

VERDAD RESOURCES

WATTENBERG FIELD

TIMBRO 9-59-8B PAD

TIMBRO 9-59 8B-9-2

Wellbore #1

Plan: Design #1

Standard Planning Report

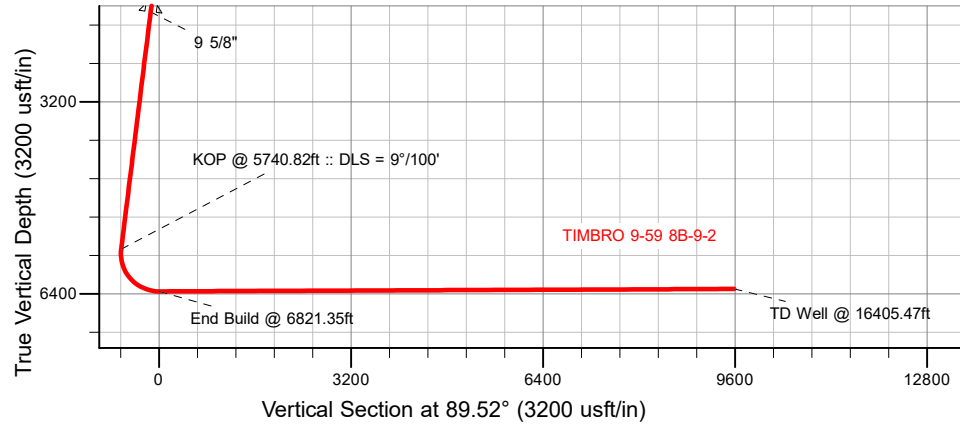
06 April, 2019

Project: WATTENBERG FIELD
Site: TIMBRO 9-59-8B PAD
Well: TIMBRO 9-59 8B-9-2
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1718.55	9 5/8"	9-5/8

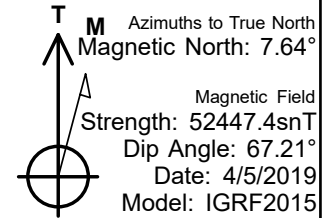
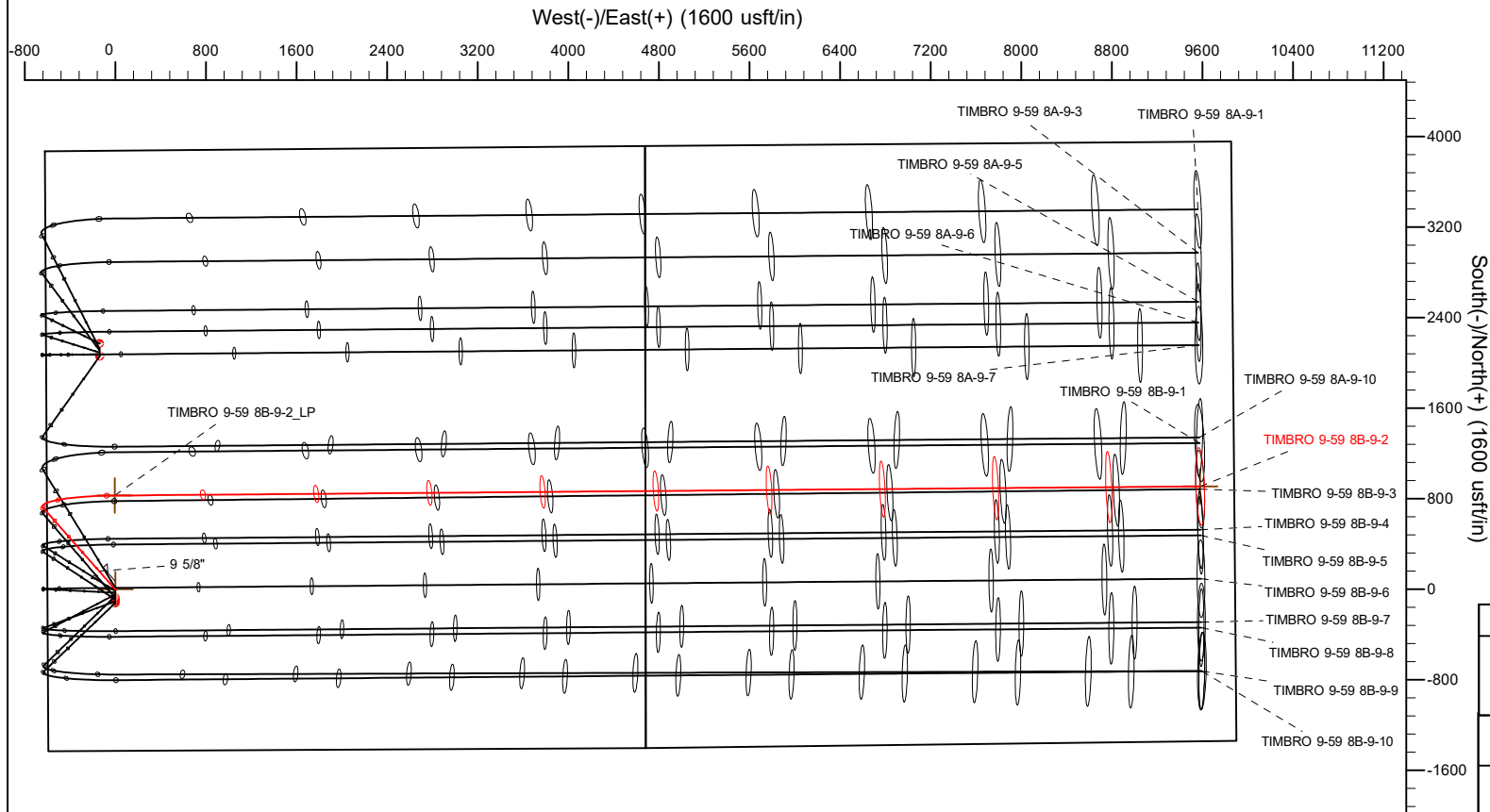


