

# **VERDAD RESOURCES**

**WATTENBERG FIELD  
1N-65W-12 SAFI 1224 PAD  
SAFI 1224-12H**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

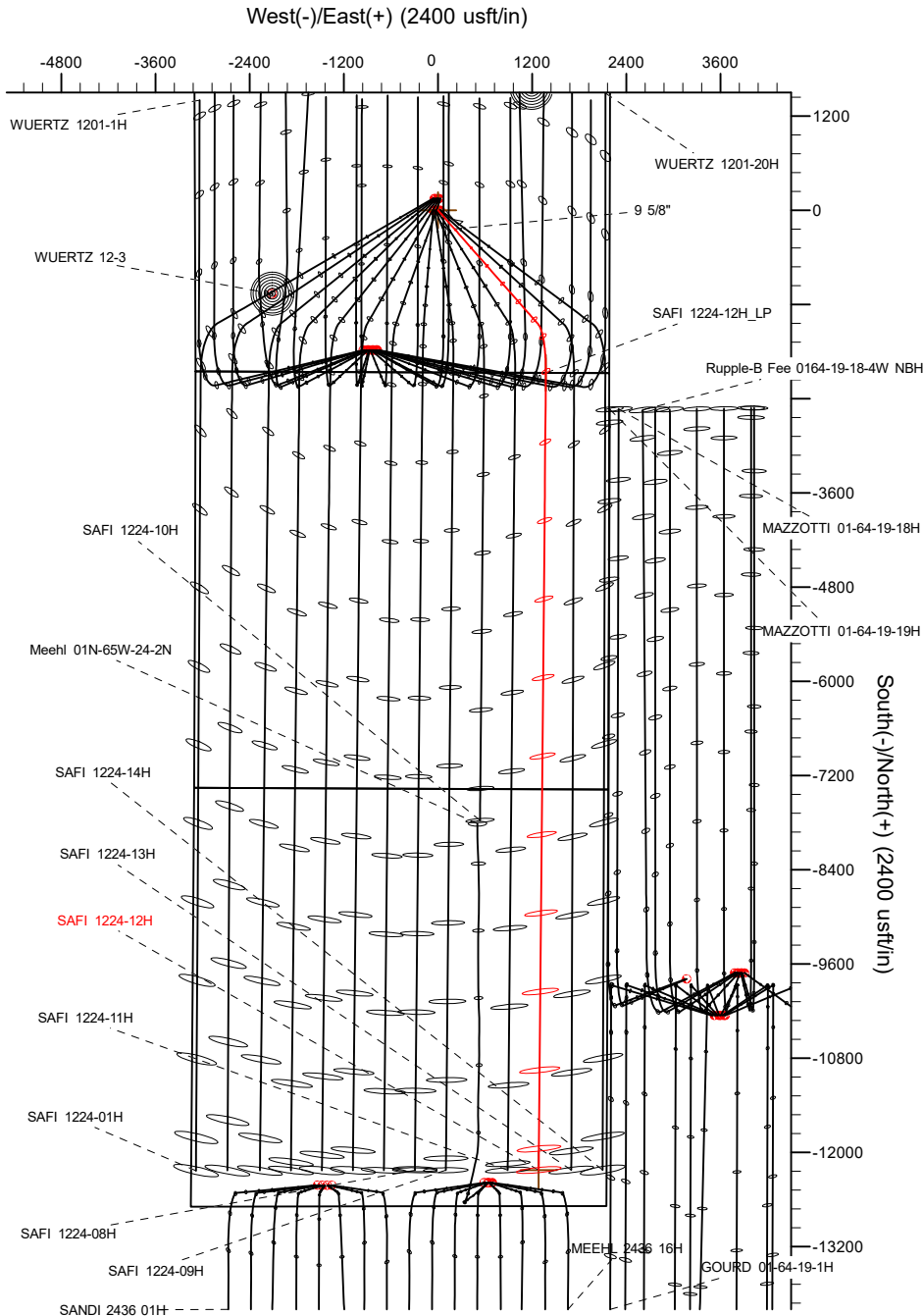
**16 May, 2019**

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

# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
1700.00	1742.18	9 5/8"	9-5/8"

