

VERDAD RESOURCES

**WATTENBERG FIELD
1N-65W-12 SAFI 1224 PAD
SAFI 1224-01H**

Wellbore #1

Plan: Design #2

Standard Planning Report

20 May, 2019

Project: WATTENBERG FIELD
Site: 1N-65W-12 SAFI 1224 PAD
Well: SAFI 1224-01H
Wellbore: Wellbore #1
Design: Design #2

VERDAD RESOURCES

CASING DETAILS

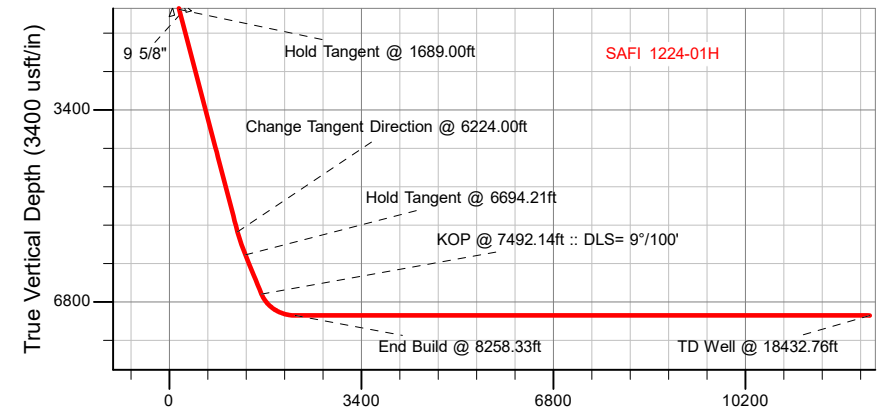
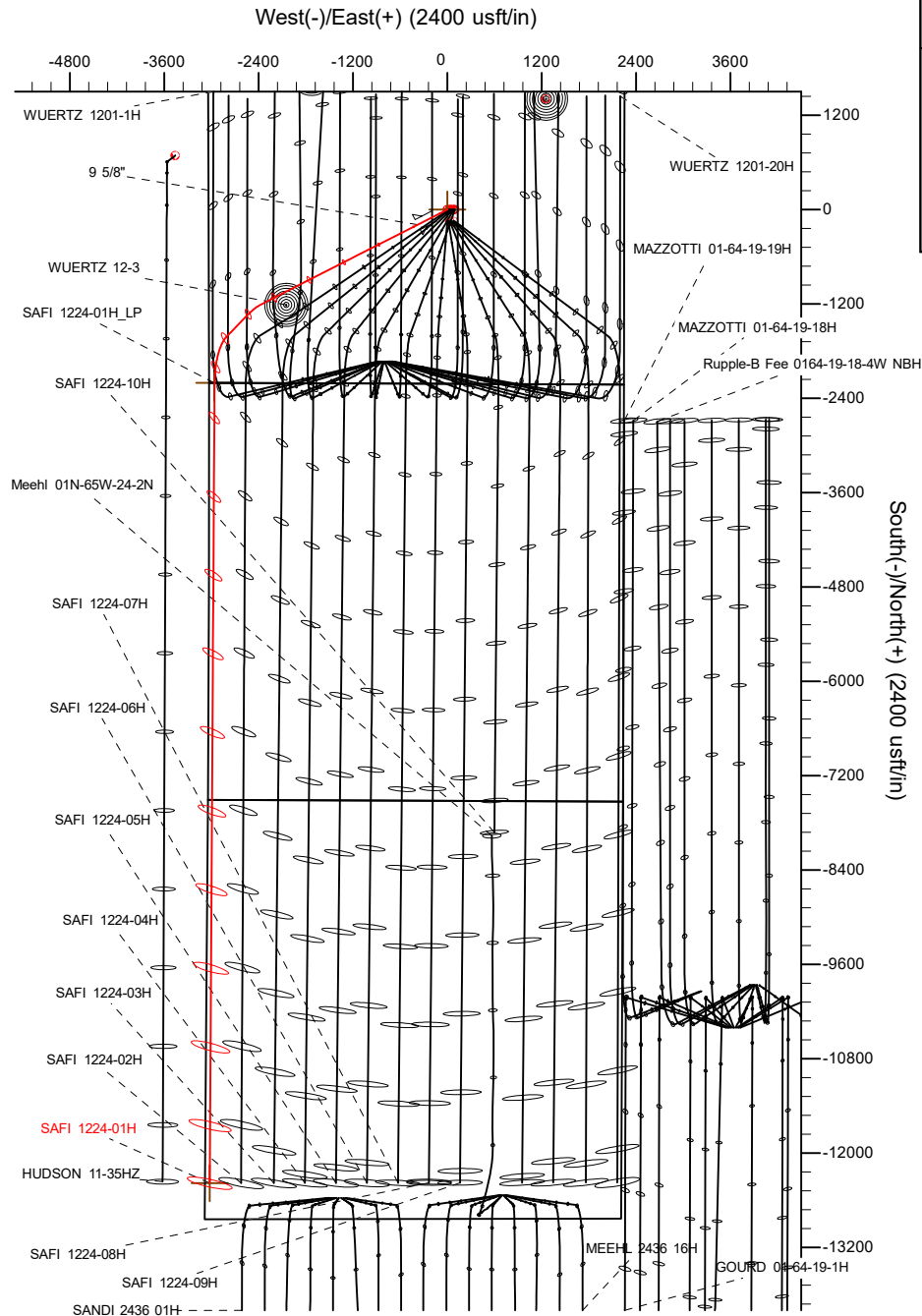
TVD	MD	Name	Size
1700.00	1777.88	9 5/8"	9-5/8

