

VERDAD RESOURCES

**WATTENBERG FIELD
1N-65W-12 SAFI 1224 PAD
SAFI 1224-05H**

Wellbore #1

Plan: Design #1

Standard Planning Report

16 May, 2019

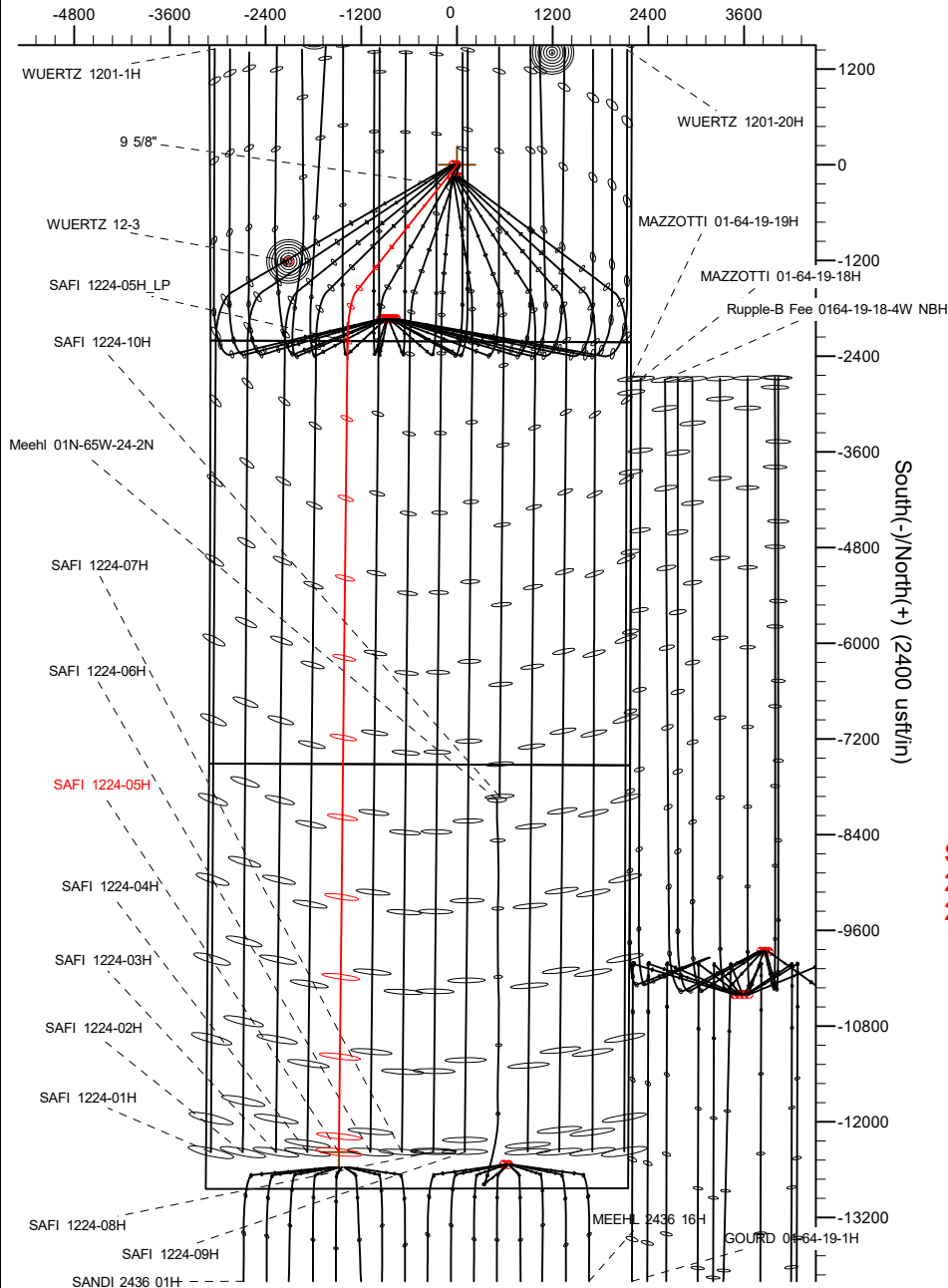
Project: WATTENBERG FIELD
Site: 1N-65W-12 SAFI 1224 PAD
Well: SAFI 1224-05H
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1743.63	9 5/8"	9-5/8