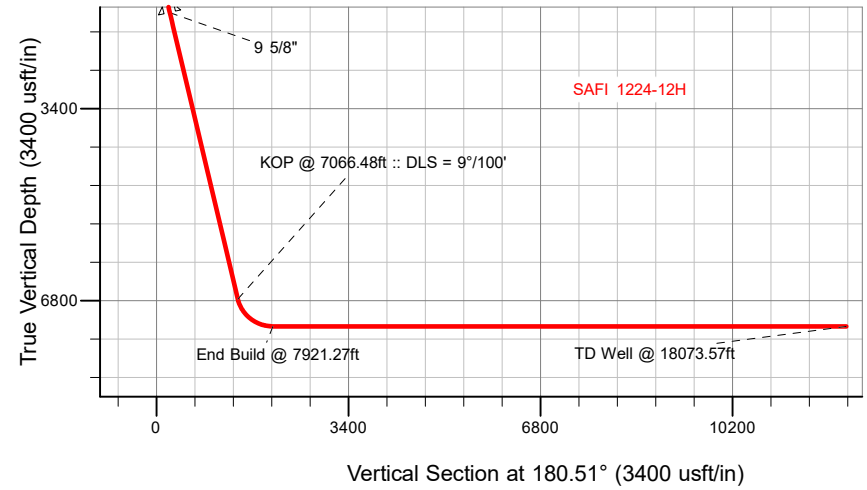


## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	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	
1143.50	17.67	138.67	1129.56	-101.49	89.26	2.00	138.67	100.70	
7066.48	17.67	138.67	6773.10	-1451.52	1276.53	0.00	0.00	1440.10	
7921.27	90.00	180.51	7255.00	-2072.54	1373.38	9.00	43.22	2060.23	
18073.57	90.00	180.51	7255.00	-12224.44	1282.36	0.00	0.00	12212.54	SAFI 1224-12H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

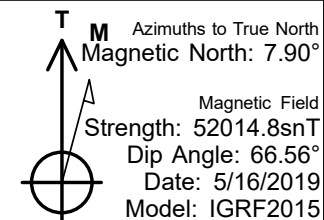
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SAFI 1224-12H_SHL	0.00	0.00	0.00	40.064373	-104.610507
SAFI 1224-12H_BHL	7255.00	-12224.44	1282.36	40.030815	-104.605927



**SHL**  
**2065' FSL**  
**2187' FEL**

**LP**  
**0' FNL**  
**811' FEL**

**BHL**  
**460' FSL**  
**866' FEL**



## WELL DETAILS: SAFI 1224-12H

GL = 4971'

RKB = 24' @ 4995.00usft (RIG)

Plan: Design #1 (SAFI 1224-12H/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 1224-12H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-12H	<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		

<b>Site</b>	1N-65W-12 SAFI 1224 PAD				
<b>Site Position:</b>		<b>Northing:</b>	1,267,795.88 usft	<b>Latitude:</b>	40.065068
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,248,744.87 usft	<b>Longitude:</b>	-104.611250
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.57 °

<b>Well</b>	SAFI 1224-12H					
<b>Well Position</b>	<b>+N/-S</b>	-252.85 usft	<b>Northing:</b>	1,267,545.13 usft	<b>Latitude:</b>	40.064374
	<b>+E/-W</b>	208.01 usft	<b>Easting:</b>	3,248,955.40 usft	<b>Longitude:</b>	-104.610507
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,971.00 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	52,014.81675160

<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	180.51	

<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	18,073.57	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	
1,143.50	17.67	138.67	1,129.56	-101.49	89.26	2.00	2.00	0.00	138.67	
7,066.48	17.67	138.67	6,773.10	-1,451.52	1,276.53	0.00	0.00	0.00	0.00	
7,921.27	90.00	180.51	7,255.00	-2,072.54	1,373.38	9.00	8.46	4.90	43.22	
18,073.57	90.00	180.51	7,255.00	-12,224.44	1,282.36	0.00	0.00	0.00	0.00	SAFI 1224-12H_BHL