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
1689.00	29.78	243.05	1622.86	-171.46	-337.24	2.00	243.05	173.52	
6224.00	29.78	243.05	5558.96	-1192.28	-2345.04	0.00	0.00	1206.58	
6694.21	29.78	224.05	5967.99	-1329.44	-2530.73	2.00	-98.26	1344.87	
7492.14	29.78	224.05	6660.55	-1614.28	-2806.28	0.00	0.00	1631.39	
8258.33	90.00	180.35	7040.00	-2207.52	-2959.91	9.00	-47.75	2225.56	
18432.76	90.00	180.35	7040.00	-12381.76	-3021.80	0.00	0.00	12399.99	SAFI 1224-01H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

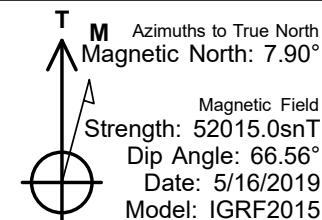
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SAFI 1224-01H_SHL	0.00	0.00	0.00	40.064786	-104.610733
SAFI 1224-01H_BHL	7040.00	-12381.76	-3021.80	40.030795	-104.621524



SHL
2215' FSL
2251' FEL

LP
0' FNL
65' FWL

BHL
460' FSL
62' FWL



WELL DETAILS: SAFI 1224-01H

GL = 4970'

RKB = 24' @ 4994.00usft (RIG)

Plan: Design #2 (SAFI 1224-01H/Wellbore #1)

Date: 5/20/2019

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-01H
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 1224-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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 1224-01H				
Well Position	+N/-S	-102.59 usft	Northing:	1,267,694.74 usft	Latitude:	40.064786
	+E/-W	144.62 usft	Easting:	3,248,890.50 usft	Longitude:	-104.610733
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	52,015.01607296

Design	Design #2			
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	180.35

Plan Survey Tool Program		Date	5/20/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,700.00	Design #2 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	
2	1,700.00	18,432.76	Design #2 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4994.00usft (RIG)
Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,689.00	29.78	243.05	1,622.86	-171.46	-337.24	2.00	2.00	0.00	243.05	
6,224.00	29.78	243.05	5,558.96	-1,192.28	-2,345.04	0.00	0.00	0.00	0.00	
6,694.21	29.78	224.05	5,967.99	-1,329.44	-2,530.73	2.00	0.00	-4.04	-98.26	
7,492.14	29.78	224.05	6,660.55	-1,614.28	-2,806.28	0.00	0.00	0.00	0.00	
8,258.33	90.00	180.35	7,040.00	-2,207.52	-2,959.91	9.00	7.86	-5.70	-47.75	
18,432.76	90.00	180.35	7,040.00	-12,381.76	-3,021.80	0.00	0.00	0.00	0.00	SAFI 1224-01H_BHL