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	836.50	10.73	318.55	833.37	37.54	-33.16	2.00	318.55	-32.84	
4	5740.82	10.73	318.55	5651.94	721.94	-637.59	0.00	0.00	-631.52	
5	6821.35	90.24	89.52	6359.00	828.89	-3.98	9.00	130.43	2.96	
6	16405.47	90.24	89.52	6319.00	909.79	9579.71	0.00	0.00	9586.99	TIMBRO 9-59 8B-9-2_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
TIMBRO 9-59 8B-9-2_SHL	0.00	0.00	0.00	40.761654	-104.009524
TIMBRO 9-59 8B-9-2_BHL	6319.00	909.79	9579.71	40.764166	-103.974942



SHL
1428' FSL
600' FWL

LP
2257' FSL
600' FWL

BHL
2252' FSL
300' FEL

WELL DETAILS: TIMBRO 9-59 8B-9-2

GL = 5045'
RKB = 24' @ 5069.00usft (RIG)

Plan: Design #1 (TIMBRO 9-59 8B-9-2/Wellbore #1)

Date: 4/6/2019

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-2
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	TIMBRO 9-59-8B PAD	North Reference:	True
Well:	TIMBRO 9-59 8B-9-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	WATTENBERG FIELD		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	TIMBRO 9-59-8B PAD			
Site Position:		Northing:	1,523,800.83 usft	Latitude: 40.761695
From:	Lat/Long	Easting:	3,412,878.72 usft	Longitude: -104.009524
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.96 °

Well	TIMBRO 9-59 8B-9-2			
Well Position	+N/-S	-14.94 usft	Northing:	1,523,785.89 usft
	+E/-W	0.00 usft	Easting:	3,412,878.97 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	Ground Level: 5,045.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/5/2019	7.64	67.21	52,447.38779967

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	89.52

Plan Survey Tool Program	Date	4/6/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination
2	1,700.00	16,405.47	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
836.50	10.73	318.55	833.37	37.54	-33.16	2.00	2.00	0.00	318.55	
5,740.82	10.73	318.55	5,651.94	721.94	-637.59	0.00	0.00	0.00	0.00	
6,821.35	90.24	89.52	6,359.00	828.89	-3.98	9.00	7.36	12.12	130.43	
16,405.47	90.24	89.52	6,319.00	909.79	9,579.71	0.00	0.00	0.00	0.00	TIMBRO 9-59 8B-9-2