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SAFI 1224-12H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-12H	<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
<b>Begin Nudge @ 260.00ft</b>									
300.00	0.80	138.67	300.00	-0.21	0.18	0.21	2.00	2.00	0.00
400.00	2.80	138.67	399.94	-2.57	2.26	2.55	2.00	2.00	0.00
500.00	4.80	138.67	499.72	-7.54	6.64	7.49	2.00	2.00	0.00
600.00	6.80	138.67	599.20	-15.13	13.31	15.01	2.00	2.00	0.00
700.00	8.80	138.67	698.27	-25.32	22.27	25.12	2.00	2.00	0.00
800.00	10.80	138.67	796.81	-38.10	33.51	37.80	2.00	2.00	0.00
900.00	12.80	138.67	894.69	-53.46	47.01	53.04	2.00	2.00	0.00
1,000.00	14.80	138.67	991.80	-71.37	62.77	70.81	2.00	2.00	0.00
1,100.00	16.80	138.67	1,088.02	-91.82	80.75	91.09	2.00	2.00	0.00
1,143.50	17.67	138.67	1,129.56	-101.49	89.26	100.70	2.00	2.00	0.00
<b>Hold Tangent @ 1143.50ft</b>									
1,200.00	17.67	138.67	1,183.40	-114.37	100.58	113.47	0.00	0.00	0.00
1,300.00	17.67	138.67	1,278.68	-137.16	120.63	136.09	0.00	0.00	0.00
1,400.00	17.67	138.67	1,373.96	-159.96	140.67	158.70	0.00	0.00	0.00
1,500.00	17.67	138.67	1,469.24	-182.75	160.72	181.31	0.00	0.00	0.00
1,600.00	17.67	138.67	1,564.52	-205.54	180.76	203.93	0.00	0.00	0.00
1,700.00	17.67	138.67	1,659.81	-228.34	200.81	226.54	0.00	0.00	0.00
1,742.18	17.67	138.67	1,700.00	-237.95	209.27	236.08	0.00	0.00	0.00
<b>9 5/8"</b>									
1,800.00	17.67	138.67	1,755.09	-251.13	220.86	249.15	0.00	0.00	0.00
1,900.00	17.67	138.67	1,850.37	-273.92	240.90	271.77	0.00	0.00	0.00
2,000.00	17.67	138.67	1,945.65	-296.72	260.95	294.38	0.00	0.00	0.00
2,100.00	17.67	138.67	2,040.93	-319.51	280.99	316.99	0.00	0.00	0.00
2,200.00	17.67	138.67	2,136.22	-342.30	301.04	339.61	0.00	0.00	0.00
2,300.00	17.67	138.67	2,231.50	-365.09	321.08	362.22	0.00	0.00	0.00
2,400.00	17.67	138.67	2,326.78	-387.89	341.13	384.84	0.00	0.00	0.00
2,500.00	17.67	138.67	2,422.06	-410.68	361.17	407.45	0.00	0.00	0.00
2,600.00	17.67	138.67	2,517.34	-433.47	381.22	430.06	0.00	0.00	0.00
2,700.00	17.67	138.67	2,612.63	-456.27	401.26	452.68	0.00	0.00	0.00
2,800.00	17.67	138.67	2,707.91	-479.06	421.31	475.29	0.00	0.00	0.00
2,900.00	17.67	138.67	2,803.19	-501.85	441.35	497.90	0.00	0.00	0.00
3,000.00	17.67	138.67	2,898.47	-524.64	461.40	520.52	0.00	0.00	0.00
3,100.00	17.67	138.67	2,993.75	-547.44	481.44	543.13	0.00	0.00	0.00
3,200.00	17.67	138.67	3,089.04	-570.23	501.49	565.74	0.00	0.00	0.00
3,300.00	17.67	138.67	3,184.32	-593.02	521.53	588.36	0.00	0.00	0.00
