

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**1N-65W-12 SAFI 1224 PAD**

**SAFI 1224-03H**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**16 May, 2019**

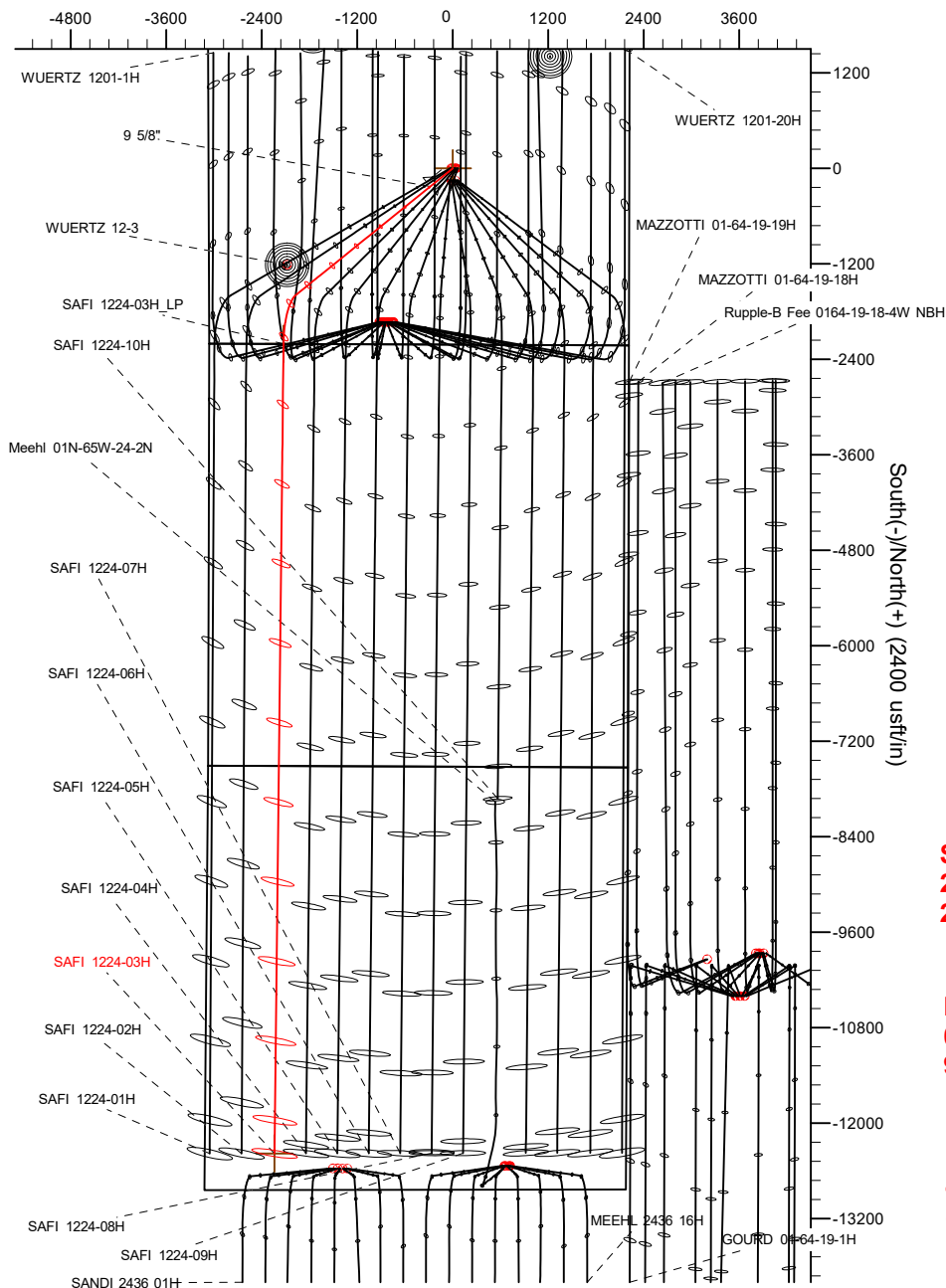
Project: WATTENBERG FIELD  
Site: 1N-65W-12 SAFI 1224 PAD  
Well: SAFI 1224-03H  
Wellbore: Wellbore #1  
Design: Design #1

# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
1700.00	1758.41	9 5/8"	9-5/8

West(-)/East(+) (2400 usft/in)



SHL  
2215' FSL  
2219' FEL

LP  
0' FNL  
933' FWL

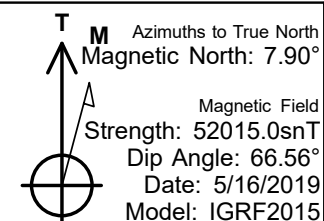
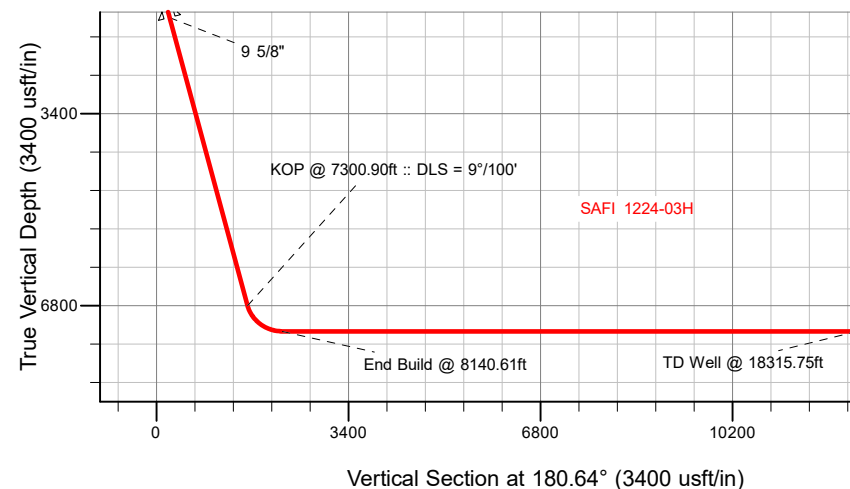
BHL  
460' FSL  
877' FWL

## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
260.00	0.00	0.00	260.00	0.00	0.00	0.00	0.00	0.00	
1411.50	23.03	231.08	1380.74	-143.44	-177.64	2.00	231.08	145.42	
7300.90	23.03	231.08	6800.76	-1590.90	-1970.22	0.00	0.00	1612.81	
8140.61	90.00	180.64	7255.00	-2205.76	-2125.92	9.00	-52.76	2229.37	
18315.75	90.00	180.64	7255.00	-12380.27	-2238.79	0.00	0.00	12404.51	SAFI 1224-03H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SAFI 1224-03H_SHL	0.00	0.00	0.00	40.064786	-104.610619
SAFI 1224-03H_BHL	7255.00	-12380.27	-2238.79	40.030799	-104.618614



## WELL DETAILS: SAFI 1224-03H

GL = 4970'

RKB = 24' @ 4994.00usft (RIG)

Plan: Design #1 (SAFI 1224-03H/Wellbore #1)

Date: 5/16/2019

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SAFI 1224-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-03H	<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		1N-65W-12 SAFI 1224 PAD			
Site Position:		Northing:	1,267,795.88 usft	Latitude:	40.065068
From:	Lat/Long	Easting:	3,248,744.87 usft	Longitude:	-104.611250
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.57 °

Well	SAFI 1224-03H					
Well Position	+N/-S	-102.70 usft	Northing:	1,267,694.96 usft	Latitude:	40.064786
	+E/-W	176.61 usft	Easting:	3,248,922.50 usft	Longitude:	-104.610619
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,970.00 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	5/16/2019	7.90	66.56	52,015.02780795

<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	180.64

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/16/2019		
<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	18,315.75	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	
260.00	0.00	0.00	260.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,411.50	23.03	231.08	1,380.74	-143.44	-177.64	2.00	2.00	0.00	231.08	
7,300.90	23.03	231.08	6,800.76	-1,590.90	-1,970.22	0.00	0.00	0.00	0.00	
8,140.61	90.00	180.64	7,255.00	-2,205.76	-2,125.92	9.00	7.98	-6.01	-52.76	
18,315.75	90.00	180.64	7,255.00	-12,380.27	-2,238.79	0.00	0.00	0.00	0.00	SAFI 1224-03H_BHL