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-2
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	TIMBRO 9-59-8B PAD	North Reference:	True
Well:	TIMBRO 9-59 8B-9-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 300.00ft									
400.00	2.00	318.55	399.98	1.31	-1.16	-1.14	2.00	2.00	0.00
500.00	4.00	318.55	499.84	5.23	-4.62	-4.58	2.00	2.00	0.00
600.00	6.00	318.55	599.45	11.76	-10.39	-10.29	2.00	2.00	0.00
700.00	8.00	318.55	698.70	20.90	-18.46	-18.28	2.00	2.00	0.00
800.00	10.00	318.55	797.47	32.62	-28.81	-28.54	2.00	2.00	0.00
836.50	10.73	318.55	833.37	37.54	-33.16	-32.84	2.00	2.00	0.00
Hold Tangent @ 836.50ft									
900.00	10.73	318.55	895.76	46.41	-40.98	-40.59	0.00	0.00	0.00
1,000.00	10.73	318.55	994.01	60.36	-53.31	-52.80	0.00	0.00	0.00
1,100.00	10.73	318.55	1,092.26	74.31	-65.63	-65.01	0.00	0.00	0.00
1,200.00	10.73	318.55	1,190.51	88.27	-77.96	-77.22	0.00	0.00	0.00
1,300.00	10.73	318.55	1,288.77	102.22	-90.28	-89.42	0.00	0.00	0.00
1,400.00	10.73	318.55	1,387.02	116.18	-102.61	-101.63	0.00	0.00	0.00
1,500.00	10.73	318.55	1,485.27	130.13	-114.93	-113.84	0.00	0.00	0.00
1,600.00	10.73	318.55	1,583.52	144.09	-127.26	-126.04	0.00	0.00	0.00
1,700.00	10.73	318.55	1,681.77	158.04	-139.58	-138.25	0.00	0.00	0.00
1,718.55	10.73	318.55	1,700.00	160.63	-141.87	-140.52	0.00	0.00	0.00
9 5/8"									
1,800.00	10.73	318.55	1,780.02	172.00	-151.90	-150.46	0.00	0.00	0.00
1,900.00	10.73	318.55	1,878.27	185.95	-164.23	-162.67	0.00	0.00	0.00
2,000.00	10.73	318.55	1,976.53	199.91	-176.55	-174.87	0.00	0.00	0.00
2,100.00	10.73	318.55	2,074.78	213.86	-188.88	-187.08	0.00	0.00	0.00
2,200.00	10.73	318.55	2,173.03	227.82	-201.20	-199.29	0.00	0.00	0.00
2,300.00	10.73	318.55	2,271.28	241.77	-213.53	-211.49	0.00	0.00	0.00
2,400.00	10.73	318.55	2,369.53	255.73	-225.85	-223.70	0.00	0.00	0.00
2,500.00	10.73	318.55	2,467.78	269.68	-238.18	-235.91	0.00	0.00	0.00
2,600.00	10.73	318.55	2,566.04	283.64	-250.50	-248.12	0.00	0.00	0.00
2,700.00	10.73	318.55	2,664.29	297.59	-262.83	-260.32	0.00	0.00	0.00
2,800.00	10.73	318.55	2,762.54	311.55	-275.15	-272.53	0.00	0.00	0.00
2,900.00	10.73	318.55	2,860.79	325.50	-287.47	-284.74	0.00	0.00	0.00
3,000.00	10.73	318.55	2,959.04	339.46	-299.80	-296.95	0.00	0.00	0.00
3,100.00	10.73	318.55	3,057.29	353.41	-312.12	-309.15	0.00	0.00	0.00
3,200.00	10.73	318.55	3,155.54	367.37	-324.45	-321.36	0.00	0.00	0.00
3,300.00	10.73	318.55	3,253.80	381.32	-336.77	-333.57	0.00	0.00	0.00
