

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**TIMBRO 9-59-8B PAD**

**TIMBRO 9-59 8B-9-4**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

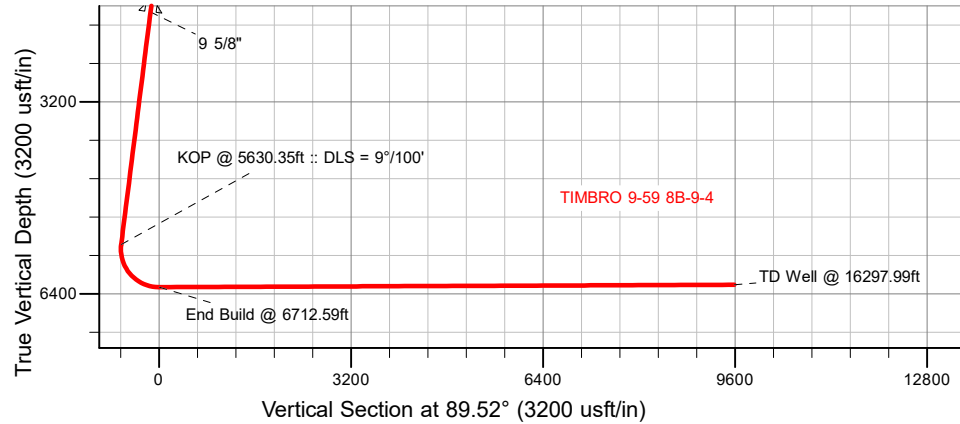
**06 April, 2019**

Project: WATTENBERG FIELD  
Site: TIMBRO 9-59-8B PAD  
Well: TIMBRO 9-59 8B-9-4  
Wellbore: Wellbore #1  
Design: Design #1

# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
1700.00	1711.87	9 5/8"	9-5/8

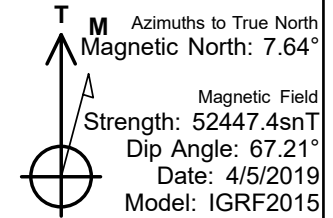
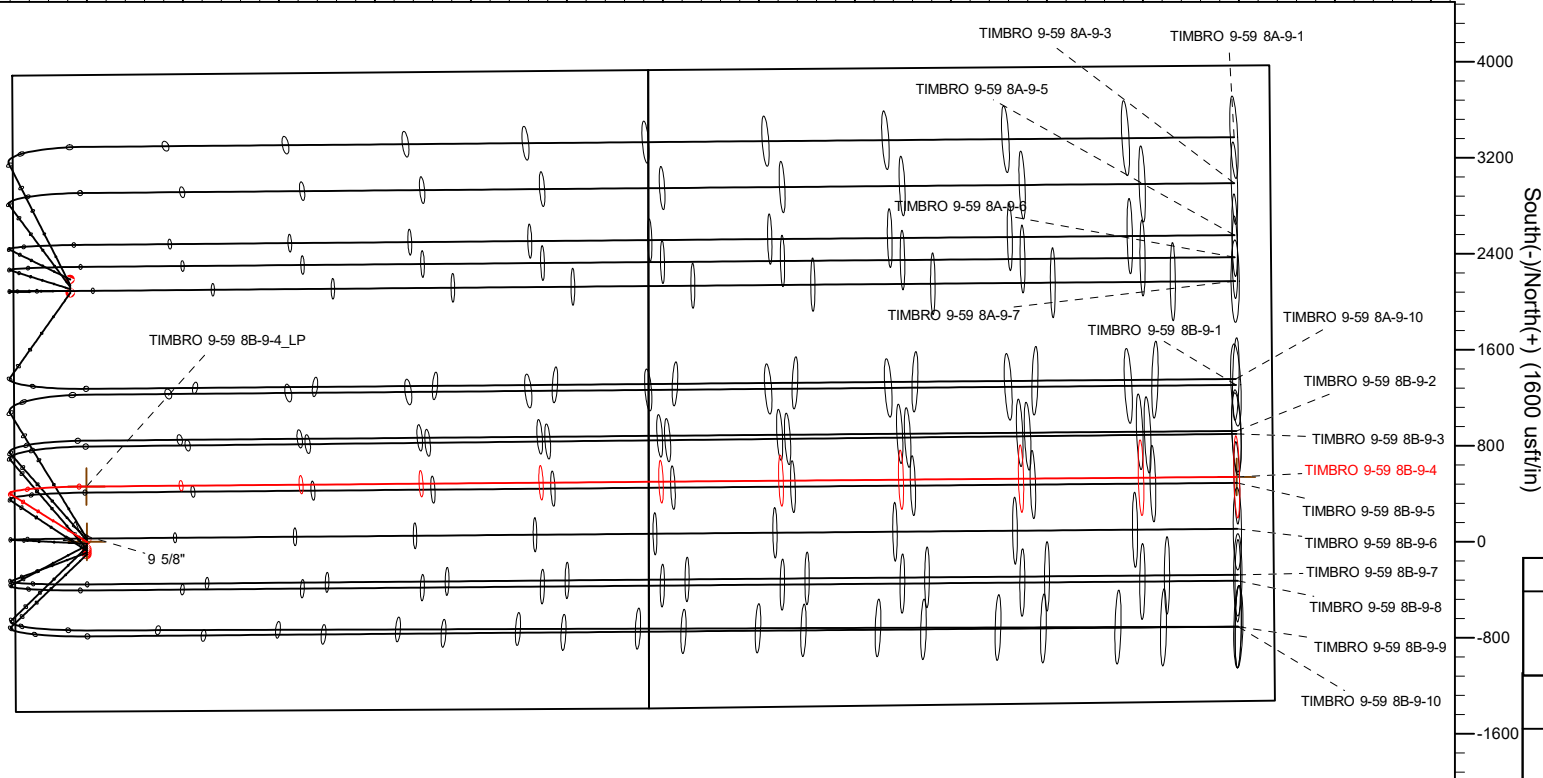