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 1224-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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
Begin Nudge @ 200.00ft									
300.00	2.00	243.05	299.98	-0.79	-1.56	0.80	2.00	2.00	0.00
400.00	4.00	243.05	399.84	-3.16	-6.22	3.20	2.00	2.00	0.00
500.00	6.00	243.05	499.45	-7.11	-13.99	7.20	2.00	2.00	0.00
600.00	8.00	243.05	598.70	-12.64	-24.85	12.79	2.00	2.00	0.00
700.00	10.00	243.05	697.47	-19.72	-38.80	19.96	2.00	2.00	0.00
800.00	12.00	243.05	795.62	-28.37	-55.80	28.71	2.00	2.00	0.00
900.00	14.00	243.05	893.06	-38.57	-75.86	39.03	2.00	2.00	0.00
1,000.00	16.00	243.05	989.64	-50.30	-98.93	50.90	2.00	2.00	0.00
1,100.00	18.00	243.05	1,085.27	-63.55	-124.99	64.31	2.00	2.00	0.00
1,200.00	20.00	243.05	1,179.82	-78.30	-154.01	79.24	2.00	2.00	0.00
1,300.00	22.00	243.05	1,273.17	-94.54	-185.95	95.68	2.00	2.00	0.00
1,400.00	24.00	243.05	1,365.21	-112.25	-220.78	113.60	2.00	2.00	0.00
1,500.00	26.00	243.05	1,455.84	-131.40	-258.45	132.98	2.00	2.00	0.00
1,600.00	28.00	243.05	1,544.94	-151.98	-298.91	153.80	2.00	2.00	0.00
1,689.00	29.78	243.05	1,622.86	-171.46	-337.24	173.52	2.00	2.00	0.00
Hold Tangent @ 1689.00ft									
1,700.00	29.78	243.05	1,632.41	-173.94	-342.11	176.03	0.00	0.00	0.00
1,777.88	29.78	243.05	1,700.00	-191.47	-376.59	193.77	0.00	0.00	0.00
9 5/8"									
1,800.00	29.78	243.05	1,719.20	-196.45	-386.39	198.81	0.00	0.00	0.00
1,900.00	29.78	243.05	1,805.99	-218.96	-430.66	221.58	0.00	0.00	0.00
2,000.00	29.78	243.05	1,892.79	-241.47	-474.93	244.36	0.00	0.00	0.00
2,100.00	29.78	243.05	1,979.58	-263.98	-519.21	267.14	0.00	0.00	0.00
2,200.00	29.78	243.05	2,066.37	-286.49	-563.48	289.92	0.00	0.00	0.00
2,300.00	29.78	243.05	2,153.17	-309.00	-607.75	312.70	0.00	0.00	0.00
2,400.00	29.78	243.05	2,239.96	-331.51	-652.03	335.48	0.00	0.00	0.00
2,500.00	29.78	243.05	2,326.76	-354.02	-696.30	358.26	0.00	0.00	0.00
2,600.00	29.78	243.05	2,413.55	-376.53	-740.57	381.04	0.00	0.00	0.00
2,700.00	29.78	243.05	2,500.34	-399.04	-784.85	403.82	0.00	0.00	0.00
2,800.00	29.78	243.05	2,587.14	-421.55	-829.12	426.60	0.00	0.00	0.00
2,900.00	29.78	243.05	2,673.93	-444.06	-873.39	449.38	0.00	0.00	0.00
3,000.00	29.78	243.05	2,760.73	-466.57	-917.67	472.16	0.00	0.00	0.00
3,100.00	29.78	243.05	2,847.52	-489.08	-961.94	494.94	0.00	0.00	0.00
3,200.00	29.78	243.05	2,934.31	-511.59	-1,006.21	517.72	0.00	0.00	0.00
3,300.00	29.78	243.05	3,021.11	-534.10	-1,050.49	540.50	0.00	0.00	0.00
3,400.00	29.78	243.05	3,107.90	-556.60	-1,094.76	563.28	0.00	0.00	0.00
3,500.00	29.78	243.05	3,194.70	-579.11	-1,139.03	586.06	0.00	0.00	0.00
3,600.00	29.78	243.05	3,281.49	-601.62	-1,183.31	608.84	0.00	0.00	0.00
3,700.00	29.78	243.05	3,368.28	-624.13	-1,227.58	631.62	0.00	0.00	0.00
3,800.00	29.78	243.05	3,455.08	-646.64	-1,271.85	654.40	0.00	0.00	0.00
3,900.00	29.78	243.05	3,541.87	-669.15	-1,316.13	677.18	0.00	0.00	0.00
4,000.00	29.78	243.05	3,628.66	-691.66	-1,360.40	699.96	0.00	0.00	0.00
4,100.00	29.78	243.05	3,715.46	-714.17	-1,404.67	722.74	0.00	0.00	0.00
4,200.00	29.78	243.05	3,802.25	-736.68	-1,448.95	745.52	0.00	0.00	0.00
4,300.00	29.78	243.05	3,889.05	-759.19	-1,493.22	768.30	0.00	0.00	0.00
4,400.00	29.78	243.05	3,975.84	-781.70	-1,537.49	791.08	0.00	0.00	0.00
4,500.00	29.78	243.05	4,062.63	-804.21	-1,581.77	813.86	0.00	0.00	0.00
4,600.00	29.78	243.05	4,149.43	-826.72	-1,626.04	836.64	0.00	0.00	0.00
4,700.00	29.78	243.05	4,236.22	-849.23	-1,670.31	859.42	0.00	0.00	0.00