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SAFI 1224-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-03H	<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
260.00	0.00	0.00	260.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 260.00ft									
300.00	0.80	231.08	300.00	-0.18	-0.22	0.18	2.00	2.00	0.00
400.00	2.80	231.08	399.94	-2.15	-2.66	2.18	2.00	2.00	0.00
500.00	4.80	231.08	499.72	-6.31	-7.82	6.40	2.00	2.00	0.00
600.00	6.80	231.08	599.20	-12.66	-15.68	12.83	2.00	2.00	0.00
700.00	8.80	231.08	698.27	-21.19	-26.24	21.48	2.00	2.00	0.00
800.00	10.80	231.08	796.81	-31.88	-39.48	32.32	2.00	2.00	0.00
900.00	12.80	231.08	894.69	-44.73	-55.39	45.34	2.00	2.00	0.00
1,000.00	14.80	231.08	991.80	-59.71	-73.95	60.53	2.00	2.00	0.00
1,100.00	16.80	231.08	1,088.02	-76.81	-95.13	77.87	2.00	2.00	0.00
1,200.00	18.80	231.08	1,183.22	-96.02	-118.91	97.34	2.00	2.00	0.00
1,300.00	20.80	231.08	1,277.31	-117.30	-145.27	118.91	2.00	2.00	0.00
1,400.00	22.80	231.08	1,370.15	-140.63	-174.16	142.56	2.00	2.00	0.00
1,411.50	23.03	231.08	1,380.74	-143.44	-177.64	145.42	2.00	2.00	0.00
Hold Tangent @ 1411.50ft									
1,500.00	23.03	231.08	1,462.19	-165.19	-204.58	167.47	0.00	0.00	0.00
1,600.00	23.03	231.08	1,554.22	-189.77	-235.02	192.38	0.00	0.00	0.00
1,700.00	23.03	231.08	1,646.25	-214.35	-265.45	217.30	0.00	0.00	0.00
1,758.41	23.03	231.08	1,700.00	-228.70	-283.23	231.85	0.00	0.00	0.00
9 5/8"									
1,800.00	23.03	231.08	1,738.28	-238.92	-295.89	242.21	0.00	0.00	0.00
1,900.00	23.03	231.08	1,830.31	-263.50	-326.33	267.13	0.00	0.00	0.00
2,000.00	23.03	231.08	1,922.34	-288.08	-356.76	292.05	0.00	0.00	0.00
2,100.00	23.03	231.08	2,014.37	-312.66	-387.20	316.96	0.00	0.00	0.00
2,200.00	23.03	231.08	2,106.40	-337.23	-417.64	341.88	0.00	0.00	0.00
2,300.00	23.03	231.08	2,198.43	-361.81	-448.08	366.79	0.00	0.00	0.00
2,400.00	23.03	231.08	2,290.46	-386.39	-478.51	391.71	0.00	0.00	0.00
2,500.00	23.03	231.08	2,382.49	-410.97	-508.95	416.62	0.00	0.00	0.00
2,600.00	23.03	231.08	2,474.52	-435.54	-539.39	441.54	0.00	0.00	0.00
2,700.00	23.03	231.08	2,566.55	-460.12	-569.83	466.46	0.00	0.00	0.00
2,800.00	23.03	231.08	2,658.58	-484.70	-600.26	491.37	0.00	0.00	0.00
2,900.00	23.03	231.08	2,750.61	-509.27	-630.70	516.29	0.00	0.00	0.00
3,000.00	23.03	231.08	2,842.64	-533.85	-661.14	541.20	0.00	0.00	0.00
3,100.00	23.03	231.08	2,934.67	-558.43	-691.57	566.12	0.00	0.00	0.00
3,200.00	23.03	231.08	3,026.70	-583.01	-722.01	591.04	0.00	0.00	0.00
3,300.00	23.03	231.08	3,118.73	-607.58	-752.45	615.95	0.00	0.00	0.00
3,400.00	23.03	231.08	3,210.76	-632.16	-782.89	640.87	0.00	0.00	0.00
3,500.00	23.03	231.08	3,302.79	-656.74	-813.32	665.78	0.00	0.00	0.00
3,600.00	23.03	231.08	3,394.82	-681.32	-843.76	690.70	0.00	0.00	0.00
3,700.00	23.03	231.08	3,486.85	-705.89	-874.20	715.61	0.00	0.00	0.00
3,800.00	23.03	231.08	3,578.88	-730.47	-904.64	740.53	0.00	0.00	0.00
3,900.00	23.03	231.08	3,670.91	-755.05	-935.07	765.45	0.00	0.00	0.00
4,000.00	23.03	231.08	3,762.94	-779.63	-965.51	790.36	0.00	0.00	0.00
4,100.00	23.03	231.08	3,854.97	-804.20	-995.95	815.28	0.00	0.00	0.00
4,200.00	23.03	231.08	3,947.00	-828.78	-1,026.39	840.19	0.00	0.00	0.00
4,300.00	23.03	231.08	4,039.03	-853.36	-1,056.82	865.11	0.00	0.00	0.00
4,400.00	23.03	231.08	4,131.06	-877.94	-1,087.26	890.02	0.00	0.00	0.00
4,500.00	23.03	231.08	4,223.09	-902.51	-1,117.70	914.94	0.00	0.00	0.00
4,600.00	23.03	231.08	4,315.12	-927.09	-1,148.13	939.86	0.00	0.00	0.00

