

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

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

**SAFI 1224-14H**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**16 May, 2019**

Project: WATTENBERG FIELD  
Site: 1N-65W-12 SAFI 1224 PAD  
Well: SAFI 1224-14H  
Wellbore: Wellbore #1  
Design: Design #1

# VERDAD RESOURCES

## CASING DETAILS

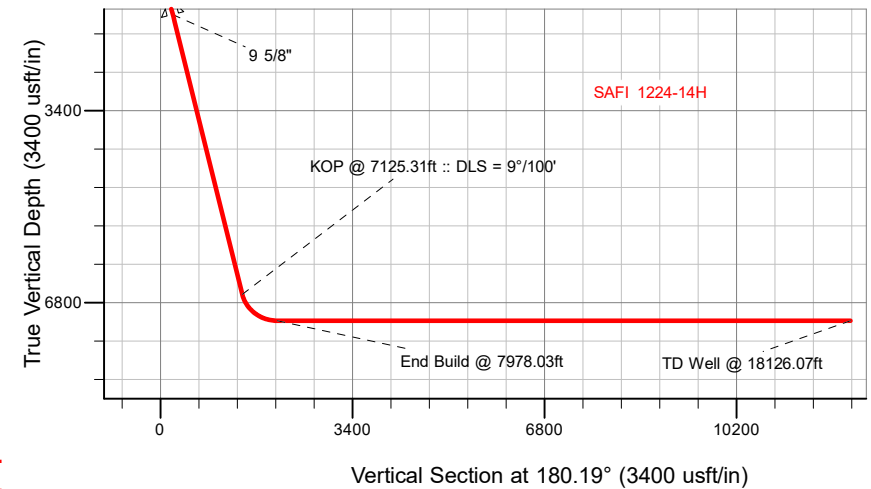
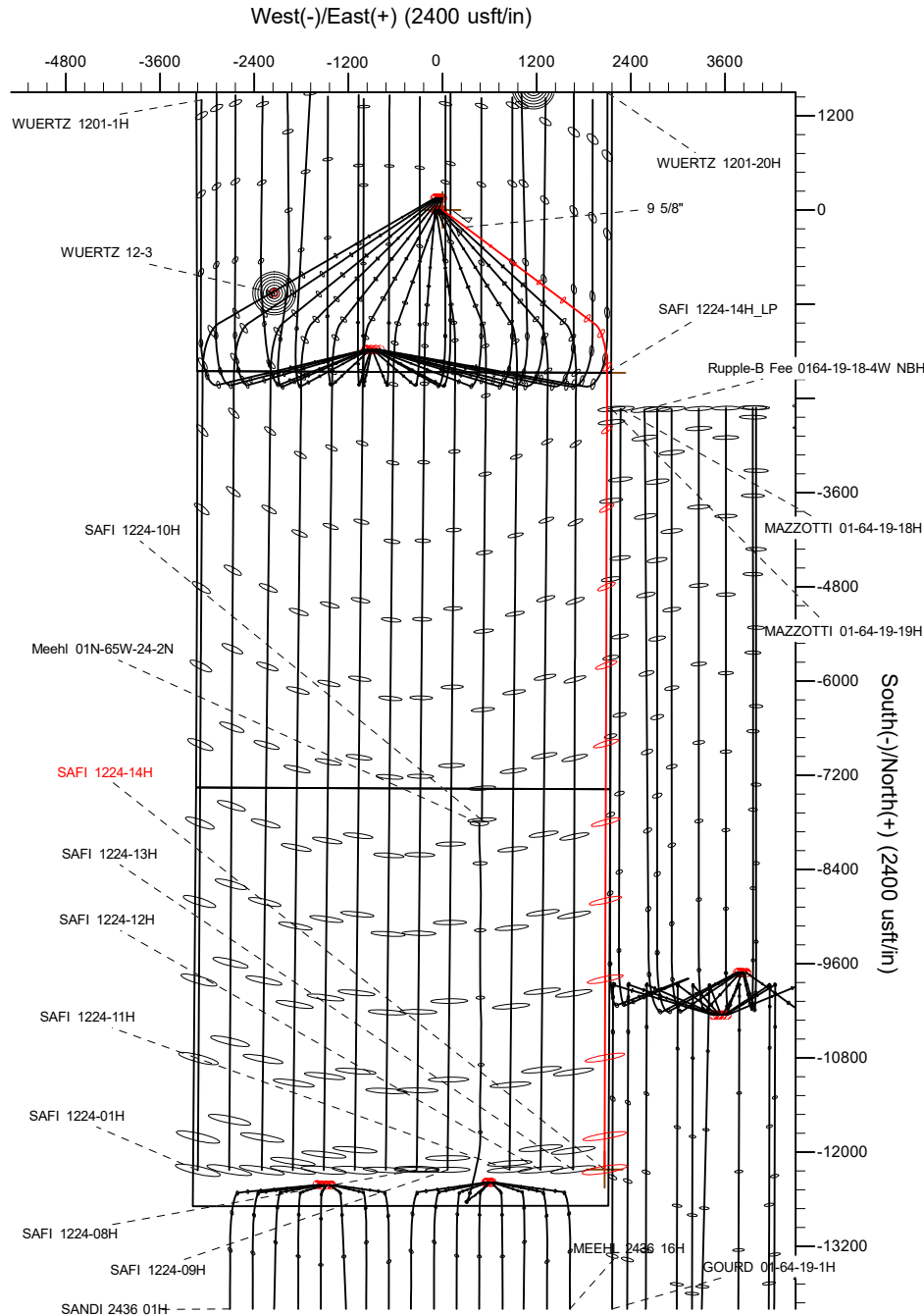
TVD	MD	Name	Size
1700.00	1758.14	9 5/8"	9-5/8