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



SHL
2215' FSL
2187' FEL

LP
0' FNL
1718' FWL

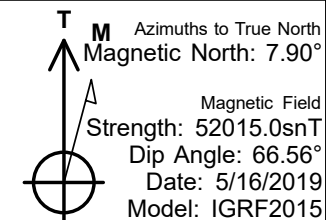
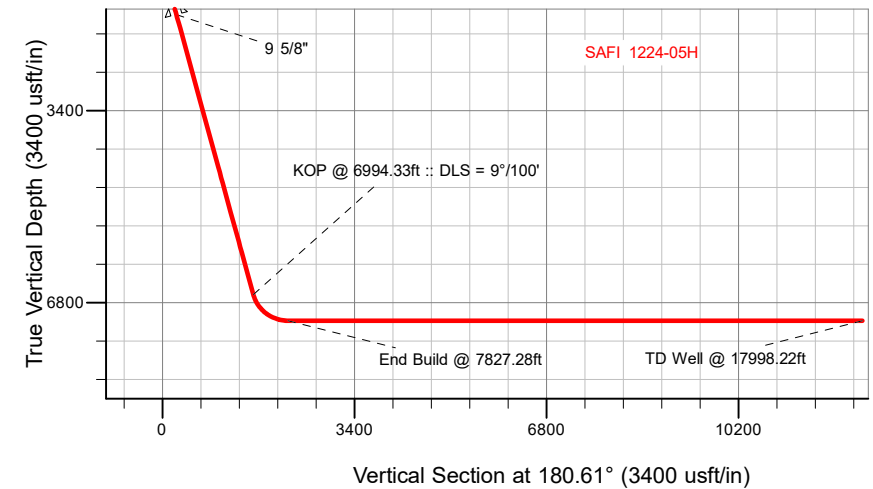
BHL
460' FSL
1667' FWL

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	
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	
1279.50	19.19	218.50	1261.66	-124.58	-99.10	2.00	218.50	125.63	
6994.33	19.19	218.50	6658.94	-1594.69	-1268.47	0.00	0.00	1608.10	
7827.28	90.00	180.61	7120.00	-2208.44	-1373.54	9.00	-39.49	2222.94	
17998.22	90.00	180.61	7120.00	-12378.80	-1481.34	0.00	0.00	12393.87	SAFI 1224-05H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SAFI 1224-05H_SHL	0.00	0.00	0.00	40.064785	-104.610504
SAFI 1224-05H_BHL	7120.00	-12378.80	-1481.34	40.030803	-104.615794



WELL DETAILS: SAFI 1224-05H

GL = 4970'

RKB = 24' @ 4994.00usft (RIG)

Plan: Design #1 (SAFI 1224-05H/Wellbore #1)

Date: 5/16/2019

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-05H
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 1224-05H	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		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 1224-05H					
Well Position	+N/-S	-102.84 usft	Northing:	1,267,695.14 usft	Latitude:	40.064785
	+E/-W	208.60 usft	Easting:	3,248,954.49 usft	Longitude:	-104.610505
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,970.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/16/2019	7.90	66.56	52,015.03948476

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	180.61

Plan Survey Tool Program	Date	5/16/2019		
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	17,998.22	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	
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,279.50	19.19	218.50	1,261.66	-124.58	-99.10	2.00	2.00	0.00	218.50	
6,994.33	19.19	218.50	6,658.94	-1,594.69	-1,268.47	0.00	0.00	0.00	0.00	
7,827.28	90.00	180.61	7,120.00	-2,208.44	-1,373.54	9.00	8.50	-4.55	-39.49	
17,998.22	90.00	180.61	7,120.00	-12,378.81	-1,481.34	0.00	0.00	0.00	0.00	SAFI 1224-05H_BHL