# Hewlett-Packard

## Planning Report

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<b>Well:</b>	SAFI 1224-03H	<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	23.03	231.08	4,407.15	-951.67	-1,178.57	964.77	0.00	0.00	0.00	
4,800.00	23.03	231.08	4,499.18	-976.24	-1,209.01	989.69	0.00	0.00	0.00	
4,900.00	23.03	231.08	4,591.21	-1,000.82	-1,239.45	1,014.60	0.00	0.00	0.00	
5,000.00	23.03	231.08	4,683.24	-1,025.40	-1,269.88	1,039.52	0.00	0.00	0.00	
5,100.00	23.03	231.08	4,775.27	-1,049.98	-1,300.32	1,064.44	0.00	0.00	0.00	
5,200.00	23.03	231.08	4,867.30	-1,074.55	-1,330.76	1,089.35	0.00	0.00	0.00	
5,300.00	23.03	231.08	4,959.33	-1,099.13	-1,361.20	1,114.27	0.00	0.00	0.00	
5,400.00	23.03	231.08	5,051.36	-1,123.71	-1,391.63	1,139.18	0.00	0.00	0.00	
5,500.00	23.03	231.08	5,143.39	-1,148.29	-1,422.07	1,164.10	0.00	0.00	0.00	
5,600.00	23.03	231.08	5,235.42	-1,172.86	-1,452.51	1,189.01	0.00	0.00	0.00	
5,700.00	23.03	231.08	5,327.45	-1,197.44	-1,482.95	1,213.93	0.00	0.00	0.00	
5,800.00	23.03	231.08	5,419.48	-1,222.02	-1,513.38	1,238.85	0.00	0.00	0.00	
5,900.00	23.03	231.08	5,511.51	-1,246.60	-1,543.82	1,263.76	0.00	0.00	0.00	
6,000.00	23.03	231.08	5,603.54	-1,271.17	-1,574.26	1,288.68	0.00	0.00	0.00	
6,100.00	23.03	231.08	5,695.57	-1,295.75	-1,604.69	1,313.59	0.00	0.00	0.00	
6,200.00	23.03	231.08	5,787.60	-1,320.33	-1,635.13	1,338.51	0.00	0.00	0.00	
6,300.00	23.03	231.08	5,879.63	-1,344.90	-1,665.57	1,363.43	0.00	0.00	0.00	
6,400.00	23.03	231.08	5,971.66	-1,369.48	-1,696.01	1,388.34	0.00	0.00	0.00	
6,500.00	23.03	231.08	6,063.69	-1,394.06	-1,726.44	1,413.26	0.00	0.00	0.00	
6,600.00	23.03	231.08	6,155.72	-1,418.64	-1,756.88	1,438.17	0.00	0.00	0.00	
6,700.00	23.03	231.08	6,247.75	-1,443.21	-1,787.32	1,463.09	0.00	0.00	0.00	
6,800.00	23.03	231.08	6,339.78	-1,467.79	-1,817.76	1,488.00	0.00	0.00	0.00	
6,900.00	23.03	231.08	6,431.81	-1,492.37	-1,848.19	1,512.92	0.00	0.00	0.00	
7,000.00	23.03	231.08	6,523.84	-1,516.95	-1,878.63	1,537.84	0.00	0.00	0.00	
7,100.00	23.03	231.08	6,615.87	-1,541.52	-1,909.07	1,562.75	0.00	0.00	0.00	
7,200.00	23.03	231.08	6,707.90	-1,566.10	-1,939.50	1,587.67	0.00	0.00	0.00	
7,300.00	23.03	231.08	6,799.93	-1,590.68	-1,969.94	1,612.58	0.00	0.00	0.00	
7,300.90	23.03	231.08	6,800.76	-1,590.90	-1,970.22	1,612.81	0.00	0.00	0.00	
KOP @ 7300.90ft :: DLS = 9°/100'										
7,400.00	29.25	216.45	6,889.77	-1,622.62	-1,999.74	1,644.85	9.00	6.28	-14.76	