3,400.00	17.67	138.67	3,279.60	-615.82	541.58	610.97	0.00	0.00	0.00
3,500.00	17.67	138.67	3,374.88	-638.61	561.62	633.58	0.00	0.00	0.00
3,600.00	17.67	138.67	3,470.17	-661.40	581.67	656.20	0.00	0.00	0.00
3,700.00	17.67	138.67	3,565.45	-684.20	601.72	678.81	0.00	0.00	0.00
3,800.00	17.67	138.67	3,660.73	-706.99	621.76	701.43	0.00	0.00	0.00
3,900.00	17.67	138.67	3,756.01	-729.78	641.81	724.04	0.00	0.00	0.00
4,000.00	17.67	138.67	3,851.29	-752.57	661.85	746.65	0.00	0.00	0.00
4,100.00	17.67	138.67	3,946.58	-775.37	681.90	769.27	0.00	0.00	0.00
4,200.00	17.67	138.67	4,041.86	-798.16	701.94	791.88	0.00	0.00	0.00
4,300.00	17.67	138.67	4,137.14	-820.95	721.99	814.49	0.00	0.00	0.00
4,400.00	17.67	138.67	4,232.42	-843.75	742.03	837.11	0.00	0.00	0.00
4,500.00	17.67	138.67	4,327.70	-866.54	762.08	859.72	0.00	0.00	0.00
4,600.00	17.67	138.67	4,422.99	-889.33	782.12	882.33	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 1224-12H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-12H	<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	17.67	138.67	4,518.27	-912.12	802.17	904.95	0.00	0.00	0.00
4,800.00	17.67	138.67	4,613.55	-934.92	822.21	927.56	0.00	0.00	0.00
4,900.00	17.67	138.67	4,708.83	-957.71	842.26	950.18	0.00	0.00	0.00
5,000.00	17.67	138.67	4,804.11	-980.50	862.30	972.79	0.00	0.00	0.00
5,100.00	17.67	138.67	4,899.40	-1,003.30	882.35	995.40	0.00	0.00	0.00
5,200.00	17.67	138.67	4,994.68	-1,026.09	902.39	1,018.02	0.00	0.00	0.00
5,300.00	17.67	138.67	5,089.96	-1,048.88	922.44	1,040.63	0.00	0.00	0.00
5,400.00	17.67	138.67	5,185.24	-1,071.68	942.48	1,063.24	0.00	0.00	0.00
5,500.00	17.67	138.67	5,280.52	-1,094.47	962.53	1,085.86	0.00	0.00	0.00
5,600.00	17.67	138.67	5,375.81	-1,117.26	982.57	1,108.47	0.00	0.00	0.00
5,700.00	17.67	138.67	5,471.09	-1,140.05	1,002.62	1,131.08	0.00	0.00	0.00
5,800.00	17.67	138.67	5,566.37	-1,162.85	1,022.67	1,153.70	0.00	0.00	0.00
5,900.00	17.67	138.67	5,661.65	-1,185.64	1,042.71	1,176.31	0.00	0.00	0.00
6,000.00	17.67	138.67	5,756.93	-1,208.43	1,062.76	1,198.93	0.00	0.00	0.00
6,100.00	17.67	138.67	5,852.22	-1,231.23	1,082.80	1,221.54	0.00	0.00	0.00
6,200.00	17.67	138.67	5,947.50	-1,254.02	1,102.85	1,244.15	0.00	0.00	0.00
6,300.00	17.67	138.67	6,042.78	-1,276.81	1,122.89	1,266.77	0.00	0.00	0.00
6,400.00	17.67	138.67	6,138.06	-1,299.60	1,142.94	1,289.38	0.00	0.00	0.00
6,500.00	17.67	138.67	6,233.34	-1,322.40	1,162.98	1,311.99	0.00	0.00	0.00
6,600.00	17.67	138.67	6,328.63	-1,345.19	1,183.03	1,334.61	0.00	0.00	0.00