## SECTION DETAILS

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	350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	
3	775.50	8.51	302.10	773.94	16.76	-26.72	2.00	302.10	-26.58	
4	5630.35	8.51	302.10	5575.34	398.53	-635.32	0.00	0.00	-631.96	
5	6712.59	90.24	89.52	6289.00	461.59	-1.52	9.00	147.11	2.34	
6	16297.99	90.24	89.52	6249.00	541.82	9583.46	0.00	0.00	9587.66	TIMBRO 9-59 8B-9-4_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
TIMBRO 9-59 8B-9-4_SHL	0.00	0.00	0.00	40.761613	-104.009524
TIMBRO 9-59 8B-9-4_BHL	6249.00	541.82	9583.46	40.763095	-103.974929



**SHL**  
**1413' FSL**  
**600' FWL**

**LP**  
**1874' FSL**  
**600' FWL**

**BHL**  
**1869' FSL**  
**300' FEL**

## WELL DETAILS: TIMBRO 9-59 8B-9-4

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

Plan: Design #1 (TIMBRO 9-59 8B-9-4/Wellbore #1)

Date: 4/6/2019

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-4
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Site:</b>	TIMBRO 9-59-8B PAD	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	WATTENBERG FIELD		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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-9-4					
Well Position	+N/-S	-29.88 usft	Northing:	1,523,770.96 usft	Latitude:	40.761613
	+E/-W	0.00 usft	Easting:	3,412,879.22 usft	Longitude:	-104.009524
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	5,045.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	4/5/2019	7.64	67.21	52,447.36688103

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

<b>Plan Survey Tool Program</b>	<b>Date</b>	4/6/2019		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	1,700.00	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination
2	1,700.00	16,297.99	Design #1 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00	
775.50	8.51	302.10	773.94	16.76	-26.72	2.00	2.00	0.00	302.10	
5,630.35	8.51	302.10	5,575.34	398.53	-635.32	0.00	0.00	0.00	0.00	
6,712.59	90.24	89.52	6,289.00	461.59	-1.52	9.00	7.55	13.62	147.11	
16,297.99	90.24	89.52	6,249.00	541.82	9,583.46	0.00	0.00	0.00	0.00	TIMBRO 9-59 8B-9-4