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Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
4,800.00	29.78	243.05	4,323.02	-871.74	-1,714.59	882.20	0.00	0.00	0.00
4,900.00	29.78	243.05	4,409.81	-894.25	-1,758.86	904.98	0.00	0.00	0.00
5,000.00	29.78	243.05	4,496.60	-916.76	-1,803.13	927.76	0.00	0.00	0.00
5,100.00	29.78	243.05	4,583.40	-939.27	-1,847.41	950.54	0.00	0.00	0.00
5,200.00	29.78	243.05	4,670.19	-961.78	-1,891.68	973.32	0.00	0.00	0.00
5,300.00	29.78	243.05	4,756.99	-984.29	-1,935.95	996.10	0.00	0.00	0.00
5,400.00	29.78	243.05	4,843.78	-1,006.80	-1,980.23	1,018.88	0.00	0.00	0.00
5,500.00	29.78	243.05	4,930.57	-1,029.31	-2,024.50	1,041.66	0.00	0.00	0.00
5,600.00	29.78	243.05	5,017.37	-1,051.82	-2,068.77	1,064.44	0.00	0.00	0.00
5,700.00	29.78	243.05	5,104.16	-1,074.33	-2,113.05	1,087.22	0.00	0.00	0.00
5,800.00	29.78	243.05	5,190.95	-1,096.84	-2,157.32	1,110.00	0.00	0.00	0.00
5,900.00	29.78	243.05	5,277.75	-1,119.35	-2,201.59	1,132.78	0.00	0.00	0.00
6,000.00	29.78	243.05	5,364.54	-1,141.86	-2,245.87	1,155.56	0.00	0.00	0.00
6,100.00	29.78	243.05	5,451.34	-1,164.37	-2,290.14	1,178.34	0.00	0.00	0.00
6,200.00	29.78	243.05	5,538.13	-1,186.88	-2,334.41	1,201.12	0.00	0.00	0.00
6,224.00	29.78	243.05	5,558.96	-1,192.28	-2,345.04	1,206.58	0.00	0.00	0.00
Change Tangent Direction @ 6224.00ft									
6,300.00	29.60	240.00	5,624.99	-1,210.22	-2,378.12	1,224.72	2.00	-0.24	-4.01
6,400.00	29.46	235.95	5,712.01	-1,236.33	-2,419.89	1,251.09	2.00	-0.13	-4.05
6,500.00	29.45	231.89	5,799.09	-1,265.28	-2,459.61	1,280.28	2.00	-0.01	-4.07
6,600.00	29.56	227.83	5,886.13	-1,297.02	-2,497.24	1,312.25	2.00	0.11	-4.05
6,694.21	29.78	224.05	5,967.99	-1,329.44	-2,530.73	1,344.87	2.00	0.23	-4.01
Hold Tangent @ 6694.21ft									
6,700.00	29.78	224.05	5,973.02	-1,331.50	-2,532.73	1,346.95	0.00	0.00	0.00
6,800.00	29.78	224.05	6,059.81	-1,367.20	-2,567.27	1,382.86	0.00	0.00	0.00
6,900.00	29.78	224.05	6,146.61	-1,402.90	-2,601.80	1,418.77	0.00	0.00	0.00
