

VERDAD RESOURCES

WATTENBERG FIELD

TIMBRO 9-59-8B PAD

TIMBRO 9-59 8B-9-9

Wellbore #1

Plan: Design #1

Standard Planning Report

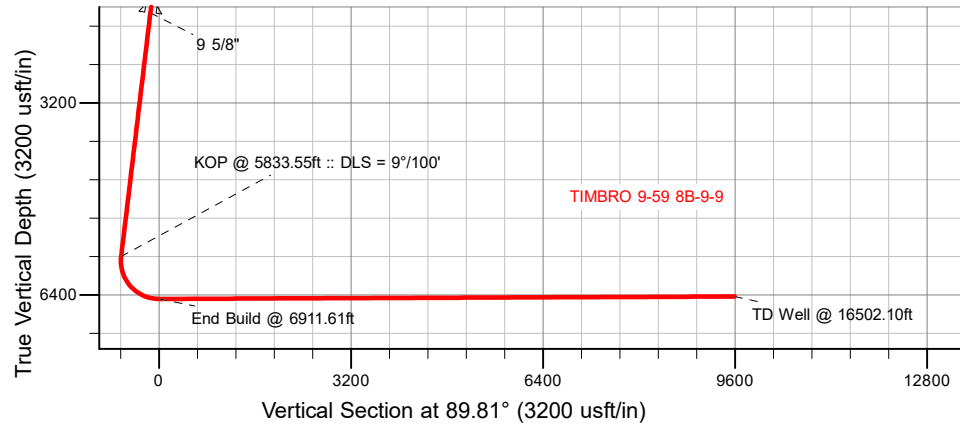
06 April, 2019

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

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1715.65	9 5/8"	9-5/8

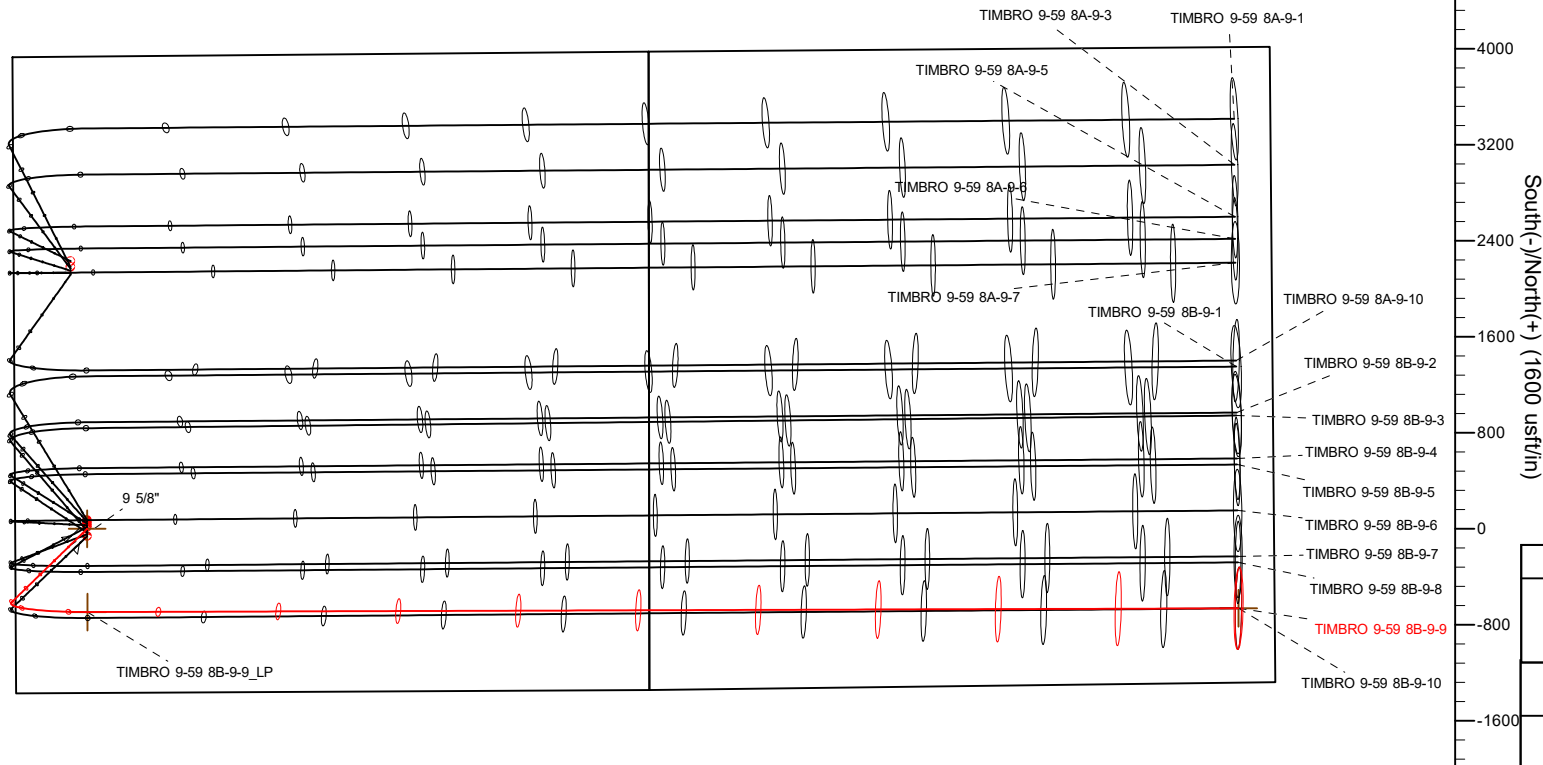
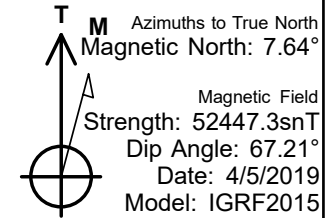
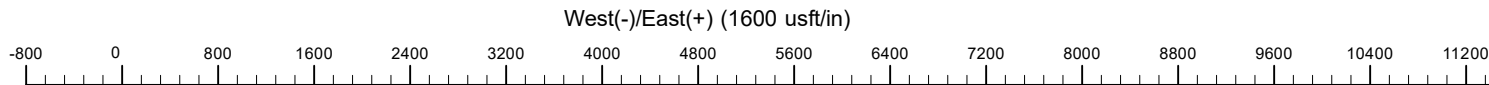