## 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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
1380.50	22.61	126.80	1351.39	-131.89	176.30	2.00	126.80	131.31	
7125.31	22.61	126.80	6654.67	-1454.91	1944.82	0.00	0.00	1448.46	
7978.03	90.00	180.19	7120.00	-2075.07	2098.36	9.00	55.55	2068.10	
18126.07	90.00	180.19	7120.00	-12223.07	2065.34	0.00	0.00	12216.15	SAFI 1224-14H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

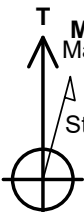
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SAFI 1224-14H_SHL	0.00	0.00	0.00	40.064373	-104.610392
SAFI 1224-14H_BHL	7120.00	-12223.07	2065.34	40.030818	-104.603017



SHL  
2065' FSL  
2155' FEL

LP  
0' FNL  
50' FEL

BHL  
460' FSL  
51' FEL

<div></div> <div>Azimuths to True North Magnetic North: 7.90°  Magnetic Field Strength: 52014.8snT Dip Angle: 66.56° Date: 5/16/2019 Model: IGRF2015</div>	WELL DETAILS: SAFI 1224-14H	
	GL = 4971'	
	RKB = 24' @ 4995.00usft (RIG)	
	Plan: Design #1 (SAFI 1224-14H/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 1224-14H
<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 1224-14H	<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 1224-14H					
Well Position	+N/-S	-252.96 usft	Northing:	1,267,545.34 usft	Latitude:	40.064373
	+E/-W	240.00 usft	Easting:	3,248,987.39 usft	Longitude:	-104.610392
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	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	52,014.82847451

<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	180.19

<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	18,126.07	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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,380.50	22.61	126.80	1,351.39	-131.89	176.30	2.00	2.00	0.00	126.80	
7,125.31	22.61	126.80	6,654.67	-1,454.91	1,944.82	0.00	0.00	0.00	0.00	
7,978.03	90.00	180.19	7,120.00	-2,075.07	2,098.36	9.00	7.90	6.26	55.55	
18,126.07	90.00	180.19	7,120.00	-12,223.07	2,065.34	0.00	0.00	0.00	0.00	SAFI 1224-14H_BHL