6,700.00	17.67	138.67	6,423.91	-1,367.98	1,203.07	1,357.22	0.00	0.00	0.00
6,800.00	17.67	138.67	6,519.19	-1,390.78	1,223.12	1,379.83	0.00	0.00	0.00
6,900.00	17.67	138.67	6,614.47	-1,413.57	1,243.16	1,402.45	0.00	0.00	0.00
7,000.00	17.67	138.67	6,709.76	-1,436.36	1,263.21	1,425.06	0.00	0.00	0.00
7,066.48	17.67	138.67	6,773.10	-1,451.52	1,276.53	1,440.10	0.00	0.00	0.00
<b>KOP @ 7066.48ft :: DLS = 9°/100'</b>									
7,100.00	19.97	144.73	6,804.83	-1,460.01	1,283.20	1,448.53	9.00	6.87	18.07
7,200.00	27.64	156.57	6,896.30	-1,495.31	1,302.33	1,483.66	9.00	7.67	11.84
7,300.00	35.89	163.44	6,981.28	-1,544.79	1,319.94	1,532.98	9.00	8.25	6.87
7,400.00	44.41	167.98	7,057.66	-1,607.24	1,335.61	1,595.29	9.00	8.51	4.55
7,500.00	53.05	171.32	7,123.57	-1,681.11	1,348.96	1,669.04	9.00	8.65	3.33
7,600.00	61.77	173.96	7,177.38	-1,764.60	1,359.65	1,752.43	9.00	8.72	2.65
7,700.00	70.54	176.21	7,217.77	-1,855.64	1,367.41	1,843.39	9.00	8.76	2.24
7,800.00	79.33	178.22	7,243.74	-1,951.98	1,372.07	1,939.69	9.00	8.79	2.01
7,900.00	88.13	180.12	7,254.65	-2,051.27	1,373.50	2,038.97	9.00	8.80	1.90
7,921.27	90.00	180.51	7,255.00	-2,072.54	1,373.38	2,060.23	9.00	8.80	1.87
<b>End Build @ 7921.27ft</b>									
8,000.00	90.00	180.51	7,255.00	-2,151.27	1,372.68	2,138.96	0.00	0.00	0.00
8,100.00	90.00	180.51	7,255.00	-2,251.26	1,371.78	2,238.96	0.00	0.00	0.00
8,200.00	90.00	180.51	7,255.00	-2,351.26	1,370.88	2,338.96	0.00	0.00	0.00
8,300.00	90.00	180.51	7,255.00	-2,451.25	1,369.99	2,438.96	0.00	0.00	0.00
8,400.00	90.00	180.51	7,255.00	-2,551.25	1,369.09	2,538.96	0.00	0.00	0.00
8,500.00	90.00	180.51	7,255.00	-2,651.25	1,368.19	2,638.96	0.00	0.00	0.00
8,600.00	90.00	180.51	7,255.00	-2,751.24	1,367.30	2,738.96	0.00	0.00	0.00
8,700.00	90.00	180.51	7,255.00	-2,851.24	1,366.40	2,838.96	0.00	0.00	0.00
8,800.00	90.00	180.51	7,255.00	-2,951.23	1,365.50	2,938.96	0.00	0.00	0.00
8,900.00	90.00	180.51	7,255.00	-3,051.23	1,364.61	3,038.96	0.00	0.00	0.00
9,000.00	90.00	180.51	7,255.00	-3,151.23	1,363.71	3,138.96	0.00	0.00	0.00
9,100.00	90.00	180.51	7,255.00	-3,251.22	1,362.81	3,238.96	0.00	0.00	0.00
9,200.00	90.00	180.51	7,255.00	-3,351.22	1,361.92	3,338.96	0.00	0.00	0.00
9,300.00	90.00	180.51	7,255.00	-3,451.21	1,361.02	3,438.96	0.00	0.00	0.00
9,400.00	90.00	180.51	7,255.00	-3,551.21	1,360.12	3,538.96	0.00	0.00	0.00
9,500.00	90.00	180.51	7,255.00	-3,651.21	1,359.23	3,638.96	0.00	0.00	0.00