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-05H
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 1224-05H	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
320.00	0.00	0.00	320.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 320.00ft									
400.00	1.60	218.50	399.99	-0.87	-0.70	0.88	2.00	2.00	0.00
500.00	3.60	218.50	499.88	-4.42	-3.52	4.46	2.00	2.00	0.00
600.00	5.60	218.50	599.55	-10.70	-8.51	10.79	2.00	2.00	0.00
700.00	7.60	218.50	698.89	-19.69	-15.67	19.86	2.00	2.00	0.00
800.00	9.60	218.50	797.76	-31.40	-24.97	31.66	2.00	2.00	0.00
900.00	11.60	218.50	896.05	-45.79	-36.42	46.18	2.00	2.00	0.00
1,000.00	13.60	218.50	993.63	-62.86	-50.00	63.39	2.00	2.00	0.00
1,100.00	15.60	218.50	1,090.40	-82.59	-65.69	83.28	2.00	2.00	0.00
1,200.00	17.60	218.50	1,186.23	-104.95	-83.48	105.83	2.00	2.00	0.00
1,279.50	19.19	218.50	1,261.66	-124.58	-99.10	125.63	2.00	2.00	0.00
Hold Tangent @ 1279.50ft									
1,300.00	19.19	218.50	1,281.02	-129.85	-103.29	130.95	0.00	0.00	0.00
1,400.00	19.19	218.50	1,375.47	-155.58	-123.75	156.89	0.00	0.00	0.00
1,500.00	19.19	218.50	1,469.91	-181.30	-144.21	182.83	0.00	0.00	0.00
1,600.00	19.19	218.50	1,564.35	-207.03	-164.68	208.77	0.00	0.00	0.00
1,700.00	19.19	218.50	1,658.80	-232.75	-185.14	234.71	0.00	0.00	0.00
1,743.63	19.19	218.50	1,700.00	-243.97	-194.07	246.03	0.00	0.00	0.00
9 5/8"									
1,800.00	19.19	218.50	1,753.24	-258.48	-205.60	260.65	0.00	0.00	0.00
1,900.00	19.19	218.50	1,847.68	-284.20	-226.06	286.59	0.00	0.00	0.00
2,000.00	19.19	218.50	1,942.13	-309.92	-246.53	312.53	0.00	0.00	0.00
2,100.00	19.19	218.50	2,036.57	-335.65	-266.99	338.47	0.00	0.00	0.00
2,200.00	19.19	218.50	2,131.01	-361.37	-287.45	364.41	0.00	0.00	0.00
2,300.00	19.19	218.50	2,225.46	-387.10	-307.91	390.35	0.00	0.00	0.00
2,400.00	19.19	218.50	2,319.90	-412.82	-328.37	416.30	0.00	0.00	0.00
2,500.00	19.19	218.50	2,414.34	-438.55	-348.84	442.24	0.00	0.00	0.00
2,600.00	19.19	218.50	2,508.79	-464.27	-369.30	468.18	0.00	0.00	0.00
2,700.00	19.19	218.50	2,603.23	-490.00	-389.76	494.12	0.00	0.00	0.00
2,800.00	19.19	218.50	2,697.67	-515.72	-410.22	520.06	0.00	0.00	0.00
2,900.00	19.19	218.50	2,792.12	-541.45	-430.68	546.00	0.00	0.00	0.00
3,000.00	19.19	218.50	2,886.56	-567.17	-451.15	571.94	0.00	0.00	0.00
3,100.00	19.19	218.50	2,981.00	-592.89	-471.61	597.88	0.00	0.00	0.00
3,200.00	19.19	218.50	3,075.45	-618.62	-492.07	623.82	0.00	0.00	0.00
3,300.00	19.19	218.50	3,169.89	-644.34	-512.53	649.76	0.00	0.00	0.00
3,400.00	19.19	218.50	3,264.33	-670.07	-533.00	675.70	0.00	0.00	0.00
3,500.00	19.19	218.50	3,358.78	-695.79	-553.46	701.64	0.00	0.00	0.00
3,600.00	19.19	218.50	3,453.22	-721.52	-573.92	727.59	0.00	0.00	0.00
3,700.00	19.19	218.50	3,547.66	-747.24	-594.38	753.53	0.00	0.00	0.00
3,800.00	19.19	218.50	3,642.11	-772.97	-614.84	779.47	0.00	0.00	0.00
3,900.00	19.19	218.50	3,736.55	-798.69	-635.31	805.41	0.00	0.00	0.00
4,000.00	19.19	218.50	3,830.99	-824.41	-655.77	831.35	0.00	0.00	0.00
4,100.00	19.19	218.50	3,925.44	-850.14	-676.23	857.29	0.00	0.00	0.00
4,200.00	19.19	218.50	4,019.88	-875.86	-696.69	883.23	0.00	0.00	0.00
4,300.00	19.19	218.50	4,114.32	-901.59	-717.16	909.17	0.00	0.00	0.00
4,400.00	19.19	218.50	4,208.77	-927.31	-737.62	935.11	0.00	0.00	0.00
4,500.00	19.19	218.50	4,303.21	-953.04	-758.08	961.05	0.00	0.00	0.00
4,600.00	19.19	218.50	4,397.65	-978.76	-778.54	986.99	0.00	0.00	0.00