SECTION DETAILS

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	723.00	9.46	225.80	720.85	-27.16	-27.93	2.00	225.80	-28.02	
4	5833.55	9.46	225.80	5761.90	-612.76	-630.11	0.00	0.00	-632.14	
5	6911.61	90.24	89.81	6469.00	-692.92	4.95	9.00	-135.57	2.65	
6	16502.10	90.24	89.81	6429.00	-661.94	9595.30	0.00	0.00	9593.06	TIMBRO 9-59 8B-9-9_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
TIMBRO 9-59 8B-9-9_SHL	0.00	0.00	0.00	40.761490	-104.009523
TIMBRO 9-59 8B-9-9_BHL	6429.00	-661.94	9595.30	40.759668	-103.974887



SHL
1368' FSL
600' FWL

LP
675' FSL
600' FWL

BHL
620' FSL
300' FEL

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

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

Plan: Design #1 (TIMBRO 9-59 8B-9-9/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-9-9
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-9-9	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-9-9					
Well Position	+N/-S	-74.69 usft	Northing:	1,523,726.16 usft	Latitude:	40.761490
	+E/-W	0.28 usft	Easting:	3,412,880.25 usft	Longitude:	-104.009523
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	52,447.30422327

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	89.81

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	16,502.10	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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
723.00	9.46	225.80	720.85	-27.16	-27.93	2.00	2.00	0.00	225.80	
5,833.55	9.46	225.80	5,761.90	-612.76	-630.11	0.00	0.00	0.00	0.00	
6,911.61	90.24	89.81	6,469.00	-692.92	4.95	9.00	7.49	-12.61	-135.57	
16,502.10	90.24	89.81	6,429.00	-661.94	9,595.30	0.00	0.00	0.00	0.00	TIMBRO 9-59 8B-9-9