# Hewlett-Packard

## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SAFI 1224-14H
<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 1224-14H	<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
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	126.80	300.00	-0.26	0.35	0.26	2.00	2.00	0.00
400.00	3.00	126.80	399.93	-2.35	3.14	2.34	2.00	2.00	0.00
500.00	5.00	126.80	499.68	-6.53	8.73	6.50	2.00	2.00	0.00
600.00	7.00	126.80	599.13	-12.79	17.10	12.73	2.00	2.00	0.00
700.00	9.00	126.80	698.15	-21.13	28.24	21.03	2.00	2.00	0.00
800.00	11.00	126.80	796.63	-31.53	42.15	31.39	2.00	2.00	0.00
900.00	13.00	126.80	894.44	-43.98	58.79	43.79	2.00	2.00	0.00
1,000.00	15.00	126.80	991.46	-58.47	78.16	58.21	2.00	2.00	0.00
1,100.00	17.00	126.80	1,087.58	-74.98	100.23	74.65	2.00	2.00	0.00
1,200.00	19.00	126.80	1,182.68	-93.49	124.98	93.08	2.00	2.00	0.00
1,300.00	21.00	126.80	1,276.65	-113.98	152.36	113.48	2.00	2.00	0.00
1,380.50	22.61	126.80	1,351.39	-131.89	176.30	131.31	2.00	2.00	0.00
Hold Tangent @ 1380.50ft									
1,400.00	22.61	126.80	1,369.39	-136.38	182.31	135.78	0.00	0.00	0.00
1,500.00	22.61	126.80	1,461.70	-159.41	213.09	158.71	0.00	0.00	0.00
1,600.00	22.61	126.80	1,554.02	-182.44	243.88	181.63	0.00	0.00	0.00
1,700.00	22.61	126.80	1,646.33	-205.47	274.66	204.56	0.00	0.00	0.00
1,758.14	22.61	126.80	1,700.00	-218.86	292.56	217.89	0.00	0.00	0.00
9 5/8"									
1,800.00	22.61	126.80	1,738.65	-228.50	305.45	227.49	0.00	0.00	0.00
1,900.00	22.61	126.80	1,830.96	-251.53	336.23	250.42	0.00	0.00	0.00
2,000.00	22.61	126.80	1,923.27	-274.56	367.01	273.34	0.00	0.00	0.00
2,100.00	22.61	126.80	2,015.59	-297.59	397.80	296.27	0.00	0.00	0.00
2,200.00	22.61	126.80	2,107.90	-320.62	428.58	319.20	0.00	0.00	0.00
2,300.00	22.61	126.80	2,200.22	-343.65	459.37	342.13	0.00	0.00	0.00
2,400.00	22.61	126.80	2,292.53	-366.68	490.15	365.05	0.00	0.00	0.00
2,500.00	22.61	126.80	2,384.85	-389.71	520.94	387.98	0.00	0.00	0.00
2,600.00	22.61	126.80	2,477.16	-412.74	551.72	410.91	0.00	0.00	0.00
2,700.00	22.61	126.80	2,569.47	-435.77	582.51	433.84	0.00	0.00	0.00
2,800.00	22.61	126.80	2,661.79	-458.80	613.29	456.76	0.00	0.00	0.00
2,900.00	22.61	126.80	2,754.10	-481.83	644.08	479.69	0.00	0.00	0.00
3,000.00	22.61	126.80	2,846.42	-504.86	674.86	502.62	0.00	0.00	0.00
3,100.00	22.61	126.80	2,938.73	-527.89	705.65	525.55	0.00	0.00	0.00
3,200.00	22.61	126.80	3,031.05	-550.92	736.43	548.48	0.00	0.00	0.00
3,300.00	22.61	126.80	3,123.36	-573.95	767.22	571.40	0.00	0.00	0.00
3,400.00	22.61	126.80	3,215.67	-596.98	798.00	594.33	0.00	0.00	0.00
3,500.00	22.61	126.80	3,307.99	-620.01	828.78	617.26	0.00	0.00	0.00
3,600.00	22.61	126.80	3,400.30	-643.04	859.57	640.19	0.00	0.00	0.00
3,700.00	22.61	126.80	3,492.62	-666.07	890.35	663.11	0.00	0.00	0.00
3,800.00	22.61	126.80	3,584.93	-689.10	921.14	686.04	0.00	0.00	0.00
3,900.00	22.61	126.80	3,677.25	-712.13	951.92	708.97	0.00	0.00	0.00
4,000.00	22.61	126.80	3,769.56	-735.16	982.71	731.90	0.00	0.00	0.00
4,100.00	22.61	126.80	3,861.87	-758.19	1,013.49	754.82	0.00	0.00	0.00
4,200.00	22.61	126.80	3,954.19	-781.22	1,044.28	777.75	0.00	0.00	0.00
4,300.00	22.61	126.80	4,046.50	-804.25	1,075.06	800.68	0.00	0.00	0.00
4,400.00	22.61	126.80	4,138.82	-827.28	1,105.85	823.61	0.00	0.00	0.00
4,500.00	22.61	126.80	4,231.13	-850.31	1,136.63	846.53	0.00	0.00	0.00
4,600.00	22.61	126.80	4,323.45	-873.34	1,167.42	869.46	0.00	0.00	0.00