7,000.00	29.78	224.05	6,233.40	-1,438.60	-2,636.33	1,454.67	0.00	0.00	0.00
7,100.00	29.78	224.05	6,320.19	-1,474.29	-2,670.86	1,490.58	0.00	0.00	0.00
7,200.00	29.78	224.05	6,406.99	-1,509.99	-2,705.40	1,526.49	0.00	0.00	0.00
7,300.00	29.78	224.05	6,493.78	-1,545.69	-2,739.93	1,562.40	0.00	0.00	0.00
7,400.00	29.78	224.05	6,580.58	-1,581.39	-2,774.46	1,598.30	0.00	0.00	0.00
7,492.14	29.78	224.05	6,660.55	-1,614.28	-2,806.28	1,631.39	0.00	0.00	0.00
KOP @ 7492.14ft :: DLS= 9°/100'									
7,500.00	30.26	223.01	6,667.35	-1,617.13	-2,808.99	1,634.26	9.00	6.10	-13.22
7,600.00	36.95	212.06	6,750.67	-1,661.11	-2,842.20	1,678.44	9.00	6.69	-10.95
7,700.00	44.36	204.20	6,826.54	-1,718.58	-2,872.54	1,736.10	9.00	7.41	-7.87
7,800.00	52.18	198.22	6,893.08	-1,788.13	-2,899.28	1,805.81	9.00	7.82	-5.98
7,900.00	60.25	193.41	6,948.67	-1,868.04	-2,921.74	1,885.85	9.00	8.07	-4.81
8,000.00	68.46	189.32	6,991.92	-1,956.34	-2,939.38	1,974.26	9.00	8.21	-4.08
8,100.00	76.77	185.68	7,021.78	-2,050.86	-2,951.76	2,068.86	9.00	8.30	-3.64
8,200.00	85.12	182.28	7,037.51	-2,149.28	-2,958.58	2,167.31	9.00	8.35	-3.40
8,258.33	90.00	180.35	7,040.00	-2,207.52	-2,959.91	2,225.56	9.00	8.37	-3.32
End Build @ 8258.33ft									
8,300.00	90.00	180.35	7,040.00	-2,249.19	-2,960.17	2,267.23	0.00	0.00	0.00
8,400.00	90.00	180.35	7,040.00	-2,349.19	-2,960.77	2,367.23	0.00	0.00	0.00
8,500.00	90.00	180.35	7,040.00	-2,449.18	-2,961.38	2,467.23	0.00	0.00	0.00
8,600.00	90.00	180.35	7,040.00	-2,549.18	-2,961.99	2,567.23	0.00	0.00	0.00
8,700.00	90.00	180.35	7,040.00	-2,649.18	-2,962.60	2,667.23	0.00	0.00	0.00
8,800.00	90.00	180.35	7,040.00	-2,749.18	-2,963.21	2,767.23	0.00	0.00	0.00
8,900.00	90.00	180.35	7,040.00	-2,849.18	-2,963.82	2,867.23	0.00	0.00	0.00
9,000.00	90.00	180.35	7,040.00	-2,949.18	-2,964.42	2,967.23	0.00	0.00	0.00
9,100.00	90.00	180.35	7,040.00	-3,049.17	-2,965.03	3,067.23	0.00	0.00	0.00
9,200.00	90.00	180.35	7,040.00	-3,149.17	-2,965.64	3,167.23	0.00	0.00	0.00
9,300.00	90.00	180.35	7,040.00	-3,249.17	-2,966.25	3,267.23	0.00	0.00	0.00