7,500.00	36.60	206.82	6,973.71	-1,668.97	-2,027.77	1,691.52	9.00	7.35	-9.63	
7,600.00	44.49	200.13	7,049.67	-1,728.60	-2,053.33	1,751.42	9.00	7.89	-6.70	
7,700.00	52.67	195.11	7,115.80	-1,800.02	-2,075.80	1,823.10	9.00	8.18	-5.02	
7,800.00	61.02	191.09	7,170.46	-1,881.50	-2,094.62	1,904.77	9.00	8.35	-4.02	
7,900.00	69.47	187.68	7,212.30	-1,971.01	-2,109.32	1,994.44	9.00	8.45	-3.41	
8,000.00	77.98	184.64	7,240.30	-2,066.35	-2,119.56	2,089.90	9.00	8.51	-3.05	
8,100.00	86.53	181.78	7,253.77	-2,165.18	-2,125.07	2,188.79	9.00	8.54	-2.86	
8,140.61	90.00	180.64	7,255.00	-2,205.76	-2,125.92	2,229.37	9.00	8.55	-2.81	
End Build @ 8140.61ft										
8,200.00	90.00	180.64	7,255.00	-2,265.15	-2,126.58	2,288.76	0.00	0.00	0.00	
8,300.00	90.00	180.64	7,255.00	-2,365.14	-2,127.69	2,388.76	0.00	0.00	0.00	
8,400.00	90.00	180.64	7,255.00	-2,465.13	-2,128.80	2,488.76	0.00	0.00	0.00	
8,500.00	90.00	180.64	7,255.00	-2,565.13	-2,129.91	2,588.76	0.00	0.00	0.00	
8,600.00	90.00	180.64	7,255.00	-2,665.12	-2,131.02	2,688.76	0.00	0.00	0.00	
8,700.00	90.00	180.64	7,255.00	-2,765.11	-2,132.13	2,788.76	0.00	0.00	0.00	
8,800.00	90.00	180.64	7,255.00	-2,865.11	-2,133.24	2,888.76	0.00	0.00	0.00	
8,900.00	90.00	180.64	7,255.00	-2,965.10	-2,134.35	2,988.76	0.00	0.00	0.00	
9,000.00	90.00	180.64	7,255.00	-3,065.10	-2,135.46	3,088.76	0.00	0.00	0.00	
9,100.00	90.00	180.64	7,255.00	-3,165.09	-2,136.56	3,188.76	0.00	0.00	0.00	
9,200.00	90.00	180.64	7,255.00	-3,265.08	-2,137.67	3,288.76	0.00	0.00	0.00	
9,300.00	90.00	180.64	7,255.00	-3,365.08	-2,138.78	3,388.76	0.00	0.00	0.00	
9,400.00	90.00	180.64	7,255.00	-3,465.07	-2,139.89	3,488.76	0.00	0.00	0.00	
9,500.00	90.00	180.64	7,255.00	-3,565.07	-2,141.00	3,588.76	0.00	0.00	0.00	
9,600.00	90.00	180.64	7,255.00	-3,665.06	-2,142.11	3,688.76	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 SAFI 1224-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-03H	<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	90.00	180.64	7,255.00	-3,765.05	-2,143.22	3,788.76	0.00	0.00	0.00	
9,800.00	90.00	180.64	7,255.00	-3,865.05	-2,144.33	3,888.76	0.00	0.00	0.00	
9,900.00	90.00	180.64	7,255.00	-3,965.04	-2,145.44	3,988.76	0.00	0.00	0.00	
10,000.00	90.00	180.64	7,255.00	-4,065.03	-2,146.55	4,088.76	0.00	0.00	0.00	
10,100.00	90.00	180.64	7,255.00	-4,165.03	-2,147.66	4,188.76	0.00	0.00	0.00	
10,200.00	90.00	180.64	7,255.00	-4,265.02	-2,148.77	4,288.76	0.00	0.00	0.00	