Hewlett-Packard

Planning Report

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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 1224-05H	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	19.19	218.50	4,492.10	-1,004.49	-799.00	1,012.94	0.00	0.00	0.00	
4,800.00	19.19	218.50	4,586.54	-1,030.21	-819.47	1,038.88	0.00	0.00	0.00	
4,900.00	19.19	218.50	4,680.98	-1,055.93	-839.93	1,064.82	0.00	0.00	0.00	
5,000.00	19.19	218.50	4,775.43	-1,081.66	-860.39	1,090.76	0.00	0.00	0.00	
5,100.00	19.19	218.50	4,869.87	-1,107.38	-880.85	1,116.70	0.00	0.00	0.00	
5,200.00	19.19	218.50	4,964.31	-1,133.11	-901.31	1,142.64	0.00	0.00	0.00	
5,300.00	19.19	218.50	5,058.76	-1,158.83	-921.78	1,168.58	0.00	0.00	0.00	
5,400.00	19.19	218.50	5,153.20	-1,184.56	-942.24	1,194.52	0.00	0.00	0.00	
5,500.00	19.19	218.50	5,247.64	-1,210.28	-962.70	1,220.46	0.00	0.00	0.00	
5,600.00	19.19	218.50	5,342.09	-1,236.01	-983.16	1,246.40	0.00	0.00	0.00	
5,700.00	19.19	218.50	5,436.53	-1,261.73	-1,003.63	1,272.34	0.00	0.00	0.00	
5,800.00	19.19	218.50	5,530.97	-1,287.45	-1,024.09	1,298.28	0.00	0.00	0.00	
5,900.00	19.19	218.50	5,625.42	-1,313.18	-1,044.55	1,324.23	0.00	0.00	0.00	
6,000.00	19.19	218.50	5,719.86	-1,338.90	-1,065.01	1,350.17	0.00	0.00	0.00	
6,100.00	19.19	218.50	5,814.30	-1,364.63	-1,085.47	1,376.11	0.00	0.00	0.00	
6,200.00	19.19	218.50	5,908.75	-1,390.35	-1,105.94	1,402.05	0.00	0.00	0.00	
6,300.00	19.19	218.50	6,003.19	-1,416.08	-1,126.40	1,427.99	0.00	0.00	0.00	
6,400.00	19.19	218.50	6,097.63	-1,441.80	-1,146.86	1,453.93	0.00	0.00	0.00	
6,500.00	19.19	218.50	6,192.08	-1,467.53	-1,167.32	1,479.87	0.00	0.00	0.00	
6,600.00	19.19	218.50	6,286.52	-1,493.25	-1,187.79	1,505.81	0.00	0.00	0.00	
6,700.00	19.19	218.50	6,380.96	-1,518.97	-1,208.25	1,531.75	0.00	0.00	0.00	
6,800.00	19.19	218.50	6,475.41	-1,544.70	-1,228.71	1,557.69	0.00	0.00	0.00	
6,900.00	19.19	218.50	6,569.85	-1,570.42	-1,249.17	1,583.63	0.00	0.00	0.00	
6,994.33	19.19	218.50	6,658.94	-1,594.69	-1,268.47	1,608.10	0.00	0.00	0.00	
KOP @ 6994.33ft :: DLS = 9°/100'										
7,000.00	19.59	217.53	6,664.29	-1,596.17	-1,269.63	1,609.60	9.00	6.99	-17.07	
7,100.00	27.18	205.20	6,756.06	-1,630.20	-1,289.61	1,643.84	9.00	7.60	-12.33	
7,200.00	35.41	198.11	6,841.47	-1,678.51	-1,308.38	1,692.34	9.00	8.22	-7.10	