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-01H
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 1224-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
9,400.00	90.00	180.35	7,040.00	-3,349.17	-2,966.86	3,367.23	0.00	0.00	0.00
9,500.00	90.00	180.35	7,040.00	-3,449.17	-2,967.47	3,467.23	0.00	0.00	0.00
9,600.00	90.00	180.35	7,040.00	-3,549.16	-2,968.07	3,567.23	0.00	0.00	0.00
9,700.00	90.00	180.35	7,040.00	-3,649.16	-2,968.68	3,667.23	0.00	0.00	0.00
9,800.00	90.00	180.35	7,040.00	-3,749.16	-2,969.29	3,767.23	0.00	0.00	0.00
9,900.00	90.00	180.35	7,040.00	-3,849.16	-2,969.90	3,867.23	0.00	0.00	0.00
10,000.00	90.00	180.35	7,040.00	-3,949.16	-2,970.51	3,967.23	0.00	0.00	0.00
10,100.00	90.00	180.35	7,040.00	-4,049.15	-2,971.12	4,067.23	0.00	0.00	0.00
10,200.00	90.00	180.35	7,040.00	-4,149.15	-2,971.72	4,167.23	0.00	0.00	0.00
10,300.00	90.00	180.35	7,040.00	-4,249.15	-2,972.33	4,267.23	0.00	0.00	0.00
10,400.00	90.00	180.35	7,040.00	-4,349.15	-2,972.94	4,367.23	0.00	0.00	0.00
10,500.00	90.00	180.35	7,040.00	-4,449.15	-2,973.55	4,467.23	0.00	0.00	0.00
10,600.00	90.00	180.35	7,040.00	-4,549.15	-2,974.16	4,567.23	0.00	0.00	0.00
10,700.00	90.00	180.35	7,040.00	-4,649.14	-2,974.76	4,667.23	0.00	0.00	0.00
10,800.00	90.00	180.35	7,040.00	-4,749.14	-2,975.37	4,767.23	0.00	0.00	0.00
10,900.00	90.00	180.35	7,040.00	-4,849.14	-2,975.98	4,867.23	0.00	0.00	0.00
11,000.00	90.00	180.35	7,040.00	-4,949.14	-2,976.59	4,967.23	0.00	0.00	0.00
11,100.00	90.00	180.35	7,040.00	-5,049.14	-2,977.20	5,067.23	0.00	0.00	0.00
11,200.00	90.00	180.35	7,040.00	-5,149.13	-2,977.81	5,167.23	0.00	0.00	0.00
11,300.00	90.00	180.35	7,040.00	-5,249.13	-2,978.41	5,267.23	0.00	0.00	0.00
11,400.00	90.00	180.35	7,040.00	-5,349.13	-2,979.02	5,367.23	0.00	0.00	0.00
11,500.00	90.00	180.35	7,040.00	-5,449.13	-2,979.63	5,467.23	0.00	0.00	0.00
11,600.00	90.00	180.35	7,040.00	-5,549.13	-2,980.24	5,567.23	0.00	0.00	0.00
11,700.00	90.00	180.35	7,040.00	-5,649.13	-2,980.85	5,667.23	0.00	0.00	0.00
11,800.00	90.00	180.35	7,040.00	-5,749.12	-2,981.46	5,767.23	0.00	0.00	0.00
11,900.00	90.00	180.35	7,040.00	-5,849.12	-2,982.06	5,867.23	0.00	0.00	0.00
12,000.00	90.00	180.35	7,040.00	-5,949.12	-2,982.67	5,967.23	0.00	0.00	0.00