3,400.00	10.73	318.55	3,352.05	395.28	-349.10	-345.77	0.00	0.00	0.00
3,500.00	10.73	318.55	3,450.30	409.23	-361.42	-357.98	0.00	0.00	0.00
3,600.00	10.73	318.55	3,548.55	423.19	-373.75	-370.19	0.00	0.00	0.00
3,700.00	10.73	318.55	3,646.80	437.14	-386.07	-382.40	0.00	0.00	0.00
3,800.00	10.73	318.55	3,745.05	451.10	-398.40	-394.60	0.00	0.00	0.00
3,900.00	10.73	318.55	3,843.31	465.05	-410.72	-406.81	0.00	0.00	0.00
4,000.00	10.73	318.55	3,941.56	479.01	-423.05	-419.02	0.00	0.00	0.00
4,100.00	10.73	318.55	4,039.81	492.96	-435.37	-431.22	0.00	0.00	0.00
4,200.00	10.73	318.55	4,138.06	506.92	-447.69	-443.43	0.00	0.00	0.00
4,300.00	10.73	318.55	4,236.31	520.87	-460.02	-455.64	0.00	0.00	0.00
4,400.00	10.73	318.55	4,334.56	534.83	-472.34	-467.85	0.00	0.00	0.00
4,500.00	10.73	318.55	4,432.81	548.78	-484.67	-480.05	0.00	0.00	0.00
4,600.00	10.73	318.55	4,531.07	562.74	-496.99	-492.26	0.00	0.00	0.00
4,700.00	10.73	318.55	4,629.32	576.69	-509.32	-504.47	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-2
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	TIMBRO 9-59-8B PAD	North Reference:	True
Well:	TIMBRO 9-59 8B-9-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	10.73	318.55	4,727.57	590.65	-521.64	-516.68	0.00	0.00	0.00
4,900.00	10.73	318.55	4,825.82	604.60	-533.97	-528.88	0.00	0.00	0.00
5,000.00	10.73	318.55	4,924.07	618.56	-546.29	-541.09	0.00	0.00	0.00
5,100.00	10.73	318.55	5,022.32	632.51	-558.62	-553.30	0.00	0.00	0.00
5,200.00	10.73	318.55	5,120.58	646.47	-570.94	-565.50	0.00	0.00	0.00
5,300.00	10.73	318.55	5,218.83	660.42	-583.26	-577.71	0.00	0.00	0.00
5,400.00	10.73	318.55	5,317.08	674.38	-595.59	-589.92	0.00	0.00	0.00
5,500.00	10.73	318.55	5,415.33	688.33	-607.91	-602.13	0.00	0.00	0.00
5,600.00	10.73	318.55	5,513.58	702.29	-620.24	-614.33	0.00	0.00	0.00
5,700.00	10.73	318.55	5,611.83	716.24	-632.56	-626.54	0.00	0.00	0.00
5,740.82	10.73	318.55	5,651.94	721.94	-637.59	-631.52	0.00	0.00	0.00
KOP @ 5740.82ft :: DLS = 9°/100'									
5,800.00	8.32	347.79	5,710.33	730.26	-642.15	-636.01	9.00	-4.08	49.41
5,900.00	10.94	41.67	5,809.10	744.44	-637.36	-631.10	9.00	2.62	53.88
6,000.00	18.19	63.65	5,905.89	758.48	-617.03	-610.65	9.00	7.25	21.98
6,100.00	26.52	72.81	5,998.33	772.03	-581.64	-575.15	9.00	8.32	9.15
6,200.00	35.16	77.75	6,084.12	784.76	-532.08	-525.48	9.00	8.64	4.95
6,300.00	43.93	80.94	6,161.17	796.36	-469.56	-462.87	9.00	8.77	3.18