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## Planning Report

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<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 1224-14H	<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	22.61	126.80	4,415.76	-896.37	1,198.20	892.39	0.00	0.00	0.00	
4,800.00	22.61	126.80	4,508.07	-919.40	1,228.98	915.32	0.00	0.00	0.00	
4,900.00	22.61	126.80	4,600.39	-942.43	1,259.77	938.25	0.00	0.00	0.00	
5,000.00	22.61	126.80	4,692.70	-965.46	1,290.55	961.17	0.00	0.00	0.00	
5,100.00	22.61	126.80	4,785.02	-988.49	1,321.34	984.10	0.00	0.00	0.00	
5,200.00	22.61	126.80	4,877.33	-1,011.52	1,352.12	1,007.03	0.00	0.00	0.00	
5,300.00	22.61	126.80	4,969.65	-1,034.55	1,382.91	1,029.96	0.00	0.00	0.00	
5,400.00	22.61	126.80	5,061.96	-1,057.58	1,413.69	1,052.88	0.00	0.00	0.00	
5,500.00	22.61	126.80	5,154.27	-1,080.61	1,444.48	1,075.81	0.00	0.00	0.00	
5,600.00	22.61	126.80	5,246.59	-1,103.64	1,475.26	1,098.74	0.00	0.00	0.00	
5,700.00	22.61	126.80	5,338.90	-1,126.67	1,506.05	1,121.67	0.00	0.00	0.00	
5,800.00	22.61	126.80	5,431.22	-1,149.70	1,536.83	1,144.59	0.00	0.00	0.00	
5,900.00	22.61	126.80	5,523.53	-1,172.73	1,567.62	1,167.52	0.00	0.00	0.00	
6,000.00	22.61	126.80	5,615.85	-1,195.76	1,598.40	1,190.45	0.00	0.00	0.00	
6,100.00	22.61	126.80	5,708.16	-1,218.79	1,629.18	1,213.38	0.00	0.00	0.00	
6,200.00	22.61	126.80	5,800.48	-1,241.82	1,659.97	1,236.30	0.00	0.00	0.00	
6,300.00	22.61	126.80	5,892.79	-1,264.85	1,690.75	1,259.23	0.00	0.00	0.00	
6,400.00	22.61	126.80	5,985.10	-1,287.88	1,721.54	1,282.16	0.00	0.00	0.00	
6,500.00	22.61	126.80	6,077.42	-1,310.91	1,752.32	1,305.09	0.00	0.00	0.00	
6,600.00	22.61	126.80	6,169.73	-1,333.94	1,783.11	1,328.01	0.00	0.00	0.00	
6,700.00	22.61	126.80	6,262.05	-1,356.97	1,813.89	1,350.94	0.00	0.00	0.00	
6,800.00	22.61	126.80	6,354.36	-1,379.99	1,844.68	1,373.87	0.00	0.00	0.00	
6,900.00	22.61	126.80	6,446.68	-1,403.02	1,875.46	1,396.80	0.00	0.00	0.00	
7,000.00	22.61	126.80	6,538.99	-1,426.05	1,906.25	1,419.73	0.00	0.00	0.00	
7,100.00	22.61	126.80	6,631.30	-1,449.08	1,937.03	1,442.65	0.00	0.00	0.00	
7,125.31	22.61	126.80	6,654.67	-1,454.91	1,944.82	1,448.46	0.00	0.00	0.00	
KOP @ 7125.31ft :: DLS = 9°/100'										
7,200.00	26.96	139.09	6,722.51	-1,476.33	1,967.43	1,469.80	9.00	5.82	16.46	