7,300.00	43.91	193.44	6,918.40	-1,739.89	-1,325.48	1,753.91	9.00	8.50	-4.67	
7,400.00	52.54	190.03	6,984.97	-1,812.85	-1,340.48	1,827.02	9.00	8.64	-3.41	
7,500.00	61.26	187.34	7,039.53	-1,895.58	-1,353.02	1,909.88	9.00	8.71	-2.69	
7,600.00	70.02	185.07	7,080.75	-1,986.06	-1,362.79	2,000.45	9.00	8.76	-2.27	
7,700.00	78.80	183.03	7,107.60	-2,082.04	-1,369.55	2,096.50	9.00	8.78	-2.03	
7,800.00	87.60	181.12	7,119.43	-2,181.17	-1,373.13	2,195.66	9.00	8.80	-1.91	
7,827.28	90.00	180.61	7,120.00	-2,208.44	-1,373.54	2,222.94	9.00	8.80	-1.88	
End Build @ 7827.28ft										
7,900.00	90.00	180.61	7,120.00	-2,281.15	-1,374.31	2,295.66	0.00	0.00	0.00	
8,000.00	90.00	180.61	7,120.00	-2,381.15	-1,375.37	2,395.66	0.00	0.00	0.00	
8,100.00	90.00	180.61	7,120.00	-2,481.14	-1,376.43	2,495.66	0.00	0.00	0.00	
8,200.00	90.00	180.61	7,120.00	-2,581.14	-1,377.49	2,595.66	0.00	0.00	0.00	
8,300.00	90.00	180.61	7,120.00	-2,681.13	-1,378.55	2,695.66	0.00	0.00	0.00	
8,400.00	90.00	180.61	7,120.00	-2,781.13	-1,379.61	2,795.66	0.00	0.00	0.00	
8,500.00	90.00	180.61	7,120.00	-2,881.12	-1,380.67	2,895.66	0.00	0.00	0.00	
8,600.00	90.00	180.61	7,120.00	-2,981.11	-1,381.73	2,995.66	0.00	0.00	0.00	
8,700.00	90.00	180.61	7,120.00	-3,081.11	-1,382.79	3,095.66	0.00	0.00	0.00	
8,800.00	90.00	180.61	7,120.00	-3,181.10	-1,383.85	3,195.66	0.00	0.00	0.00	
8,900.00	90.00	180.61	7,120.00	-3,281.10	-1,384.91	3,295.66	0.00	0.00	0.00	
9,000.00	90.00	180.61	7,120.00	-3,381.09	-1,385.97	3,395.66	0.00	0.00	0.00	
9,100.00	90.00	180.61	7,120.00	-3,481.09	-1,387.03	3,495.66	0.00	0.00	0.00	
9,200.00	90.00	180.61	7,120.00	-3,581.08	-1,388.09	3,595.66	0.00	0.00	0.00	
9,300.00	90.00	180.61	7,120.00	-3,681.08	-1,389.15	3,695.66	0.00	0.00	0.00	
9,400.00	90.00	180.61	7,120.00	-3,781.07	-1,390.21	3,795.66	0.00	0.00	0.00	
9,500.00	90.00	180.61	7,120.00	-3,881.06	-1,391.27	3,895.66	0.00	0.00	0.00	
9,600.00	90.00	180.61	7,120.00	-3,981.06	-1,392.33	3,995.66	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-05H
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 1224-05H	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	90.00	180.61	7,120.00	-4,081.05	-1,393.39	4,095.66	0.00	0.00	0.00	
9,800.00	90.00	180.61	7,120.00	-4,181.05	-1,394.45	4,195.66	0.00	0.00	0.00	
9,900.00	90.00	180.61	7,120.00	-4,281.04	-1,395.51	4,295.66	0.00	0.00	0.00	