6,400.00	52.77	83.24	6,227.57	806.53	-395.62	-388.85	9.00	8.84	2.30
6,500.00	61.64	85.05	6,281.69	815.04	-312.08	-305.24	9.00	8.87	1.81
6,600.00	70.53	86.58	6,322.19	821.66	-221.01	-214.11	9.00	8.89	1.53
6,700.00	79.43	87.95	6,348.09	826.24	-124.63	-117.71	9.00	8.90	1.37
6,800.00	88.34	89.24	6,358.73	828.66	-25.33	-18.39	9.00	8.91	1.29
6,821.35	90.24	89.52	6,359.00	828.89	-3.98	2.96	9.00	8.91	1.28
End Build @ 6821.35ft									
6,900.00	90.24	89.52	6,358.67	829.55	74.66	81.61	0.00	0.00	0.00
7,000.00	90.24	89.52	6,358.25	830.40	174.66	181.61	0.00	0.00	0.00
7,100.00	90.24	89.52	6,357.84	831.24	274.65	281.61	0.00	0.00	0.00
7,200.00	90.24	89.52	6,357.42	832.09	374.65	381.60	0.00	0.00	0.00
7,300.00	90.24	89.52	6,357.00	832.93	474.64	481.60	0.00	0.00	0.00
7,400.00	90.24	89.52	6,356.58	833.78	574.64	581.60	0.00	0.00	0.00
7,500.00	90.24	89.52	6,356.17	834.62	674.63	681.60	0.00	0.00	0.00
7,600.00	90.24	89.52	6,355.75	835.46	774.63	781.60	0.00	0.00	0.00
7,700.00	90.24	89.52	6,355.33	836.31	874.62	881.60	0.00	0.00	0.00
7,800.00	90.24	89.52	6,354.92	837.15	974.62	981.60	0.00	0.00	0.00
7,900.00	90.24	89.52	6,354.50	838.00	1,074.62	1,081.60	0.00	0.00	0.00
8,000.00	90.24	89.52	6,354.08	838.84	1,174.61	1,181.60	0.00	0.00	0.00
8,100.00	90.24	89.52	6,353.66	839.68	1,274.61	1,281.60	0.00	0.00	0.00
8,200.00	90.24	89.52	6,353.25	840.53	1,374.60	1,381.60	0.00	0.00	0.00
8,300.00	90.24	89.52	6,352.83	841.37	1,474.60	1,481.59	0.00	0.00	0.00
8,400.00	90.24	89.52	6,352.41	842.22	1,574.59	1,581.59	0.00	0.00	0.00
8,500.00	90.24	89.52	6,351.99	843.06	1,674.59	1,681.59	0.00	0.00	0.00
8,600.00	90.24	89.52	6,351.58	843.90	1,774.58	1,781.59	0.00	0.00	0.00
8,700.00	90.24	89.52	6,351.16	844.75	1,874.58	1,881.59	0.00	0.00	0.00
8,800.00	90.24	89.52	6,350.74	845.59	1,974.58	1,981.59	0.00	0.00	0.00
8,900.00	90.24	89.52	6,350.32	846.44	2,074.57	2,081.59	0.00	0.00	0.00
9,000.00	90.24	89.52	6,349.91	847.28	2,174.57	2,181.59	0.00	0.00	0.00
9,100.00	90.24	89.52	6,349.49	848.12	2,274.56	2,281.59	0.00	0.00	0.00
9,200.00	90.24	89.52	6,349.07	848.97	2,374.56	2,381.59	0.00	0.00	0.00
9,300.00	90.24	89.52	6,348.65	849.81	2,474.55	2,481.59	0.00	0.00	0.00
9,400.00	90.24	89.52	6,348.24	850.66	2,574.55	2,581.59	0.00	0.00	0.00
9,500.00	90.24	89.52	6,347.82	851.50	2,674.54	2,681.58	0.00	0.00	0.00
9,600.00	90.24	89.52	6,347.40	852.35	2,774.54	2,781.58	0.00	0.00	0.00
9,700.00	90.24	89.52	6,346.99	853.19	2,874.54	2,881.58	0.00	0.00	0.00