7,300.00	33.93	150.40	6,808.74	-1,517.82	1,996.12	1,511.19	9.00	6.98	11.30	
7,400.00	41.62	158.08	6,887.76	-1,573.01	2,022.36	1,566.29	9.00	7.68	7.69	
7,500.00	49.68	163.70	6,957.64	-1,640.55	2,045.50	1,633.75	9.00	8.06	5.62	
7,600.00	57.95	168.11	7,016.65	-1,718.77	2,064.97	1,711.91	9.00	8.27	4.40	
7,700.00	66.35	171.77	7,063.33	-1,805.74	2,080.29	1,798.83	9.00	8.40	3.66	
7,800.00	74.82	174.98	7,096.55	-1,899.34	2,091.09	1,892.39	9.00	8.47	3.22	
7,900.00	83.34	177.95	7,115.47	-1,997.24	2,097.10	1,990.27	9.00	8.52	2.97	
7,978.03	90.00	180.19	7,120.00	-2,075.07	2,098.36	2,068.10	9.00	8.53	2.87	
End Build @ 7978.03ft										
8,000.00	90.00	180.19	7,120.00	-2,097.05	2,098.29	2,090.08	0.00	0.00	0.00	
8,100.00	90.00	180.19	7,120.00	-2,197.05	2,097.96	2,190.08	0.00	0.00	0.00	
8,200.00	90.00	180.19	7,120.00	-2,297.05	2,097.64	2,290.08	0.00	0.00	0.00	
8,300.00	90.00	180.19	7,120.00	-2,397.05	2,097.31	2,390.08	0.00	0.00	0.00	
8,400.00	90.00	180.19	7,120.00	-2,497.05	2,096.99	2,490.08	0.00	0.00	0.00	
8,500.00	90.00	180.19	7,120.00	-2,597.05	2,096.66	2,590.08	0.00	0.00	0.00	
8,600.00	90.00	180.19	7,120.00	-2,697.05	2,096.34	2,690.08	0.00	0.00	0.00	
8,700.00	90.00	180.19	7,120.00	-2,797.05	2,096.01	2,790.08	0.00	0.00	0.00	
8,800.00	90.00	180.19	7,120.00	-2,897.04	2,095.69	2,890.08	0.00	0.00	0.00	
8,900.00	90.00	180.19	7,120.00	-2,997.04	2,095.36	2,990.08	0.00	0.00	0.00	
9,000.00	90.00	180.19	7,120.00	-3,097.04	2,095.04	3,090.08	0.00	0.00	0.00	
9,100.00	90.00	180.19	7,120.00	-3,197.04	2,094.71	3,190.08	0.00	0.00	0.00	
9,200.00	90.00	180.19	7,120.00	-3,297.04	2,094.38	3,290.08	0.00	0.00	0.00	
9,300.00	90.00	180.19	7,120.00	-3,397.04	2,094.06	3,390.08	0.00	0.00	0.00	
9,400.00	90.00	180.19	7,120.00	-3,497.04	2,093.73	3,490.08	0.00	0.00	0.00	
9,500.00	90.00	180.19	7,120.00	-3,597.04	2,093.41	3,590.08	0.00	0.00	0.00	
9,600.00	90.00	180.19	7,120.00	-3,697.04	2,093.08	3,690.08	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 1224-14H
<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 1224-14H	<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	180.19	7,120.00	-3,797.04	2,092.76	3,790.08	0.00	0.00	0.00	
9,800.00	90.00	180.19	7,120.00	-3,897.04	2,092.43	3,890.08	0.00	0.00	0.00	
9,900.00	90.00	180.19	7,120.00	-3,997.04	2,092.11	3,990.08	0.00	0.00	0.00	