10,000.00	90.00	180.61	7,120.00	-4,381.04	-1,396.57	4,395.66	0.00	0.00	0.00	
10,100.00	90.00	180.61	7,120.00	-4,481.03	-1,397.63	4,495.66	0.00	0.00	0.00	
10,200.00	90.00	180.61	7,120.00	-4,581.02	-1,398.69	4,595.66	0.00	0.00	0.00	
10,300.00	90.00	180.61	7,120.00	-4,681.02	-1,399.75	4,695.66	0.00	0.00	0.00	
10,400.00	90.00	180.61	7,120.00	-4,781.01	-1,400.81	4,795.66	0.00	0.00	0.00	
10,500.00	90.00	180.61	7,120.00	-4,881.01	-1,401.87	4,895.66	0.00	0.00	0.00	
10,600.00	90.00	180.61	7,120.00	-4,981.00	-1,402.93	4,995.66	0.00	0.00	0.00	
10,700.00	90.00	180.61	7,120.00	-5,081.00	-1,403.99	5,095.66	0.00	0.00	0.00	
10,800.00	90.00	180.61	7,120.00	-5,180.99	-1,405.05	5,195.66	0.00	0.00	0.00	
10,900.00	90.00	180.61	7,120.00	-5,280.99	-1,406.11	5,295.66	0.00	0.00	0.00	
11,000.00	90.00	180.61	7,120.00	-5,380.98	-1,407.17	5,395.66	0.00	0.00	0.00	
11,100.00	90.00	180.61	7,120.00	-5,480.97	-1,408.23	5,495.66	0.00	0.00	0.00	
11,200.00	90.00	180.61	7,120.00	-5,580.97	-1,409.29	5,595.66	0.00	0.00	0.00	
11,300.00	90.00	180.61	7,120.00	-5,680.96	-1,410.35	5,695.66	0.00	0.00	0.00	
11,400.00	90.00	180.61	7,120.00	-5,780.96	-1,411.41	5,795.66	0.00	0.00	0.00	
11,500.00	90.00	180.61	7,120.00	-5,880.95	-1,412.47	5,895.66	0.00	0.00	0.00	
11,600.00	90.00	180.61	7,120.00	-5,980.95	-1,413.53	5,995.66	0.00	0.00	0.00	
11,700.00	90.00	180.61	7,120.00	-6,080.94	-1,414.59	6,095.66	0.00	0.00	0.00	
11,800.00	90.00	180.61	7,120.00	-6,180.94	-1,415.65	6,195.66	0.00	0.00	0.00	
11,900.00	90.00	180.61	7,120.00	-6,280.93	-1,416.71	6,295.66	0.00	0.00	0.00	
12,000.00	90.00	180.61	7,120.00	-6,380.92	-1,417.77	6,395.66	0.00	0.00	0.00	
12,100.00	90.00	180.61	7,120.00	-6,480.92	-1,418.83	6,495.66	0.00	0.00	0.00	
12,200.00	90.00	180.61	7,120.00	-6,580.91	-1,419.89	6,595.66	0.00	0.00	0.00	
12,300.00	90.00	180.61	7,120.00	-6,680.91	-1,420.95	6,695.66	0.00	0.00	0.00	
12,400.00	90.00	180.61	7,120.00	-6,780.90	-1,422.01	6,795.66	0.00	0.00	0.00	
12,500.00	90.00	180.61	7,120.00	-6,880.90	-1,423.07	6,895.66	0.00	0.00	0.00	
12,600.00	90.00	180.61	7,120.00	-6,980.89	-1,424.13	6,995.66	0.00	0.00	0.00	
12,700.00	90.00	180.61	7,120.00	-7,080.88	-1,425.19	7,095.66	0.00	0.00	0.00	
12,800.00	90.00	180.61	7,120.00	-7,180.88	-1,426.25	7,195.66	0.00	0.00	0.00	
12,900.00	90.00	180.61	7,120.00	-7,280.87	-1,427.31	7,295.66	0.00	0.00	0.00	