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO 9-59 8B-9-9
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-9-9	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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 250.00ft									
300.00	1.00	225.80	300.00	-0.30	-0.31	-0.31	2.00	2.00	0.00
400.00	3.00	225.80	399.93	-2.74	-2.81	-2.82	2.00	2.00	0.00
500.00	5.00	225.80	499.68	-7.60	-7.82	-7.84	2.00	2.00	0.00
600.00	7.00	225.80	599.13	-14.89	-15.31	-15.36	2.00	2.00	0.00
700.00	9.00	225.80	698.15	-24.59	-25.29	-25.37	2.00	2.00	0.00
723.00	9.46	225.80	720.85	-27.16	-27.93	-28.02	2.00	2.00	0.00
Hold Tangent @ 723.00ft									
800.00	9.46	225.80	796.81	-35.98	-37.00	-37.12	0.00	0.00	0.00
900.00	9.46	225.80	895.45	-47.44	-48.79	-48.94	0.00	0.00	0.00
1,000.00	9.46	225.80	994.09	-58.90	-60.57	-60.76	0.00	0.00	0.00
1,100.00	9.46	225.80	1,092.73	-70.36	-72.35	-72.59	0.00	0.00	0.00
1,200.00	9.46	225.80	1,191.37	-81.82	-84.14	-84.41	0.00	0.00	0.00
1,300.00	9.46	225.80	1,290.01	-93.28	-95.92	-96.23	0.00	0.00	0.00
1,400.00	9.46	225.80	1,388.65	-104.74	-107.70	-108.05	0.00	0.00	0.00
1,500.00	9.46	225.80	1,487.29	-116.19	-119.48	-119.87	0.00	0.00	0.00
1,600.00	9.46	225.80	1,585.93	-127.65	-131.27	-131.69	0.00	0.00	0.00
1,700.00	9.46	225.80	1,684.57	-139.11	-143.05	-143.51	0.00	0.00	0.00
1,715.65	9.46	225.80	1,700.00	-140.90	-144.89	-145.36	0.00	0.00	0.00
9 5/8"									
1,800.00	9.46	225.80	1,783.21	-150.57	-154.83	-155.33	0.00	0.00	0.00
1,900.00	9.46	225.80	1,881.85	-162.03	-166.62	-167.15	0.00	0.00	0.00
2,000.00	9.46	225.80	1,980.49	-173.49	-178.40	-178.97	0.00	0.00	0.00
2,100.00	9.46	225.80	2,079.13	-184.95	-190.18	-190.80	0.00	0.00	0.00
2,200.00	9.46	225.80	2,177.77	-196.40	-201.97	-202.62	0.00	0.00	0.00
2,300.00	9.46	225.80	2,276.41	-207.86	-213.75	-214.44	0.00	0.00	0.00
2,400.00	9.46	225.80	2,375.05	-219.32	-225.53	-226.26	0.00	0.00	0.00
2,500.00	9.46	225.80	2,473.69	-230.78	-237.32	-238.08	0.00	0.00	0.00
2,600.00	9.46	225.80	2,572.33	-242.24	-249.10	-249.90	0.00	0.00	0.00
2,700.00	9.46	225.80	2,670.97	-253.70	-260.88	-261.72	0.00	0.00	0.00
2,800.00	9.46	225.80	2,769.61	-265.15	-272.66	-273.54	0.00	0.00	0.00
2,900.00	9.46	225.80	2,868.25	-276.61	-284.45	-285.36	0.00	0.00	0.00
3,000.00	9.46	225.80	2,966.89	-288.07	-296.23	-297.18	0.00	0.00	0.00
3,100.00	9.46	225.80	3,065.53	-299.53	-308.01	-309.01	0.00	0.00	0.00
3,200.00	9.46	225.80	3,164.17	-310.99	-319.80	-320.83	0.00	0.00	0.00
3,300.00	9.46	225.80	3,262.81	-322.45	-331.58	-332.65	0.00	0.00	0.00
3,400.00	9.46	225.80	3,361.45	-333.91	-343.36	-344.47	0.00	0.00	0.00
3,500.00	9.46	225.80	3,460.09	-345.36	-355.15	-356.29	0.00	0.00	0.00