9,600.00	90.00	180.51	7,255.00	-3,751.20	1,358.33	3,738.96	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 1224-12H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-12H	<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	180.51	7,255.00	-3,851.20	1,357.43	3,838.96	0.00	0.00	0.00	
9,800.00	90.00	180.51	7,255.00	-3,951.19	1,356.54	3,938.96	0.00	0.00	0.00	
9,900.00	90.00	180.51	7,255.00	-4,051.19	1,355.64	4,038.96	0.00	0.00	0.00	
10,000.00	90.00	180.51	7,255.00	-4,151.19	1,354.74	4,138.96	0.00	0.00	0.00	
10,100.00	90.00	180.51	7,255.00	-4,251.18	1,353.85	4,238.96	0.00	0.00	0.00	
10,200.00	90.00	180.51	7,255.00	-4,351.18	1,352.95	4,338.96	0.00	0.00	0.00	
10,300.00	90.00	180.51	7,255.00	-4,451.17	1,352.05	4,438.96	0.00	0.00	0.00	
10,400.00	90.00	180.51	7,255.00	-4,551.17	1,351.16	4,538.96	0.00	0.00	0.00	
10,500.00	90.00	180.51	7,255.00	-4,651.17	1,350.26	4,638.96	0.00	0.00	0.00	
10,600.00	90.00	180.51	7,255.00	-4,751.16	1,349.36	4,738.96	0.00	0.00	0.00	
10,700.00	90.00	180.51	7,255.00	-4,851.16	1,348.47	4,838.96	0.00	0.00	0.00	
10,800.00	90.00	180.51	7,255.00	-4,951.15	1,347.57	4,938.96	0.00	0.00	0.00	
10,900.00	90.00	180.51	7,255.00	-5,051.15	1,346.67	5,038.96	0.00	0.00	0.00	
11,000.00	90.00	180.51	7,255.00	-5,151.15	1,345.78	5,138.96	0.00	0.00	0.00	
11,100.00	90.00	180.51	7,255.00	-5,251.14	1,344.88	5,238.96	0.00	0.00	0.00	
11,200.00	90.00	180.51	7,255.00	-5,351.14	1,343.98	5,338.96	0.00	0.00	0.00	
11,300.00	90.00	180.51	7,255.00	-5,451.13	1,343.09	5,438.96	0.00	0.00	0.00	
11,400.00	90.00	180.51	7,255.00	-5,551.13	1,342.19	5,538.96	0.00	0.00	0.00	
11,500.00	90.00	180.51	7,255.00	-5,651.13	1,341.29	5,638.96	0.00	0.00	0.00	
11,600.00	90.00	180.51	7,255.00	-5,751.12	1,340.40	5,738.96	0.00	0.00	0.00	
11,700.00	90.00	180.51	7,255.00	-5,851.12	1,339.50	5,838.96	0.00	0.00	0.00	
11,800.00	90.00	180.51	7,255.00	-5,951.11	1,338.60	5,938.96	0.00	0.00	0.00	
11,900.00	90.00	180.51	7,255.00	-6,051.11	1,337.71	6,038.96	0.00	0.00	0.00	
12,000.00	90.00	180.51	7,255.00	-6,151.11	1,336.81	6,138.96	0.00	0.00	0.00	
12,100.00	90.00	180.51	7,255.00	-6,251.10	1,335.91	6,238.96	0.00	0.00	0.00	
12,200.00	90.00	180.51	7,255.00	-6,351.10	1,335.02	6,338.96	0.00	0.00	0.00	
12,300.00	90.00	180.51	7,255.00	-6,451.09	1,334.12	6,438.96	0.00	0.00	0.00	
12,400.00	90.00	180.51	7,255.00	-6,551.09	1,333.23	6,538.96	0.00	0.00	0.00	
12,500.00	90.00	180.51	7,255.00	-6,651.09	1,332.33	6,638.96	0.00	0.00	0.00	
12,600.00	90.00	180.51	7,255.00	-6,751.08	1,331.43	6,738.96	0.00	0.00	0.00	