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-4
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Site:</b>	TIMBRO 9-59-8B PAD	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 350.00ft									
400.00	1.00	302.10	400.00	0.23	-0.37	-0.37	2.00	2.00	0.00
500.00	3.00	302.10	499.93	2.09	-3.33	-3.31	2.00	2.00	0.00
600.00	5.00	302.10	599.68	5.79	-9.23	-9.19	2.00	2.00	0.00
700.00	7.00	302.10	699.13	11.35	-18.09	-17.99	2.00	2.00	0.00
775.50	8.51	302.10	773.94	16.76	-26.72	-26.58	2.00	2.00	0.00
Hold Tangent @ 775.50ft									
800.00	8.51	302.10	798.17	18.69	-29.79	-29.63	0.00	0.00	0.00
900.00	8.51	302.10	897.07	26.55	-42.33	-42.10	0.00	0.00	0.00
1,000.00	8.51	302.10	995.97	34.42	-54.86	-54.57	0.00	0.00	0.00
1,100.00	8.51	302.10	1,094.86	42.28	-67.40	-67.04	0.00	0.00	0.00
1,200.00	8.51	302.10	1,193.76	50.14	-79.93	-79.51	0.00	0.00	0.00
1,300.00	8.51	302.10	1,292.66	58.01	-92.47	-91.98	0.00	0.00	0.00
1,400.00	8.51	302.10	1,391.56	65.87	-105.01	-104.45	0.00	0.00	0.00
1,500.00	8.51	302.10	1,490.46	73.73	-117.54	-116.92	0.00	0.00	0.00
1,600.00	8.51	302.10	1,589.36	81.60	-130.08	-129.39	0.00	0.00	0.00
1,700.00	8.51	302.10	1,688.26	89.46	-142.61	-141.86	0.00	0.00	0.00
1,711.87	8.51	302.10	1,700.00	90.39	-144.10	-143.34	0.00	0.00	0.00
9 5/8"									
1,800.00	8.51	302.10	1,787.16	97.32	-155.15	-154.33	0.00	0.00	0.00
1,900.00	8.51	302.10	1,886.06	105.19	-167.69	-166.80	0.00	0.00	0.00
2,000.00	8.51	302.10	1,984.96	113.05	-180.22	-179.27	0.00	0.00	0.00
2,100.00	8.51	302.10	2,083.85	120.92	-192.76	-191.74	0.00	0.00	0.00
2,200.00	8.51	302.10	2,182.75	128.78	-205.29	-204.21	0.00	0.00	0.00
2,300.00	8.51	302.10	2,281.65	136.64	-217.83	-216.68	0.00	0.00	0.00
2,400.00	8.51	302.10	2,380.55	144.51	-230.36	-229.15	0.00	0.00	0.00
2,500.00	8.51	302.10	2,479.45	152.37	-242.90	-241.62	0.00	0.00	0.00
2,600.00	8.51	302.10	2,578.35	160.23	-255.44	-254.09	0.00	0.00	0.00
2,700.00	8.51	302.10	2,677.25	168.10	-267.97	-266.55	0.00	0.00	0.00
2,800.00	8.51	302.10	2,776.15	175.96	-280.51	-279.02	0.00	0.00	0.00
2,900.00	8.51	302.10	2,875.05	183.83	-293.04	-291.49	0.00	0.00	0.00
3,000.00	8.51	302.10	2,973.95	191.69	-305.58	-303.96	0.00	0.00	0.00
3,100.00	8.51	302.10	3,072.84	199.55	-318.12	-316.43	0.00	0.00	0.00
3,200.00	8.51	302.10	3,171.74	207.42	-330.65	-328.90	0.00	0.00	0.00
3,300.00	8.51	302.10	3,270.64	215.28	-343.19	-341.37	0.00	0.00	0.00
3,400.00	8.51	302.10	3,369.54	223.14	-355.72	-353.84	0.00	0.00	0.00
3,500.00	8.51	302.10	3,468.44	231.01	-368.26	-366.31	0.00	0.00	0.00
3,600.00	8.51	302.10	3,567.34	238.87	-380.80	-378.78	0.00	0.00	0.00
3,700.00	8.51	302.10	3,666.24	246.74	-393.33	-391.25	0.00	0.00	0.00
3,800.00	8.51	302.10	3,765.14	254.60	-405.87	-403.72	0.00	0.00	0.00
3,900.00	8.51	302.10	3,864.04	262.46	-418.40	-416.19	0.00	0.00	0.00
4,000.00	8.51	302.10	3,962.94	270.33	-430.94	-428.66	0.00	0.00	0.00
4,100.00	8.51	302.10	4,061.83	278.19	-443.47	-441.13	0.00	0.00	0.00
4,200.00	8.51	302.10	4,160.73	286.05	-456.01	-453.60	0.00	0.00	0.00
4,300.00	8.51	302.10	4,259.63	293.92	-468.55	-466.07	0.00	0.00	0.00
4,400.00	8.51	302.10	4,358.53	301.78	-481.08	-478.54	0.00	0.00	0.00
4,500.00	8.51	302.10	4,457.43	309.65	-493.62	-491.01	0.00	0.00	0.00
4,600.00	8.51	302.10	4,556.33	317.51	-506.15	-503.48	0.00	0.00	0.00