10,300.00	90.00	180.64	7,255.00	-4,365.02	-2,149.88	4,388.76	0.00	0.00	0.00	
10,400.00	90.00	180.64	7,255.00	-4,465.01	-2,150.98	4,488.76	0.00	0.00	0.00	
10,500.00	90.00	180.64	7,255.00	-4,565.00	-2,152.09	4,588.76	0.00	0.00	0.00	
10,600.00	90.00	180.64	7,255.00	-4,665.00	-2,153.20	4,688.76	0.00	0.00	0.00	
10,700.00	90.00	180.64	7,255.00	-4,764.99	-2,154.31	4,788.76	0.00	0.00	0.00	
10,800.00	90.00	180.64	7,255.00	-4,864.99	-2,155.42	4,888.76	0.00	0.00	0.00	
10,900.00	90.00	180.64	7,255.00	-4,964.98	-2,156.53	4,988.76	0.00	0.00	0.00	
11,000.00	90.00	180.64	7,255.00	-5,064.97	-2,157.64	5,088.76	0.00	0.00	0.00	
11,100.00	90.00	180.64	7,255.00	-5,164.97	-2,158.75	5,188.76	0.00	0.00	0.00	
11,200.00	90.00	180.64	7,255.00	-5,264.96	-2,159.86	5,288.76	0.00	0.00	0.00	
11,300.00	90.00	180.64	7,255.00	-5,364.95	-2,160.97	5,388.76	0.00	0.00	0.00	
11,400.00	90.00	180.64	7,255.00	-5,464.95	-2,162.08	5,488.76	0.00	0.00	0.00	
11,500.00	90.00	180.64	7,255.00	-5,564.94	-2,163.19	5,588.76	0.00	0.00	0.00	
11,600.00	90.00	180.64	7,255.00	-5,664.94	-2,164.30	5,688.76	0.00	0.00	0.00	
11,700.00	90.00	180.64	7,255.00	-5,764.93	-2,165.40	5,788.76	0.00	0.00	0.00	
11,800.00	90.00	180.64	7,255.00	-5,864.92	-2,166.51	5,888.76	0.00	0.00	0.00	
11,900.00	90.00	180.64	7,255.00	-5,964.92	-2,167.62	5,988.76	0.00	0.00	0.00	
12,000.00	90.00	180.64	7,255.00	-6,064.91	-2,168.73	6,088.76	0.00	0.00	0.00	
12,100.00	90.00	180.64	7,255.00	-6,164.91	-2,169.84	6,188.76	0.00	0.00	0.00	
12,200.00	90.00	180.64	7,255.00	-6,264.90	-2,170.95	6,288.76	0.00	0.00	0.00	
12,300.00	90.00	180.64	7,255.00	-6,364.89	-2,172.06	6,388.76	0.00	0.00	0.00	
12,400.00	90.00	180.64	7,255.00	-6,464.89	-2,173.17	6,488.76	0.00	0.00	0.00	
12,500.00	90.00	180.64	7,255.00	-6,564.88	-2,174.28	6,588.76	0.00	0.00	0.00	
12,600.00	90.00	180.64	7,255.00	-6,664.87	-2,175.39	6,688.76	0.00	0.00	0.00	
12,700.00	90.00	180.64	7,255.00	-6,764.87	-2,176.50	6,788.76	0.00	0.00	0.00	
12,800.00	90.00	180.64	7,255.00	-6,864.86	-2,177.61	6,888.76	0.00	0.00	0.00	
12,900.00	90.00	180.64	7,255.00	-6,964.86	-2,178.72	6,988.76	0.00	0.00	0.00	
13,000.00	90.00	180.64	7,255.00	-7,064.85	-2,179.82	7,088.76	0.00	0.00	0.00	
13,100.00	90.00	180.64	7,255.00	-7,164.84	-2,180.93	7,188.76	0.00	0.00	0.00	
13,200.00	90.00	180.64	7,255.00	-7,264.84	-2,182.04	7,288.76	0.00	0.00	0.00	
13,300.00	90.00	180.64	7,255.00	-7,364.83	-2,183.15	7,388.76	0.00	0.00	0.00	
13,400.00	90.00	180.64	7,255.00	-7,464.83	-2,184.26	7,488.76	0.00	0.00	0.00	