3,600.00	9.46	225.80	3,558.73	-356.82	-366.93	-368.11	0.00	0.00	0.00
3,700.00	9.46	225.80	3,657.37	-368.28	-378.71	-379.93	0.00	0.00	0.00
3,800.00	9.46	225.80	3,756.01	-379.74	-390.50	-391.75	0.00	0.00	0.00
3,900.00	9.46	225.80	3,854.65	-391.20	-402.28	-403.57	0.00	0.00	0.00
4,000.00	9.46	225.80	3,953.29	-402.66	-414.06	-415.39	0.00	0.00	0.00
4,100.00	9.46	225.80	4,051.93	-414.12	-425.84	-427.22	0.00	0.00	0.00
4,200.00	9.46	225.80	4,150.57	-425.57	-437.63	-439.04	0.00	0.00	0.00
4,300.00	9.46	225.80	4,249.21	-437.03	-449.41	-450.86	0.00	0.00	0.00
4,400.00	9.46	225.80	4,347.85	-448.49	-461.19	-462.68	0.00	0.00	0.00
4,500.00	9.46	225.80	4,446.49	-459.95	-472.98	-474.50	0.00	0.00	0.00
4,600.00	9.46	225.80	4,545.13	-471.41	-484.76	-486.32	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-9-9
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-9-9	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)
4,700.00	9.46	225.80	4,643.77	-482.87	-496.54	-498.14	0.00	0.00	0.00
4,800.00	9.46	225.80	4,742.41	-494.33	-508.33	-509.96	0.00	0.00	0.00
4,900.00	9.46	225.80	4,841.05	-505.78	-520.11	-521.78	0.00	0.00	0.00
5,000.00	9.46	225.80	4,939.69	-517.24	-531.89	-533.60	0.00	0.00	0.00
5,100.00	9.46	225.80	5,038.33	-528.70	-543.68	-545.43	0.00	0.00	0.00
5,200.00	9.46	225.80	5,136.97	-540.16	-555.46	-557.25	0.00	0.00	0.00
5,300.00	9.46	225.80	5,235.61	-551.62	-567.24	-569.07	0.00	0.00	0.00
5,400.00	9.46	225.80	5,334.25	-563.08	-579.02	-580.89	0.00	0.00	0.00
5,500.00	9.46	225.80	5,432.89	-574.54	-590.81	-592.71	0.00	0.00	0.00
5,600.00	9.46	225.80	5,531.53	-585.99	-602.59	-604.53	0.00	0.00	0.00
5,700.00	9.46	225.80	5,630.17	-597.45	-614.37	-616.35	0.00	0.00	0.00
5,800.00	9.46	225.80	5,728.81	-608.91	-626.16	-628.17	0.00	0.00	0.00
5,833.55	9.46	225.80	5,761.90	-612.76	-630.11	-632.14	0.00	0.00	0.00
KOP @ 5833.55ft :: DLS = 9°/100'									
5,900.00	6.66	186.80	5,827.74	-620.39	-634.49	-636.54	9.00	-4.22	-58.69
6,000.00	10.51	128.47	5,926.76	-631.85	-628.02	-630.11	9.00	3.86	-58.33
6,100.00	18.39	110.24	6,023.57	-643.00	-606.03	-608.16	9.00	7.87	-18.23
6,200.00	26.96	103.01	6,115.78	-653.58	-569.07	-571.24	9.00	8.57	-7.23
6,300.00	35.73	99.11	6,201.11	-663.32	-518.05	-520.25	9.00	8.77	-3.90
6,400.00	44.59	96.59	6,277.46	-671.99	-454.22	-456.45	9.00	8.85	-2.52
6,500.00	53.48	94.76	6,342.96	-679.37	-379.16	-381.41	9.00	8.89	-1.83
6,600.00	62.40	93.32	6,396.00	-685.29	-294.70	-296.98	9.00	8.92	-1.45
6,700.00	71.32	92.09	6,435.25	-689.58	-202.95	-205.23	9.00	8.93	-1.23
6,800.00	80.26	90.98	6,459.77	-692.15	-106.14	-108.43	9.00	8.94	-1.10