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-2
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	TIMBRO 9-59-8B PAD	North Reference:	True
Well:	TIMBRO 9-59 8B-9-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,800.00	90.24	89.52	6,346.57	854.03	2,974.53	2,981.58	0.00	0.00	0.00	
9,900.00	90.24	89.52	6,346.15	854.88	3,074.53	3,081.58	0.00	0.00	0.00	
10,000.00	90.24	89.52	6,345.73	855.72	3,174.52	3,181.58	0.00	0.00	0.00	
10,100.00	90.24	89.52	6,345.32	856.57	3,274.52	3,281.58	0.00	0.00	0.00	
10,200.00	90.24	89.52	6,344.90	857.41	3,374.51	3,381.58	0.00	0.00	0.00	
10,300.00	90.24	89.52	6,344.48	858.25	3,474.51	3,481.58	0.00	0.00	0.00	
10,400.00	90.24	89.52	6,344.06	859.10	3,574.50	3,581.58	0.00	0.00	0.00	
10,500.00	90.24	89.52	6,343.65	859.94	3,674.50	3,681.58	0.00	0.00	0.00	
10,600.00	90.24	89.52	6,343.23	860.79	3,774.50	3,781.57	0.00	0.00	0.00	
10,700.00	90.24	89.52	6,342.81	861.63	3,874.49	3,881.57	0.00	0.00	0.00	
10,800.00	90.24	89.52	6,342.39	862.47	3,974.49	3,981.57	0.00	0.00	0.00	
10,900.00	90.24	89.52	6,341.98	863.32	4,074.48	4,081.57	0.00	0.00	0.00	
11,000.00	90.24	89.52	6,341.56	864.16	4,174.48	4,181.57	0.00	0.00	0.00	
11,100.00	90.24	89.52	6,341.14	865.01	4,274.47	4,281.57	0.00	0.00	0.00	
11,200.00	90.24	89.52	6,340.73	865.85	4,374.47	4,381.57	0.00	0.00	0.00	
11,300.00	90.24	89.52	6,340.31	866.70	4,474.46	4,481.57	0.00	0.00	0.00	
11,400.00	90.24	89.52	6,339.89	867.54	4,574.46	4,581.57	0.00	0.00	0.00	
11,500.00	90.24	89.52	6,339.47	868.38	4,674.46	4,681.57	0.00	0.00	0.00	
11,600.00	90.24	89.52	6,339.06	869.23	4,774.45	4,781.57	0.00	0.00	0.00	
11,700.00	90.24	89.52	6,338.64	870.07	4,874.45	4,881.57	0.00	0.00	0.00	
11,800.00	90.24	89.52	6,338.22	870.92	4,974.44	4,981.56	0.00	0.00	0.00	
11,900.00	90.24	89.52	6,337.80	871.76	5,074.44	5,081.56	0.00	0.00	0.00	
12,000.00	90.24	89.52	6,337.39	872.60	5,174.43	5,181.56	0.00	0.00	0.00	
12,100.00	90.24	89.52	6,336.97	873.45	5,274.43	5,281.56	0.00	0.00	0.00	
12,200.00	90.24	89.52	6,336.55	874.29	5,374.43	5,381.56	0.00	0.00	0.00	
12,300.00	90.24	89.52	6,336.13	875.14	5,474.42	5,481.56	0.00	0.00	0.00	
12,400.00	90.24	89.52	6,335.72	875.98	5,574.42	5,581.56	0.00	0.00	0.00	
12,500.00	90.24	89.52	6,335.30	876.82	5,674.41	5,681.56	0.00	0.00	0.00	
12,600.00	90.24	89.52	6,334.88	877.67	5,774.41	5,781.56	0.00	0.00	0.00	
12,700.00	90.24	89.52	6,334.46	878.51	5,874.40	5,881.56	0.00	0.00	0.00	
12,800.00	90.24	89.52	6,334.05	879.36	5,974.40	5,981.56	0.00	0.00	0.00	
12,900.00	90.24	89.52	6,333.63	880.20	6,074.39	6,081.55	0.00	0.00	0.00	
13,000.00	90.24	89.52	6,333.21	881.04	6,174.39	6,181.55	0.00	0.00	0.00	
13,100.00	90.24	89.52	6,332.80	881.89	6,274.39	6,281.55	0.00	0.00	0.00	
13,200.00	90.24	89.52	6,332.38	882.73	6,374.38	6,381.55	0.00	0.00	0.00	
13,300.00	90.24	89.52	6,331.96	883.58	6,474.38	6,481.55	0.00	0.00	0.00	
13,400.00	90.24	89.52	6,331.54	884.42	6,574.37	6,581.55	0.00	0.00	0.00	