10,000.00	90.00	180.19	7,120.00	-4,097.04	2,091.78	4,090.08	0.00	0.00	0.00	
10,100.00	90.00	180.19	7,120.00	-4,197.04	2,091.46	4,190.08	0.00	0.00	0.00	
10,200.00	90.00	180.19	7,120.00	-4,297.04	2,091.13	4,290.08	0.00	0.00	0.00	
10,300.00	90.00	180.19	7,120.00	-4,397.04	2,090.80	4,390.08	0.00	0.00	0.00	
10,400.00	90.00	180.19	7,120.00	-4,497.04	2,090.48	4,490.08	0.00	0.00	0.00	
10,500.00	90.00	180.19	7,120.00	-4,597.04	2,090.15	4,590.08	0.00	0.00	0.00	
10,600.00	90.00	180.19	7,120.00	-4,697.04	2,089.83	4,690.08	0.00	0.00	0.00	
10,700.00	90.00	180.19	7,120.00	-4,797.03	2,089.50	4,790.08	0.00	0.00	0.00	
10,800.00	90.00	180.19	7,120.00	-4,897.03	2,089.18	4,890.08	0.00	0.00	0.00	
10,900.00	90.00	180.19	7,120.00	-4,997.03	2,088.85	4,990.08	0.00	0.00	0.00	
11,000.00	90.00	180.19	7,120.00	-5,097.03	2,088.53	5,090.08	0.00	0.00	0.00	
11,100.00	90.00	180.19	7,120.00	-5,197.03	2,088.20	5,190.08	0.00	0.00	0.00	
11,200.00	90.00	180.19	7,120.00	-5,297.03	2,087.88	5,290.08	0.00	0.00	0.00	
11,300.00	90.00	180.19	7,120.00	-5,397.03	2,087.55	5,390.08	0.00	0.00	0.00	
11,400.00	90.00	180.19	7,120.00	-5,497.03	2,087.23	5,490.08	0.00	0.00	0.00	
11,500.00	90.00	180.19	7,120.00	-5,597.03	2,086.90	5,590.08	0.00	0.00	0.00	
11,600.00	90.00	180.19	7,120.00	-5,697.03	2,086.57	5,690.08	0.00	0.00	0.00	
11,700.00	90.00	180.19	7,120.00	-5,797.03	2,086.25	5,790.08	0.00	0.00	0.00	
11,800.00	90.00	180.19	7,120.00	-5,897.03	2,085.92	5,890.08	0.00	0.00	0.00	
11,900.00	90.00	180.19	7,120.00	-5,997.03	2,085.60	5,990.08	0.00	0.00	0.00	
12,000.00	90.00	180.19	7,120.00	-6,097.03	2,085.27	6,090.08	0.00	0.00	0.00	
12,100.00	90.00	180.19	7,120.00	-6,197.03	2,084.95	6,190.08	0.00	0.00	0.00	
12,200.00	90.00	180.19	7,120.00	-6,297.03	2,084.62	6,290.08	0.00	0.00	0.00	
12,300.00	90.00	180.19	7,120.00	-6,397.03	2,084.30	6,390.08	0.00	0.00	0.00	
12,400.00	90.00	180.19	7,120.00	-6,497.03	2,083.97	6,490.08	0.00	0.00	0.00	
12,500.00	90.00	180.19	7,120.00	-6,597.03	2,083.65	6,590.08	0.00	0.00	0.00	
12,600.00	90.00	180.19	7,120.00	-6,697.02	2,083.32	6,690.08	0.00	0.00	0.00	
12,700.00	90.00	180.19	7,120.00	-6,797.02	2,083.00	6,790.08	0.00	0.00	0.00	
12,800.00	90.00	180.19	7,120.00	-6,897.02	2,082.67	6,890.08	0.00	0.00	0.00	
12,900.00	90.00	180.19	7,120.00	-6,997.02	2,082.34	6,990.08	0.00	0.00	0.00	