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-4
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Site:</b>	TIMBRO 9-59-8B PAD	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	8.51	302.10	4,655.23	325.37	-518.69	-515.95	0.00	0.00	0.00
4,800.00	8.51	302.10	4,754.13	333.24	-531.23	-528.42	0.00	0.00	0.00
4,900.00	8.51	302.10	4,853.03	341.10	-543.76	-540.89	0.00	0.00	0.00
5,000.00	8.51	302.10	4,951.93	348.96	-556.30	-553.35	0.00	0.00	0.00
5,100.00	8.51	302.10	5,050.82	356.83	-568.83	-565.82	0.00	0.00	0.00
5,200.00	8.51	302.10	5,149.72	364.69	-581.37	-578.29	0.00	0.00	0.00
5,300.00	8.51	302.10	5,248.62	372.56	-593.91	-590.76	0.00	0.00	0.00
5,400.00	8.51	302.10	5,347.52	380.42	-606.44	-603.23	0.00	0.00	0.00
5,500.00	8.51	302.10	5,446.42	388.28	-618.98	-615.70	0.00	0.00	0.00
5,600.00	8.51	302.10	5,545.32	396.15	-631.51	-628.17	0.00	0.00	0.00
5,630.35	8.51	302.10	5,575.34	398.53	-635.32	-631.96	0.00	0.00	0.00
KOP @ 5630.35ft :: DLS = 9°/100'									
5,700.00	4.69	348.52	5,644.55	404.07	-640.26	-636.85	9.00	-5.48	66.65
5,800.00	9.32	60.07	5,743.93	412.14	-634.04	-630.57	9.00	4.62	71.55
5,900.00	17.70	74.87	5,841.11	420.16	-612.31	-608.76	9.00	8.38	14.80
6,000.00	26.48	80.19	5,933.68	427.94	-575.59	-571.98	9.00	8.78	5.32
6,100.00	35.37	82.98	6,019.38	435.29	-524.79	-521.12	9.00	8.89	2.79
6,200.00	44.30	84.76	6,096.10	442.03	-461.16	-457.44	9.00	8.93	1.78
6,300.00	53.25	86.05	6,161.94	447.99	-386.26	-382.50	9.00	8.95	1.29
6,400.00	62.20	87.07	6,215.28	453.03	-301.95	-298.15	9.00	8.96	1.02
6,500.00	71.17	87.93	6,254.82	457.01	-210.30	-206.46	9.00	8.97	0.86
6,600.00	80.14	88.70	6,279.57	459.85	-113.56	-109.70	9.00	8.97	0.77
6,700.00	89.11	89.43	6,288.93	461.47	-14.11	-10.25	9.00	8.97	0.73
6,712.59	90.24	89.52	6,289.00	461.59	-1.52	2.34	9.00	8.97	0.72
End Build @ 6712.59ft									
6,800.00	90.24	89.52	6,288.64	462.32	85.88	89.75	0.00	0.00	0.00
6,900.00	90.24	89.52	6,288.22	463.15	185.88	189.75	0.00	0.00	0.00
7,000.00	90.24	89.52	6,287.80	463.99	285.87	289.75	0.00	0.00	0.00
7,100.00	90.24	89.52	6,287.39	464.83	385.87	389.75	0.00	0.00	0.00
7,200.00	90.24	89.52	6,286.97	465.67	485.87	489.75	0.00	0.00	0.00
7,300.00	90.24	89.52	6,286.55	466.50	585.86	589.75	0.00	0.00	0.00
7,400.00	90.24	89.52	6,286.13	467.34	685.86	689.75	0.00	0.00	0.00
7,500.00	90.24	89.52	6,285.72	468.18	785.85	789.75	0.00	0.00	0.00
7,600.00	90.24	89.52	6,285.30	469.01	885.85	889.75	0.00	0.00	0.00
7,700.00	90.24	89.52	6,284.88	469.85	985.84	989.74	0.00	0.00	0.00
7,800.00	90.24	89.52	6,284.46	470.69	1,085.84	1,089.74	0.00	0.00	0.00
7,900.00	90.24	89.52	6,284.05	471.52	1,185.83	1,189.74	0.00	0.00	0.00
8,000.00	90.24	89.52	6,283.63	472.36	1,285.83	1,289.74	0.00	0.00	0.00
8,100.00	90.24	89.52	6,283.21	473.20	1,385.83	1,389.74	0.00	0.00	0.00
8,200.00	90.24	89.52	6,282.79	474.04	1,485.82	1,489.74	0.00	0.00	0.00
8,300.00	90.24	89.52	6,282.38	474.87	1,585.82	1,589.74	0.00	0.00	0.00
8,400.00	90.24	89.52	6,281.96	475.71	1,685.81	1,689.74	0.00	0.00	0.00
8,500.00	90.24	89.52	6,281.54	476.55	1,785.81	1,789.74	0.00	0.00	0.00
8,600.00	90.24	89.52	6,281.13	477.38	1,885.80	1,889.74	0.00	0.00	0.00
8,700.00	90.24	89.52	6,280.71	478.22	1,985.80	1,989.74	0.00	0.00	0.00
8,800.00	90.24	89.52	6,280.29	479.06	2,085.80	2,089.74	0.00	0.00	0.00
8,900.00	90.24	89.52	6,279.87	479.89	2,185.79	2,189.73	0.00	0.00	0.00
9,000.00	90.24	89.52	6,279.46	480.73	2,285.79	2,289.73	0.00	0.00	0.00
9,100.00	90.24	89.52	6,279.04	481.57	2,385.78	2,389.73	0.00	0.00	0.00
9,200.00	90.24	89.52	6,278.62	482.41	2,485.78	2,489.73	0.00	0.00	0.00
9,300.00	90.24	89.52	6,278.20	483.24	2,585.77	2,589.73	0.00	0.00	0.00
9,400.00	90.24	89.52	6,277.79	484.08	2,685.77	2,689.73	0.00	0.00	0.00
9,500.00	90.24	89.52	6,277.37	484.92	2,785.76	2,789.73	0.00	0.00	0.00
9,600.00	90.24	89.52	6,276.95	485.75	2,885.76	2,889.73	0.00	0.00	0.00