6,900.00	89.20	89.94	6,468.95	-692.94	-6.67	-8.96	9.00	8.94	-1.05
6,911.61	90.24	89.81	6,469.00	-692.92	4.95	2.65	9.00	8.94	-1.04
End Build @ 6911.61ft									
7,000.00	90.24	89.81	6,468.63	-692.63	93.33	91.04	0.00	0.00	0.00
7,100.00	90.24	89.81	6,468.22	-692.31	193.33	191.03	0.00	0.00	0.00
7,200.00	90.24	89.81	6,467.80	-691.99	293.33	291.03	0.00	0.00	0.00
7,300.00	90.24	89.81	6,467.38	-691.66	393.33	391.03	0.00	0.00	0.00
7,400.00	90.24	89.81	6,466.97	-691.34	493.33	491.03	0.00	0.00	0.00
7,500.00	90.24	89.81	6,466.55	-691.02	593.33	591.03	0.00	0.00	0.00
7,600.00	90.24	89.81	6,466.13	-690.70	693.32	691.03	0.00	0.00	0.00
7,700.00	90.24	89.81	6,465.71	-690.37	793.32	791.03	0.00	0.00	0.00
7,800.00	90.24	89.81	6,465.30	-690.05	893.32	891.03	0.00	0.00	0.00
7,900.00	90.24	89.81	6,464.88	-689.73	993.32	991.03	0.00	0.00	0.00
8,000.00	90.24	89.81	6,464.46	-689.40	1,093.32	1,091.03	0.00	0.00	0.00
8,100.00	90.24	89.81	6,464.05	-689.08	1,193.32	1,191.03	0.00	0.00	0.00
8,200.00	90.24	89.81	6,463.63	-688.76	1,293.32	1,291.02	0.00	0.00	0.00
8,300.00	90.24	89.81	6,463.21	-688.43	1,393.31	1,391.02	0.00	0.00	0.00
8,400.00	90.24	89.81	6,462.79	-688.11	1,493.31	1,491.02	0.00	0.00	0.00
8,500.00	90.24	89.81	6,462.38	-687.79	1,593.31	1,591.02	0.00	0.00	0.00
8,600.00	90.24	89.81	6,461.96	-687.46	1,693.31	1,691.02	0.00	0.00	0.00
8,700.00	90.24	89.81	6,461.54	-687.14	1,793.31	1,791.02	0.00	0.00	0.00
8,800.00	90.24	89.81	6,461.13	-686.82	1,893.31	1,891.02	0.00	0.00	0.00
8,900.00	90.24	89.81	6,460.71	-686.50	1,993.31	1,991.02	0.00	0.00	0.00
9,000.00	90.24	89.81	6,460.29	-686.17	2,093.30	2,091.02	0.00	0.00	0.00
9,100.00	90.24	89.81	6,459.88	-685.85	2,193.30	2,191.02	0.00	0.00	0.00
9,200.00	90.24	89.81	6,459.46	-685.53	2,293.30	2,291.02	0.00	0.00	0.00
9,300.00	90.24	89.81	6,459.04	-685.20	2,393.30	2,391.02	0.00	0.00	0.00
9,400.00	90.24	89.81	6,458.62	-684.88	2,493.30	2,491.01	0.00	0.00	0.00
9,500.00	90.24	89.81	6,458.21	-684.56	2,593.30	2,591.01	0.00	0.00	0.00
9,600.00	90.24	89.81	6,457.79	-684.23	2,693.30	2,691.01	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-9-9
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-9-9	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)	
9,700.00	90.24	89.81	6,457.37	-683.91	2,793.30	2,791.01	0.00	0.00	0.00	
9,800.00	90.24	89.81	6,456.96	-683.59	2,893.29	2,891.01	0.00	0.00	0.00	
9,900.00	90.24	89.81	6,456.54	-683.26	2,993.29	2,991.01	0.00	0.00	0.00	
10,000.00	90.24	89.81	6,456.12	-682.94	3,093.29	3,091.01	0.00	0.00	0.00	
10,100.00	90.24	89.81	6,455.70	-682.62	3,193.29	3,191.01	0.00	0.00	0.00	
10,200.00	90.24	89.81	6,455.29	-682.30	3,293.29	3,291.01	0.00	0.00	0.00	