13,000.00	90.00	180.61	7,120.00	-7,380.87	-1,428.37	7,395.66	0.00	0.00	0.00	
13,100.00	90.00	180.61	7,120.00	-7,480.86	-1,429.43	7,495.66	0.00	0.00	0.00	
13,200.00	90.00	180.61	7,120.00	-7,580.86	-1,430.49	7,595.66	0.00	0.00	0.00	
13,300.00	90.00	180.61	7,120.00	-7,680.85	-1,431.55	7,695.66	0.00	0.00	0.00	
13,400.00	90.00	180.61	7,120.00	-7,780.85	-1,432.61	7,795.66	0.00	0.00	0.00	
13,500.00	90.00	180.61	7,120.00	-7,880.84	-1,433.67	7,895.66	0.00	0.00	0.00	
13,600.00	90.00	180.61	7,120.00	-7,980.83	-1,434.73	7,995.66	0.00	0.00	0.00	
13,700.00	90.00	180.61	7,120.00	-8,080.83	-1,435.79	8,095.66	0.00	0.00	0.00	
13,800.00	90.00	180.61	7,120.00	-8,180.82	-1,436.85	8,195.66	0.00	0.00	0.00	
13,900.00	90.00	180.61	7,120.00	-8,280.82	-1,437.91	8,295.66	0.00	0.00	0.00	
14,000.00	90.00	180.61	7,120.00	-8,380.81	-1,438.97	8,395.66	0.00	0.00	0.00	
14,100.00	90.00	180.61	7,120.00	-8,480.81	-1,440.03	8,495.66	0.00	0.00	0.00	
14,200.00	90.00	180.61	7,120.00	-8,580.80	-1,441.09	8,595.66	0.00	0.00	0.00	
14,300.00	90.00	180.61	7,120.00	-8,680.79	-1,442.15	8,695.66	0.00	0.00	0.00	
14,400.00	90.00	180.61	7,120.00	-8,780.79	-1,443.21	8,795.66	0.00	0.00	0.00	
14,500.00	90.00	180.61	7,120.00	-8,880.78	-1,444.27	8,895.66	0.00	0.00	0.00	
14,600.00	90.00	180.61	7,120.00	-8,980.78	-1,445.33	8,995.66	0.00	0.00	0.00	
14,700.00	90.00	180.61	7,120.00	-9,080.77	-1,446.39	9,095.66	0.00	0.00	0.00	
14,800.00	90.00	180.61	7,120.00	-9,180.77	-1,447.45	9,195.66	0.00	0.00	0.00	
14,900.00	90.00	180.61	7,120.00	-9,280.76	-1,448.51	9,295.66	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-05H
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 1224-05H	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)	
15,000.00	90.00	180.61	7,120.00	-9,380.76	-1,449.57	9,395.66	0.00	0.00	0.00	
15,100.00	90.00	180.61	7,120.00	-9,480.75	-1,450.63	9,495.66	0.00	0.00	0.00	
15,200.00	90.00	180.61	7,120.00	-9,580.74	-1,451.69	9,595.66	0.00	0.00	0.00	
15,300.00	90.00	180.61	7,120.00	-9,680.74	-1,452.75	9,695.66	0.00	0.00	0.00	
15,400.00	90.00	180.61	7,120.00	-9,780.73	-1,453.80	9,795.66	0.00	0.00	0.00	
15,500.00	90.00	180.61	7,120.00	-9,880.73	-1,454.86	9,895.66	0.00	0.00	0.00	
15,600.00	90.00	180.61	7,120.00	-9,980.72	-1,455.92	9,995.66	0.00	0.00	0.00	
15,700.00	90.00	180.61	7,120.00	-10,080.72	-1,456.98	10,095.66	0.00	0.00	0.00	