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-4
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Site:</b>	TIMBRO 9-59-8B PAD	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	89.52	6,276.53	486.59	2,985.76	2,989.73	0.00	0.00	0.00	
9,800.00	90.24	89.52	6,276.12	487.43	3,085.75	3,089.73	0.00	0.00	0.00	
9,900.00	90.24	89.52	6,275.70	488.26	3,185.75	3,189.73	0.00	0.00	0.00	
10,000.00	90.24	89.52	6,275.28	489.10	3,285.74	3,289.73	0.00	0.00	0.00	
10,100.00	90.24	89.52	6,274.87	489.94	3,385.74	3,389.72	0.00	0.00	0.00	
10,200.00	90.24	89.52	6,274.45	490.78	3,485.73	3,489.72	0.00	0.00	0.00	
10,300.00	90.24	89.52	6,274.03	491.61	3,585.73	3,589.72	0.00	0.00	0.00	
10,400.00	90.24	89.52	6,273.61	492.45	3,685.73	3,689.72	0.00	0.00	0.00	
10,500.00	90.24	89.52	6,273.20	493.29	3,785.72	3,789.72	0.00	0.00	0.00	
10,600.00	90.24	89.52	6,272.78	494.12	3,885.72	3,889.72	0.00	0.00	0.00	
10,700.00	90.24	89.52	6,272.36	494.96	3,985.71	3,989.72	0.00	0.00	0.00	
10,800.00	90.24	89.52	6,271.94	495.80	4,085.71	4,089.72	0.00	0.00	0.00	
10,900.00	90.24	89.52	6,271.53	496.63	4,185.70	4,189.72	0.00	0.00	0.00	
11,000.00	90.24	89.52	6,271.11	497.47	4,285.70	4,289.72	0.00	0.00	0.00	
11,100.00	90.24	89.52	6,270.69	498.31	4,385.69	4,389.72	0.00	0.00	0.00	
11,200.00	90.24	89.52	6,270.28	499.14	4,485.69	4,489.71	0.00	0.00	0.00	
11,300.00	90.24	89.52	6,269.86	499.98	4,585.69	4,589.71	0.00	0.00	0.00	
11,400.00	90.24	89.52	6,269.44	500.82	4,685.68	4,689.71	0.00	0.00	0.00	
11,500.00	90.24	89.52	6,269.02	501.66	4,785.68	4,789.71	0.00	0.00	0.00	
11,600.00	90.24	89.52	6,268.61	502.49	4,885.67	4,889.71	0.00	0.00	0.00	
11,700.00	90.24	89.52	6,268.19	503.33	4,985.67	4,989.71	0.00	0.00	0.00	
11,800.00	90.24	89.52	6,267.77	504.17	5,085.66	5,089.71	0.00	0.00	0.00	
11,900.00	90.24	89.52	6,267.35	505.00	5,185.66	5,189.71	0.00	0.00	0.00	
12,000.00	90.24	89.52	6,266.94	505.84	5,285.66	5,289.71	0.00	0.00	0.00	
12,100.00	90.24	89.52	6,266.52	506.68	5,385.65	5,389.71	0.00	0.00	0.00	
12,200.00	90.24	89.52	6,266.10	507.51	5,485.65	5,489.71	0.00	0.00	0.00	