12,700.00	90.00	180.51	7,255.00	-6,851.08	1,330.54	6,838.96	0.00	0.00	0.00	
12,800.00	90.00	180.51	7,255.00	-6,951.07	1,329.64	6,938.96	0.00	0.00	0.00	
12,900.00	90.00	180.51	7,255.00	-7,051.07	1,328.74	7,038.96	0.00	0.00	0.00	
13,000.00	90.00	180.51	7,255.00	-7,151.07	1,327.85	7,138.96	0.00	0.00	0.00	
13,100.00	90.00	180.51	7,255.00	-7,251.06	1,326.95	7,238.96	0.00	0.00	0.00	
13,200.00	90.00	180.51	7,255.00	-7,351.06	1,326.05	7,338.96	0.00	0.00	0.00	
13,300.00	90.00	180.51	7,255.00	-7,451.05	1,325.16	7,438.96	0.00	0.00	0.00	
13,400.00	90.00	180.51	7,255.00	-7,551.05	1,324.26	7,538.96	0.00	0.00	0.00	
13,500.00	90.00	180.51	7,255.00	-7,651.05	1,323.36	7,638.96	0.00	0.00	0.00	
13,600.00	90.00	180.51	7,255.00	-7,751.04	1,322.47	7,738.96	0.00	0.00	0.00	
13,700.00	90.00	180.51	7,255.00	-7,851.04	1,321.57	7,838.96	0.00	0.00	0.00	
13,800.00	90.00	180.51	7,255.00	-7,951.03	1,320.67	7,938.96	0.00	0.00	0.00	
13,900.00	90.00	180.51	7,255.00	-8,051.03	1,319.78	8,038.96	0.00	0.00	0.00	
14,000.00	90.00	180.51	7,255.00	-8,151.02	1,318.88	8,138.96	0.00	0.00	0.00	
14,100.00	90.00	180.51	7,255.00	-8,251.02	1,317.98	8,238.96	0.00	0.00	0.00	
14,200.00	90.00	180.51	7,255.00	-8,351.02	1,317.09	8,338.96	0.00	0.00	0.00	
14,300.00	90.00	180.51	7,255.00	-8,451.01	1,316.19	8,438.96	0.00	0.00	0.00	
14,400.00	90.00	180.51	7,255.00	-8,551.01	1,315.29	8,538.96	0.00	0.00	0.00	
14,500.00	90.00	180.51	7,255.00	-8,651.00	1,314.40	8,638.96	0.00	0.00	0.00	
14,600.00	90.00	180.51	7,255.00	-8,751.00	1,313.50	8,738.96	0.00	0.00	0.00	
14,700.00	90.00	180.51	7,255.00	-8,851.00	1,312.60	8,838.96	0.00	0.00	0.00	
14,800.00	90.00	180.51	7,255.00	-8,950.99	1,311.71	8,938.96	0.00	0.00	0.00	
14,900.00	90.00	180.51	7,255.00	-9,050.99	1,310.81	9,038.96	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 1224-12H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 SAFI 1224 PAD	<b>North Reference:</b>	True
<b>Well:</b>	SAFI 1224-12H	<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	180.51	7,255.00	-9,150.98	1,309.91	9,138.96	0.00	0.00	0.00	
15,100.00	90.00	180.51	7,255.00	-9,250.98	1,309.02	9,238.96	0.00	0.00	0.00	
15,200.00	90.00	180.51	7,255.00	-9,350.98	1,308.12	9,338.96	0.00	0.00	0.00	
15,300.00	90.00	180.51	7,255.00	-9,450.97	1,307.22	9,438.96	0.00	0.00	0.00	
15,400.00	90.00	180.51	7,255.00	-9,550.97	1,306.33	9,538.96	0.00	0.00	0.00	
15,500.00	90.00	180.51	7,255.00	-9,650.96	1,305.43	9,638.96	0.00	0.00	0.00	