10,300.00	90.24	89.81	6,454.87	-681.97	3,393.29	3,391.01	0.00	0.00	0.00	
10,400.00	90.24	89.81	6,454.45	-681.65	3,493.29	3,491.01	0.00	0.00	0.00	
10,500.00	90.24	89.81	6,454.04	-681.33	3,593.28	3,591.00	0.00	0.00	0.00	
10,600.00	90.24	89.81	6,453.62	-681.00	3,693.28	3,691.00	0.00	0.00	0.00	
10,700.00	90.24	89.81	6,453.20	-680.68	3,793.28	3,791.00	0.00	0.00	0.00	
10,800.00	90.24	89.81	6,452.78	-680.36	3,893.28	3,891.00	0.00	0.00	0.00	
10,900.00	90.24	89.81	6,452.37	-680.03	3,993.28	3,991.00	0.00	0.00	0.00	
11,000.00	90.24	89.81	6,451.95	-679.71	4,093.28	4,091.00	0.00	0.00	0.00	
11,100.00	90.24	89.81	6,451.53	-679.39	4,193.28	4,191.00	0.00	0.00	0.00	
11,200.00	90.24	89.81	6,451.12	-679.07	4,293.27	4,291.00	0.00	0.00	0.00	
11,300.00	90.24	89.81	6,450.70	-678.74	4,393.27	4,391.00	0.00	0.00	0.00	
11,400.00	90.24	89.81	6,450.28	-678.42	4,493.27	4,491.00	0.00	0.00	0.00	
11,500.00	90.24	89.81	6,449.86	-678.10	4,593.27	4,591.00	0.00	0.00	0.00	
11,600.00	90.24	89.81	6,449.45	-677.77	4,693.27	4,691.00	0.00	0.00	0.00	
11,700.00	90.24	89.81	6,449.03	-677.45	4,793.27	4,790.99	0.00	0.00	0.00	
11,800.00	90.24	89.81	6,448.61	-677.13	4,893.27	4,890.99	0.00	0.00	0.00	
11,900.00	90.24	89.81	6,448.20	-676.80	4,993.26	4,990.99	0.00	0.00	0.00	
12,000.00	90.24	89.81	6,447.78	-676.48	5,093.26	5,090.99	0.00	0.00	0.00	
12,100.00	90.24	89.81	6,447.36	-676.16	5,193.26	5,190.99	0.00	0.00	0.00	
12,200.00	90.24	89.81	6,446.94	-675.83	5,293.26	5,290.99	0.00	0.00	0.00	
12,300.00	90.24	89.81	6,446.53	-675.51	5,393.26	5,390.99	0.00	0.00	0.00	
12,400.00	90.24	89.81	6,446.11	-675.19	5,493.26	5,490.99	0.00	0.00	0.00	
12,500.00	90.24	89.81	6,445.69	-674.87	5,593.26	5,590.99	0.00	0.00	0.00	
12,600.00	90.24	89.81	6,445.28	-674.54	5,693.25	5,690.99	0.00	0.00	0.00	
12,700.00	90.24	89.81	6,444.86	-674.22	5,793.25	5,790.99	0.00	0.00	0.00	
12,800.00	90.24	89.81	6,444.44	-673.90	5,893.25	5,890.98	0.00	0.00	0.00	
12,900.00	90.24	89.81	6,444.02	-673.57	5,993.25	5,990.98	0.00	0.00	0.00	
13,000.00	90.24	89.81	6,443.61	-673.25	6,093.25	6,090.98	0.00	0.00	0.00	
13,100.00	90.24	89.81	6,443.19	-672.93	6,193.25	6,190.98	0.00	0.00	0.00	
13,200.00	90.24	89.81	6,442.77	-672.60	6,293.25	6,290.98	0.00	0.00	0.00	
13,300.00	90.24	89.81	6,442.36	-672.28	6,393.25	6,390.98	0.00	0.00	0.00	
13,400.00	90.24	89.81	6,441.94	-671.96	6,493.24	6,490.98	0.00	0.00	0.00	
13,500.00	90.24	89.81	6,441.52	-671.63	6,593.24	6,590.98	0.00	0.00	0.00	
13,600.00	90.24	89.81	6,441.11	-671.31	6,693.24	6,690.98	0.00	0.00	0.00	
13,700.00	90.24	89.81	6,440.69	-670.99	6,793.24	6,790.98	0.00	0.00	0.00	
13,800.00	90.24	89.81	6,440.27	-670.67	6,893.24	6,890.98	0.00	0.00	0.00	