12,300.00	90.24	89.52	6,265.68	508.35	5,585.64	5,589.71	0.00	0.00	0.00	
12,400.00	90.24	89.52	6,265.27	509.19	5,685.64	5,689.70	0.00	0.00	0.00	
12,500.00	90.24	89.52	6,264.85	510.03	5,785.63	5,789.70	0.00	0.00	0.00	
12,600.00	90.24	89.52	6,264.43	510.86	5,885.63	5,889.70	0.00	0.00	0.00	
12,700.00	90.24	89.52	6,264.02	511.70	5,985.62	5,989.70	0.00	0.00	0.00	
12,800.00	90.24	89.52	6,263.60	512.54	6,085.62	6,089.70	0.00	0.00	0.00	
12,900.00	90.24	89.52	6,263.18	513.37	6,185.62	6,189.70	0.00	0.00	0.00	
13,000.00	90.24	89.52	6,262.76	514.21	6,285.61	6,289.70	0.00	0.00	0.00	
13,100.00	90.24	89.52	6,262.35	515.05	6,385.61	6,389.70	0.00	0.00	0.00	
13,200.00	90.24	89.52	6,261.93	515.88	6,485.60	6,489.70	0.00	0.00	0.00	
13,300.00	90.24	89.52	6,261.51	516.72	6,585.60	6,589.70	0.00	0.00	0.00	
13,400.00	90.24	89.52	6,261.09	517.56	6,685.59	6,689.70	0.00	0.00	0.00	
13,500.00	90.24	89.52	6,260.68	518.40	6,785.59	6,789.69	0.00	0.00	0.00	
13,600.00	90.24	89.52	6,260.26	519.23	6,885.59	6,889.69	0.00	0.00	0.00	
13,700.00	90.24	89.52	6,259.84	520.07	6,985.58	6,989.69	0.00	0.00	0.00	
13,800.00	90.24	89.52	6,259.42	520.91	7,085.58	7,089.69	0.00	0.00	0.00	
13,900.00	90.24	89.52	6,259.01	521.74	7,185.57	7,189.69	0.00	0.00	0.00	
14,000.00	90.24	89.52	6,258.59	522.58	7,285.57	7,289.69	0.00	0.00	0.00	
14,100.00	90.24	89.52	6,258.17	523.42	7,385.56	7,389.69	0.00	0.00	0.00	
14,200.00	90.24	89.52	6,257.76	524.25	7,485.56	7,489.69	0.00	0.00	0.00	
14,300.00	90.24	89.52	6,257.34	525.09	7,585.55	7,589.69	0.00	0.00	0.00	
14,400.00	90.24	89.52	6,256.92	525.93	7,685.55	7,689.69	0.00	0.00	0.00	
14,500.00	90.24	89.52	6,256.50	526.77	7,785.55	7,789.69	0.00	0.00	0.00	
14,600.00	90.24	89.52	6,256.09	527.60	7,885.54	7,889.69	0.00	0.00	0.00	
14,700.00	90.24	89.52	6,255.67	528.44	7,985.54	7,989.68	0.00	0.00	0.00	
14,800.00	90.24	89.52	6,255.25	529.28	8,085.53	8,089.68	0.00	0.00	0.00	
14,900.00	90.24	89.52	6,254.83	530.11	8,185.53	8,189.68	0.00	0.00	0.00	
15,000.00	90.24	89.52	6,254.42	530.95	8,285.52	8,289.68	0.00	0.00	0.00	