13,000.00	90.00	180.19	7,120.00	-7,097.02	2,082.02	7,090.08	0.00	0.00	0.00	
13,100.00	90.00	180.19	7,120.00	-7,197.02	2,081.69	7,190.08	0.00	0.00	0.00	
13,200.00	90.00	180.19	7,120.00	-7,297.02	2,081.37	7,290.08	0.00	0.00	0.00	
13,300.00	90.00	180.19	7,120.00	-7,397.02	2,081.04	7,390.08	0.00	0.00	0.00	
13,400.00	90.00	180.19	7,120.00	-7,497.02	2,080.72	7,490.08	0.00	0.00	0.00	
13,500.00	90.00	180.19	7,120.00	-7,597.02	2,080.39	7,590.08	0.00	0.00	0.00	
13,600.00	90.00	180.19	7,120.00	-7,697.02	2,080.07	7,690.08	0.00	0.00	0.00	
13,700.00	90.00	180.19	7,120.00	-7,797.02	2,079.74	7,790.08	0.00	0.00	0.00	
13,800.00	90.00	180.19	7,120.00	-7,897.02	2,079.42	7,890.08	0.00	0.00	0.00	
13,900.00	90.00	180.19	7,120.00	-7,997.02	2,079.09	7,990.08	0.00	0.00	0.00	
14,000.00	90.00	180.19	7,120.00	-8,097.02	2,078.77	8,090.08	0.00	0.00	0.00	
14,100.00	90.00	180.19	7,120.00	-8,197.02	2,078.44	8,190.08	0.00	0.00	0.00	
14,200.00	90.00	180.19	7,120.00	-8,297.02	2,078.11	8,290.08	0.00	0.00	0.00	
14,300.00	90.00	180.19	7,120.00	-8,397.02	2,077.79	8,390.08	0.00	0.00	0.00	
14,400.00	90.00	180.19	7,120.00	-8,497.02	2,077.46	8,490.08	0.00	0.00	0.00	
14,500.00	90.00	180.19	7,120.00	-8,597.01	2,077.14	8,590.08	0.00	0.00	0.00	
14,600.00	90.00	180.19	7,120.00	-8,697.01	2,076.81	8,690.08	0.00	0.00	0.00	
14,700.00	90.00	180.19	7,120.00	-8,797.01	2,076.49	8,790.08	0.00	0.00	0.00	
14,800.00	90.00	180.19	7,120.00	-8,897.01	2,076.16	8,890.08	0.00	0.00	0.00	
14,900.00	90.00	180.19	7,120.00	-8,997.01	2,075.84	8,990.08	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 1224-14H
<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 1224-14H	<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	180.19	7,120.00	-9,097.01	2,075.51	9,090.08	0.00	0.00	0.00	
15,100.00	90.00	180.19	7,120.00	-9,197.01	2,075.19	9,190.08	0.00	0.00	0.00	
15,200.00	90.00	180.19	7,120.00	-9,297.01	2,074.86	9,290.08	0.00	0.00	0.00	
15,300.00	90.00	180.19	7,120.00	-9,397.01	2,074.54	9,390.08	0.00	0.00	0.00	
15,400.00	90.00	180.19	7,120.00	-9,497.01	2,074.21	9,490.08	0.00	0.00	0.00	
15,500.00	90.00	180.19	7,120.00	-9,597.01	2,073.88	9,590.08	0.00	0.00	0.00	
15,600.00	90.00	180.19	7,120.00	-9,697.01	2,073.56	9,690.08	0.00	0.00	0.00	
15,700.00	90.00	180.19	7,120.00	-9,797.01	2,073.23	9,790.08	0.00	0.00	0.00	
15,800.00	90.00	180.19	7,120.00	-9,897.01	2,072.91	9,890.08	0.00	0.00	0.00	
