup>	9729.06	736.46	9701.15	40°46'10.830"N	103°58'29.993"W	0.00	End of Tangent (J)





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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 PWB
Facility	SEC.08-T09N-R59W		

TARGETS									
Name	MD [ft]	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
3) TIMBRO 9-59 8A-9-4 REV-2 TARGET BOTTOM HOLE (1033'FNL&300'FEL,SEC.09)	16286.74	6193.00	736.46	9701.15	3422391.88	1526870.40	40°46'10.830"N	103°58'29.993"W	point
2) TIMBRO 9-59 8A-9-4 Rev-2 ENDING PROD. INTERVAL (1035'FNL&600'FEL,SEC.09)	15987.02	6195.16	734.15	9401.44	3422092.26	1526863.06	40°46'10.808"N	103°58'33.888"W	point
1) TIMBRO 9-59 8A-9-4 Rev-2 BEG. PROD. INTERVAL (1033'FNL&600'FWL,SEC.09)	6706.64	6262.00	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 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

SURVEY PROGRAM - Ref Wellbore: TIMBRO 9-59 8A-9-4 PWB      Ref Wellpath: TIMBRO 9-59 8A-9-4 (REV-B.0) PWP				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.00	1869.00	BHI NaviTrak (Rotating+Axial Corr)		TIMBRO 9-59 8A-9-4 AWB
1869.00	17027.59	BHI AutoTrak Curve (Short)		TIMBRO 9-59 8A-9-4 PWB



# Planned Wellpath Report

TIMBRO 9-59 8A-9-4 (REV-B.0) PWP

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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 PWB
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 Surveys

DESIGN COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
1869.00	9.250	320.590	1852.50	Tie On
1931.00	9.250	320.590	1913.70	Tangent/Projection
2053.45	11.698	321.065	2034.10	End of 3D Arc (J)
4617.17	11.698	321.065	4544.57	End of Tangent (J)
5202.05	0.000	89.517	5125.40	End of Drop (XS)
5702.05	0.000	89.517	5625.40	End of Tangent (XS)
6706.64	90.413	89.517	6262.00	3D Arc/Landing Point
15987.02	90.413	89.517	6195.16	End of Tangent (XS)
15989.19	90.413	89.560	6195.14	End of 3D Arc (J)
16286.74	90.413	89.560	6193.00	End of Tangent (J)