15,800.00	90.00	180.61	7,120.00	-10,180.71	-1,458.04	10,195.66	0.00	0.00	0.00	
15,900.00	90.00	180.61	7,120.00	-10,280.70	-1,459.10	10,295.66	0.00	0.00	0.00	
16,000.00	90.00	180.61	7,120.00	-10,380.70	-1,460.16	10,395.66	0.00	0.00	0.00	
16,100.00	90.00	180.61	7,120.00	-10,480.69	-1,461.22	10,495.66	0.00	0.00	0.00	
16,200.00	90.00	180.61	7,120.00	-10,580.69	-1,462.28	10,595.66	0.00	0.00	0.00	
16,300.00	90.00	180.61	7,120.00	-10,680.68	-1,463.34	10,695.66	0.00	0.00	0.00	
16,400.00	90.00	180.61	7,120.00	-10,780.68	-1,464.40	10,795.66	0.00	0.00	0.00	
16,500.00	90.00	180.61	7,120.00	-10,880.67	-1,465.46	10,895.66	0.00	0.00	0.00	
16,600.00	90.00	180.61	7,120.00	-10,980.67	-1,466.52	10,995.66	0.00	0.00	0.00	
16,700.00	90.00	180.61	7,120.00	-11,080.66	-1,467.58	11,095.66	0.00	0.00	0.00	
16,800.00	90.00	180.61	7,120.00	-11,180.65	-1,468.64	11,195.66	0.00	0.00	0.00	
16,900.00	90.00	180.61	7,120.00	-11,280.65	-1,469.70	11,295.66	0.00	0.00	0.00	
17,000.00	90.00	180.61	7,120.00	-11,380.64	-1,470.76	11,395.66	0.00	0.00	0.00	
17,100.00	90.00	180.61	7,120.00	-11,480.64	-1,471.82	11,495.66	0.00	0.00	0.00	
17,200.00	90.00	180.61	7,120.00	-11,580.63	-1,472.88	11,595.66	0.00	0.00	0.00	
17,300.00	90.00	180.61	7,120.00	-11,680.63	-1,473.94	11,695.66	0.00	0.00	0.00	
17,400.00	90.00	180.61	7,120.00	-11,780.62	-1,475.00	11,795.66	0.00	0.00	0.00	
17,500.00	90.00	180.61	7,120.00	-11,880.61	-1,476.06	11,895.66	0.00	0.00	0.00	
17,600.00	90.00	180.61	7,120.00	-11,980.61	-1,477.12	11,995.66	0.00	0.00	0.00	
17,700.00	90.00	180.61	7,120.00	-12,080.60	-1,478.18	12,095.66	0.00	0.00	0.00	
17,800.00	90.00	180.61	7,120.00	-12,180.60	-1,479.24	12,195.66	0.00	0.00	0.00	
17,900.00	90.00	180.61	7,120.00	-12,280.59	-1,480.30	12,295.66	0.00	0.00	0.00	
17,998.22	90.00	180.61	7,120.00	-12,378.81	-1,481.34	12,393.87	0.00	0.00	0.00	
TD Well @ 17998.22ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,743.63	1,700.00	9 5/8"	9-5/8	13-1/2	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
320.00	320.00	0.00	0.00	Begin Nudge @ 320.00ft	
1,279.50	1,261.66	-124.58	-99.10	Hold Tangent @ 1279.50ft	
6,994.33	6,658.94	-1,594.69	-1,268.47	KOP @ 6994.33ft :: DLS = 9°/100'	
7,827.28	7,120.00	-2,208.44	-1,373.54	End Build @ 7827.28ft	
17,998.22	7,120.00	-12,378.81	-1,481.34	TD Well @ 17998.22ft	