13,500.00	90.00	180.64	7,255.00	-7,564.82	-2,185.37	7,588.76	0.00	0.00	0.00	
13,600.00	90.00	180.64	7,255.00	-7,664.81	-2,186.48	7,688.76	0.00	0.00	0.00	
13,700.00	90.00	180.64	7,255.00	-7,764.81	-2,187.59	7,788.76	0.00	0.00	0.00	
13,800.00	90.00	180.64	7,255.00	-7,864.80	-2,188.70	7,888.76	0.00	0.00	0.00	
13,900.00	90.00	180.64	7,255.00	-7,964.79	-2,189.81	7,988.76	0.00	0.00	0.00	
14,000.00	90.00	180.64	7,255.00	-8,064.79	-2,190.92	8,088.76	0.00	0.00	0.00	
14,100.00	90.00	180.64	7,255.00	-8,164.78	-2,192.03	8,188.76	0.00	0.00	0.00	
14,200.00	90.00	180.64	7,255.00	-8,264.78	-2,193.14	8,288.76	0.00	0.00	0.00	
14,300.00	90.00	180.64	7,255.00	-8,364.77	-2,194.24	8,388.76	0.00	0.00	0.00	
14,400.00	90.00	180.64	7,255.00	-8,464.76	-2,195.35	8,488.76	0.00	0.00	0.00	
14,500.00	90.00	180.64	7,255.00	-8,564.76	-2,196.46	8,588.76	0.00	0.00	0.00	
14,600.00	90.00	180.64	7,255.00	-8,664.75	-2,197.57	8,688.76	0.00	0.00	0.00	
14,700.00	90.00	180.64	7,255.00	-8,764.75	-2,198.68	8,788.76	0.00	0.00	0.00	
14,800.00	90.00	180.64	7,255.00	-8,864.74	-2,199.79	8,888.76	0.00	0.00	0.00	
14,900.00	90.00	180.64	7,255.00	-8,964.73	-2,200.90	8,988.76	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 SAFI 1224-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4994.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-03H	<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)
15,000.00	90.00	180.64	7,255.00	-9,064.73	-2,202.01	9,088.76	0.00	0.00	0.00
15,100.00	90.00	180.64	7,255.00	-9,164.72	-2,203.12	9,188.76	0.00	0.00	0.00
15,200.00	90.00	180.64	7,255.00	-9,264.72	-2,204.23	9,288.76	0.00	0.00	0.00
15,300.00	90.00	180.64	7,255.00	-9,364.71	-2,205.34	9,388.76	0.00	0.00	0.00
15,400.00	90.00	180.64	7,255.00	-9,464.70	-2,206.45	9,488.76	0.00	0.00	0.00
15,500.00	90.00	180.64	7,255.00	-9,564.70	-2,207.56	9,588.76	0.00	0.00	0.00
15,600.00	90.00	180.64	7,255.00	-9,664.69	-2,208.66	9,688.76	0.00	0.00	0.00
15,700.00	90.00	180.64	7,255.00	-9,764.68	-2,209.77	9,788.76	0.00	0.00	0.00
15,800.00	90.00	180.64	7,255.00	-9,864.68	-2,210.88	9,888.76	0.00	0.00	0.00
15,900.00	90.00	180.64	7,255.00	-9,964.67	-2,211.99	9,988.76	0.00	0.00	0.00
16,000.00	90.00	180.64	7,255.00	-10,064.67	-2,213.10	10,088.76	0.00	0.00	0.00
16,100.00	90.00	180.64	7,255.00	-10,164.66	-2,214.21	10,188.76	0.00	0.00	0.00
16,200.00	90.00	180.64	7,255.00	-10,264.65	-2,215.32	10,288.76	0.00	0.00	0.00