15,900.00	90.00	180.19	7,120.00	-9,997.01	2,072.58	9,990.08	0.00	0.00	0.00	
16,000.00	90.00	180.19	7,120.00	-10,097.01	2,072.26	10,090.08	0.00	0.00	0.00	
16,100.00	90.00	180.19	7,120.00	-10,197.01	2,071.93	10,190.08	0.00	0.00	0.00	
16,200.00	90.00	180.19	7,120.00	-10,297.01	2,071.61	10,290.08	0.00	0.00	0.00	
16,300.00	90.00	180.19	7,120.00	-10,397.01	2,071.28	10,390.08	0.00	0.00	0.00	
16,400.00	90.00	180.19	7,120.00	-10,497.00	2,070.96	10,490.08	0.00	0.00	0.00	
16,500.00	90.00	180.19	7,120.00	-10,597.00	2,070.63	10,590.08	0.00	0.00	0.00	
16,600.00	90.00	180.19	7,120.00	-10,697.00	2,070.30	10,690.08	0.00	0.00	0.00	
16,700.00	90.00	180.19	7,120.00	-10,797.00	2,069.98	10,790.08	0.00	0.00	0.00	
16,800.00	90.00	180.19	7,120.00	-10,897.00	2,069.65	10,890.08	0.00	0.00	0.00	
16,900.00	90.00	180.19	7,120.00	-10,997.00	2,069.33	10,990.08	0.00	0.00	0.00	
17,000.00	90.00	180.19	7,120.00	-11,097.00	2,069.00	11,090.08	0.00	0.00	0.00	
17,100.00	90.00	180.19	7,120.00	-11,197.00	2,068.68	11,190.08	0.00	0.00	0.00	
17,200.00	90.00	180.19	7,120.00	-11,297.00	2,068.35	11,290.08	0.00	0.00	0.00	
17,300.00	90.00	180.19	7,120.00	-11,397.00	2,068.03	11,390.08	0.00	0.00	0.00	
17,400.00	90.00	180.19	7,120.00	-11,497.00	2,067.70	11,490.08	0.00	0.00	0.00	
17,500.00	90.00	180.19	7,120.00	-11,597.00	2,067.38	11,590.08	0.00	0.00	0.00	
17,600.00	90.00	180.19	7,120.00	-11,697.00	2,067.05	11,690.08	0.00	0.00	0.00	
17,700.00	90.00	180.19	7,120.00	-11,797.00	2,066.73	11,790.08	0.00	0.00	0.00	
17,800.00	90.00	180.19	7,120.00	-11,897.00	2,066.40	11,890.08	0.00	0.00	0.00	
17,900.00	90.00	180.19	7,120.00	-11,997.00	2,066.07	11,990.08	0.00	0.00	0.00	
18,000.00	90.00	180.19	7,120.00	-12,097.00	2,065.75	12,090.08	0.00	0.00	0.00	
18,100.00	90.00	180.19	7,120.00	-12,197.00	2,065.42	12,190.08	0.00	0.00	0.00	
18,126.07	90.00	180.19	7,120.00	-12,223.07	2,065.34	12,216.15	0.00	0.00	0.00	
TD Well @ 18126.07ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,758.14	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	
1,380.50	1,351.39	-131.89	176.30	Hold Tangent @ 1380.50ft	
7,125.31	6,654.67	-1,454.91	1,944.82	KOP @ 7125.31ft :: DLS = 9°/100'	
7,978.03	7,120.00	-2,075.07	2,098.36	End Build @ 7978.03ft	
18,126.07	7,120.00	-12,223.07	2,065.34	TD Well @ 18126.07ft	