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well TIMBRO 9-59 8B-9-4
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5069.00usft (RIG)
<b>Site:</b>	TIMBRO 9-59-8B PAD	<b>North Reference:</b>	True
<b>Well:</b>	TIMBRO 9-59 8B-9-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	89.52	6,254.00	531.79	8,385.52	8,389.68	0.00	0.00	0.00	
15,200.00	90.24	89.52	6,253.58	532.62	8,485.52	8,489.68	0.00	0.00	0.00	
15,300.00	90.24	89.52	6,253.16	533.46	8,585.51	8,589.68	0.00	0.00	0.00	
15,400.00	90.24	89.52	6,252.75	534.30	8,685.51	8,689.68	0.00	0.00	0.00	
15,500.00	90.24	89.52	6,252.33	535.14	8,785.50	8,789.68	0.00	0.00	0.00	
15,600.00	90.24	89.52	6,251.91	535.97	8,885.50	8,889.68	0.00	0.00	0.00	
15,700.00	90.24	89.52	6,251.50	536.81	8,985.49	8,989.68	0.00	0.00	0.00	
15,800.00	90.24	89.52	6,251.08	537.65	9,085.49	9,089.67	0.00	0.00	0.00	
15,900.00	90.24	89.52	6,250.66	538.48	9,185.48	9,189.67	0.00	0.00	0.00	
16,000.00	90.24	89.52	6,250.24	539.32	9,285.48	9,289.67	0.00	0.00	0.00	
16,100.00	90.24	89.52	6,249.83	540.16	9,385.48	9,389.67	0.00	0.00	0.00	
16,200.00	90.24	89.52	6,249.41	540.99	9,485.47	9,489.67	0.00	0.00	0.00	
16,297.99	90.24	89.52	6,249.00	541.82	9,583.46	9,587.66	0.00	0.00	0.00	
TD Well @ 16297.99ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,711.87	1,700.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
350.00	350.00	0.00	0.00	Begin Nudge @ 350.00ft	
775.50	773.94	16.76	-26.72	Hold Tangent @ 775.50ft	
5,630.35	5,575.34	398.53	-635.32	KOP @ 5630.35ft :: DLS = 9°/100'	
6,712.59	6,289.00	461.59	-1.52	End Build @ 6712.59ft	
16,297.99	6,249.00	541.82	9,583.46	TD Well @ 16297.99ft	