13,500.00	90.24	89.52	6,331.13	885.27	6,674.37	6,681.55	0.00	0.00	0.00	
13,600.00	90.24	89.52	6,330.71	886.11	6,774.36	6,781.55	0.00	0.00	0.00	
13,700.00	90.24	89.52	6,330.29	886.95	6,874.36	6,881.55	0.00	0.00	0.00	
13,800.00	90.24	89.52	6,329.87	887.80	6,974.35	6,981.55	0.00	0.00	0.00	
13,900.00	90.24	89.52	6,329.46	888.64	7,074.35	7,081.55	0.00	0.00	0.00	
14,000.00	90.24	89.52	6,329.04	889.49	7,174.35	7,181.55	0.00	0.00	0.00	
14,100.00	90.24	89.52	6,328.62	890.33	7,274.34	7,281.54	0.00	0.00	0.00	
14,200.00	90.24	89.52	6,328.20	891.17	7,374.34	7,381.54	0.00	0.00	0.00	
14,300.00	90.24	89.52	6,327.79	892.02	7,474.33	7,481.54	0.00	0.00	0.00	
14,400.00	90.24	89.52	6,327.37	892.86	7,574.33	7,581.54	0.00	0.00	0.00	
14,500.00	90.24	89.52	6,326.95	893.71	7,674.32	7,681.54	0.00	0.00	0.00	
14,600.00	90.24	89.52	6,326.54	894.55	7,774.32	7,781.54	0.00	0.00	0.00	
14,700.00	90.24	89.52	6,326.12	895.39	7,874.31	7,881.54	0.00	0.00	0.00	
14,800.00	90.24	89.52	6,325.70	896.24	7,974.31	7,981.54	0.00	0.00	0.00	
14,900.00	90.24	89.52	6,325.28	897.08	8,074.31	8,081.54	0.00	0.00	0.00	
15,000.00	90.24	89.52	6,324.87	897.93	8,174.30	8,181.54	0.00	0.00	0.00	
15,100.00	90.24	89.52	6,324.45	898.77	8,274.30	8,281.54	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-2
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	TIMBRO 9-59-8B PAD	North Reference:	True
Well:	TIMBRO 9-59 8B-9-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,200.00	90.24	89.52	6,324.03	899.61	8,374.29	8,381.53	0.00	0.00	0.00	
15,300.00	90.24	89.52	6,323.61	900.46	8,474.29	8,481.53	0.00	0.00	0.00	
15,400.00	90.24	89.52	6,323.20	901.30	8,574.28	8,581.53	0.00	0.00	0.00	
15,500.00	90.24	89.52	6,322.78	902.15	8,674.28	8,681.53	0.00	0.00	0.00	
15,600.00	90.24	89.52	6,322.36	902.99	8,774.27	8,781.53	0.00	0.00	0.00	
15,700.00	90.24	89.52	6,321.94	903.84	8,874.27	8,881.53	0.00	0.00	0.00	
15,800.00	90.24	89.52	6,321.53	904.68	8,974.27	8,981.53	0.00	0.00	0.00	
15,900.00	90.24	89.52	6,321.11	905.52	9,074.26	9,081.53	0.00	0.00	0.00	
16,000.00	90.24	89.52	6,320.69	906.37	9,174.26	9,181.53	0.00	0.00	0.00	
16,100.00	90.24	89.52	6,320.28	907.21	9,274.25	9,281.53	0.00	0.00	0.00	
16,200.00	90.24	89.52	6,319.86	908.06	9,374.25	9,381.53	0.00	0.00	0.00	
16,300.00	90.24	89.52	6,319.44	908.90	9,474.24	9,481.53	0.00	0.00	0.00	
16,400.00	90.24	89.52	6,319.02	909.74	9,574.24	9,581.52	0.00	0.00	0.00	
16,405.47	90.24	89.52	6,319.00	909.79	9,579.71	9,586.99	0.00	0.00	0.00	
TD Well @ 16405.47ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,718.55	1,700.00	9 5/8"	9-5/8	13-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
300.00	300.00	0.00	0.00	Begin Nudge @ 300.00ft	
836.50	833.37	37.54	-33.16	Hold Tangent @ 836.50ft	
5,740.82	5,651.94	721.94	-637.59	KOP @ 5740.82ft :: DLS = 9°/100'	
6,821.35	6,359.00	828.89	-3.98	End Build @ 6821.35ft	
16,405.47	6,319.00	909.79	9,579.71	TD Well @ 16405.47ft	