16,300.00	90.00	180.64	7,255.00	-10,364.65	-2,216.43	10,388.76	0.00	0.00	0.00
16,400.00	90.00	180.64	7,255.00	-10,464.64	-2,217.54	10,488.76	0.00	0.00	0.00
16,500.00	90.00	180.64	7,255.00	-10,564.64	-2,218.65	10,588.76	0.00	0.00	0.00
16,600.00	90.00	180.64	7,255.00	-10,664.63	-2,219.76	10,688.76	0.00	0.00	0.00
16,700.00	90.00	180.64	7,255.00	-10,764.62	-2,220.87	10,788.76	0.00	0.00	0.00
16,800.00	90.00	180.64	7,255.00	-10,864.62	-2,221.98	10,888.76	0.00	0.00	0.00
16,900.00	90.00	180.64	7,255.00	-10,964.61	-2,223.08	10,988.76	0.00	0.00	0.00
17,000.00	90.00	180.64	7,255.00	-11,064.60	-2,224.19	11,088.76	0.00	0.00	0.00
17,100.00	90.00	180.64	7,255.00	-11,164.60	-2,225.30	11,188.76	0.00	0.00	0.00
17,200.00	90.00	180.64	7,255.00	-11,264.59	-2,226.41	11,288.76	0.00	0.00	0.00
17,300.00	90.00	180.64	7,255.00	-11,364.59	-2,227.52	11,388.76	0.00	0.00	0.00
17,400.00	90.00	180.64	7,255.00	-11,464.58	-2,228.63	11,488.76	0.00	0.00	0.00
17,500.00	90.00	180.64	7,255.00	-11,564.57	-2,229.74	11,588.76	0.00	0.00	0.00
17,600.00	90.00	180.64	7,255.00	-11,664.57	-2,230.85	11,688.76	0.00	0.00	0.00
17,700.00	90.00	180.64	7,255.00	-11,764.56	-2,231.96	11,788.76	0.00	0.00	0.00
17,800.00	90.00	180.64	7,255.00	-11,864.56	-2,233.07	11,888.76	0.00	0.00	0.00
17,900.00	90.00	180.64	7,255.00	-11,964.55	-2,234.18	11,988.76	0.00	0.00	0.00
18,000.00	90.00	180.64	7,255.00	-12,064.54	-2,235.29	12,088.76	0.00	0.00	0.00
18,100.00	90.00	180.64	7,255.00	-12,164.54	-2,236.40	12,188.76	0.00	0.00	0.00
18,200.00	90.00	180.64	7,255.00	-12,264.53	-2,237.50	12,288.76	0.00	0.00	0.00
18,300.00	90.00	180.64	7,255.00	-12,364.52	-2,238.61	12,388.76	0.00	0.00	0.00
18,315.75	90.00	180.64	7,255.00	-12,380.27	-2,238.79	12,404.51	0.00	0.00	0.00
TD Well @ 18315.75ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,758.41	1,700.00	9 5/8"		9-5/8	13-1/2

Hewlett-Packard  
Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-03H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4994.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4994.00usft (RIG)
Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-03H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
260.00	260.00	0.00	0.00	Begin Nudge @ 260.00ft
1,411.50	1,380.74	-143.44	-177.64	Hold Tangent @ 1411.50ft
7,300.90	6,800.76	-1,590.90	-1,970.22	KOP @ 7300.90ft :: DLS = 9"/100'
8,140.61	7,255.00	-2,205.76	-2,125.92	End Build @ 8140.61ft
18,315.75	7,255.00	-12,380.27	-2,238.79	TD Well @ 18315.75ft