15,600.00	90.00	180.51	7,255.00	-9,750.96	1,304.53	9,738.96	0.00	0.00	0.00	
15,700.00	90.00	180.51	7,255.00	-9,850.96	1,303.64	9,838.96	0.00	0.00	0.00	
15,800.00	90.00	180.51	7,255.00	-9,950.95	1,302.74	9,938.96	0.00	0.00	0.00	
15,900.00	90.00	180.51	7,255.00	-10,050.95	1,301.84	10,038.96	0.00	0.00	0.00	
16,000.00	90.00	180.51	7,255.00	-10,150.94	1,300.95	10,138.96	0.00	0.00	0.00	
16,100.00	90.00	180.51	7,255.00	-10,250.94	1,300.05	10,238.96	0.00	0.00	0.00	
16,200.00	90.00	180.51	7,255.00	-10,350.94	1,299.15	10,338.96	0.00	0.00	0.00	
16,300.00	90.00	180.51	7,255.00	-10,450.93	1,298.26	10,438.96	0.00	0.00	0.00	
16,400.00	90.00	180.51	7,255.00	-10,550.93	1,297.36	10,538.96	0.00	0.00	0.00	
16,500.00	90.00	180.51	7,255.00	-10,650.92	1,296.46	10,638.96	0.00	0.00	0.00	
16,600.00	90.00	180.51	7,255.00	-10,750.92	1,295.57	10,738.96	0.00	0.00	0.00	
16,700.00	90.00	180.51	7,255.00	-10,850.92	1,294.67	10,838.96	0.00	0.00	0.00	
16,800.00	90.00	180.51	7,255.00	-10,950.91	1,293.77	10,938.96	0.00	0.00	0.00	
16,900.00	90.00	180.51	7,255.00	-11,050.91	1,292.88	11,038.96	0.00	0.00	0.00	
17,000.00	90.00	180.51	7,255.00	-11,150.90	1,291.98	11,138.96	0.00	0.00	0.00	
17,100.00	90.00	180.51	7,255.00	-11,250.90	1,291.08	11,238.96	0.00	0.00	0.00	
17,200.00	90.00	180.51	7,255.00	-11,350.90	1,290.19	11,338.96	0.00	0.00	0.00	
17,300.00	90.00	180.51	7,255.00	-11,450.89	1,289.29	11,438.96	0.00	0.00	0.00	
17,400.00	90.00	180.51	7,255.00	-11,550.89	1,288.39	11,538.96	0.00	0.00	0.00	
17,500.00	90.00	180.51	7,255.00	-11,650.88	1,287.50	11,638.96	0.00	0.00	0.00	
17,600.00	90.00	180.51	7,255.00	-11,750.88	1,286.60	11,738.96	0.00	0.00	0.00	
17,700.00	90.00	180.51	7,255.00	-11,850.88	1,285.71	11,838.96	0.00	0.00	0.00	
17,800.00	90.00	180.51	7,255.00	-11,950.87	1,284.81	11,938.96	0.00	0.00	0.00	
17,900.00	90.00	180.51	7,255.00	-12,050.87	1,283.91	12,038.96	0.00	0.00	0.00	
18,000.00	90.00	180.51	7,255.00	-12,150.86	1,283.02	12,138.96	0.00	0.00	0.00	
18,073.57	90.00	180.51	7,255.00	-12,224.44	1,282.36	12,212.54	0.00	0.00	0.00	
TD Well @ 18073.57ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,742.18	1,700.00	9 5/8"	9-5/8	13-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
260.00	260.00	0.00	0.00	Begin Nudge @ 260.00ft	
1,143.50	1,129.56	-101.49	89.26	Hold Tangent @ 1143.50ft	
7,066.48	6,773.10	-1,451.52	1,276.53	KOP @ 7066.48ft :: DLS = 9°/100'	
7,921.27	7,255.00	-2,072.54	1,373.38	End Build @ 7921.27ft	
18,073.57	7,255.00	-12,224.44	1,282.36	TD Well @ 18073.57ft	