13,900.00	90.24	89.81	6,439.85	-670.34	6,993.24	6,990.98	0.00	0.00	0.00	
14,000.00	90.24	89.81	6,439.44	-670.02	7,093.24	7,090.97	0.00	0.00	0.00	
14,100.00	90.24	89.81	6,439.02	-669.70	7,193.23	7,190.97	0.00	0.00	0.00	
14,200.00	90.24	89.81	6,438.60	-669.37	7,293.23	7,290.97	0.00	0.00	0.00	
14,300.00	90.24	89.81	6,438.19	-669.05	7,393.23	7,390.97	0.00	0.00	0.00	
14,400.00	90.24	89.81	6,437.77	-668.73	7,493.23	7,490.97	0.00	0.00	0.00	
14,500.00	90.24	89.81	6,437.35	-668.40	7,593.23	7,590.97	0.00	0.00	0.00	
14,600.00	90.24	89.81	6,436.93	-668.08	7,693.23	7,690.97	0.00	0.00	0.00	
14,700.00	90.24	89.81	6,436.52	-667.76	7,793.23	7,790.97	0.00	0.00	0.00	
14,800.00	90.24	89.81	6,436.10	-667.44	7,893.22	7,890.97	0.00	0.00	0.00	
14,900.00	90.24	89.81	6,435.68	-667.11	7,993.22	7,990.97	0.00	0.00	0.00	
15,000.00	90.24	89.81	6,435.27	-666.79	8,093.22	8,090.97	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-9-9
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-9-9	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)	
15,100.00	90.24	89.81	6,434.85	-666.47	8,193.22	8,190.97	0.00	0.00	0.00	
15,200.00	90.24	89.81	6,434.43	-666.14	8,293.22	8,290.96	0.00	0.00	0.00	
15,300.00	90.24	89.81	6,434.01	-665.82	8,393.22	8,390.96	0.00	0.00	0.00	
15,400.00	90.24	89.81	6,433.60	-665.50	8,493.22	8,490.96	0.00	0.00	0.00	
15,500.00	90.24	89.81	6,433.18	-665.17	8,593.21	8,590.96	0.00	0.00	0.00	
15,600.00	90.24	89.81	6,432.76	-664.85	8,693.21	8,690.96	0.00	0.00	0.00	
15,700.00	90.24	89.81	6,432.35	-664.53	8,793.21	8,790.96	0.00	0.00	0.00	
15,800.00	90.24	89.81	6,431.93	-664.20	8,893.21	8,890.96	0.00	0.00	0.00	
15,900.00	90.24	89.81	6,431.51	-663.88	8,993.21	8,990.96	0.00	0.00	0.00	
16,000.00	90.24	89.81	6,431.09	-663.56	9,093.21	9,090.96	0.00	0.00	0.00	
16,100.00	90.24	89.81	6,430.68	-663.24	9,193.21	9,190.96	0.00	0.00	0.00	
16,200.00	90.24	89.81	6,430.26	-662.91	9,293.20	9,290.96	0.00	0.00	0.00	
16,300.00	90.24	89.81	6,429.84	-662.59	9,393.20	9,390.95	0.00	0.00	0.00	
16,400.00	90.24	89.81	6,429.43	-662.27	9,493.20	9,490.95	0.00	0.00	0.00	
16,500.00	90.24	89.81	6,429.01	-661.94	9,593.20	9,590.95	0.00	0.00	0.00	
16,502.10	90.24	89.81	6,429.00	-661.94	9,595.30	9,593.06	0.00	0.00	0.00	
TD Well @ 16502.10ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,715.65	1,700.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft	
723.00	720.85	-27.16	-27.93	Hold Tangent @ 723.00ft	
5,833.55	5,761.90	-612.76	-630.11	KOP @ 5833.55ft :: DLS = 9°/100'	
6,911.61	6,469.00	-692.92	4.95	End Build @ 6911.61ft	
16,502.10	6,429.00	-661.94	9,595.30	TD Well @ 16502.10ft	