12,100.00	90.00	180.35	7,040.00	-6,049.12	-2,983.28	6,067.23	0.00	0.00	0.00
12,200.00	90.00	180.35	7,040.00	-6,149.12	-2,983.89	6,167.23	0.00	0.00	0.00
12,300.00	90.00	180.35	7,040.00	-6,249.11	-2,984.50	6,267.23	0.00	0.00	0.00
12,400.00	90.00	180.35	7,040.00	-6,349.11	-2,985.11	6,367.23	0.00	0.00	0.00
12,500.00	90.00	180.35	7,040.00	-6,449.11	-2,985.71	6,467.23	0.00	0.00	0.00
12,600.00	90.00	180.35	7,040.00	-6,549.11	-2,986.32	6,567.23	0.00	0.00	0.00
12,700.00	90.00	180.35	7,040.00	-6,649.11	-2,986.93	6,667.23	0.00	0.00	0.00
12,800.00	90.00	180.35	7,040.00	-6,749.10	-2,987.54	6,767.23	0.00	0.00	0.00
12,900.00	90.00	180.35	7,040.00	-6,849.10	-2,988.15	6,867.23	0.00	0.00	0.00
13,000.00	90.00	180.35	7,040.00	-6,949.10	-2,988.75	6,967.23	0.00	0.00	0.00
13,100.00	90.00	180.35	7,040.00	-7,049.10	-2,989.36	7,067.23	0.00	0.00	0.00
13,200.00	90.00	180.35	7,040.00	-7,149.10	-2,989.97	7,167.23	0.00	0.00	0.00
13,300.00	90.00	180.35	7,040.00	-7,249.10	-2,990.58	7,267.23	0.00	0.00	0.00
13,400.00	90.00	180.35	7,040.00	-7,349.09	-2,991.19	7,367.23	0.00	0.00	0.00
13,500.00	90.00	180.35	7,040.00	-7,449.09	-2,991.80	7,467.23	0.00	0.00	0.00
13,600.00	90.00	180.35	7,040.00	-7,549.09	-2,992.40	7,567.23	0.00	0.00	0.00
13,700.00	90.00	180.35	7,040.00	-7,649.09	-2,993.01	7,667.23	0.00	0.00	0.00
13,800.00	90.00	180.35	7,040.00	-7,749.09	-2,993.62	7,767.23	0.00	0.00	0.00
13,900.00	90.00	180.35	7,040.00	-7,849.08	-2,994.23	7,867.23	0.00	0.00	0.00
14,000.00	90.00	180.35	7,040.00	-7,949.08	-2,994.84	7,967.23	0.00	0.00	0.00
14,100.00	90.00	180.35	7,040.00	-8,049.08	-2,995.45	8,067.23	0.00	0.00	0.00
14,200.00	90.00	180.35	7,040.00	-8,149.08	-2,996.05	8,167.23	0.00	0.00	0.00
14,300.00	90.00	180.35	7,040.00	-8,249.08	-2,996.66	8,267.23	0.00	0.00	0.00
14,400.00	90.00	180.35	7,040.00	-8,349.08	-2,997.27	8,367.23	0.00	0.00	0.00
14,500.00	90.00	180.35	7,040.00	-8,449.07	-2,997.88	8,467.23	0.00	0.00	0.00
14,600.00	90.00	180.35	7,040.00	-8,549.07	-2,998.49	8,567.23	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-01H
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 1224-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
14,700.00	90.00	180.35	7,040.00	-8,649.07	-2,999.10	8,667.23	0.00	0.00	0.00
14,800.00	90.00	180.35	7,040.00	-8,749.07	-2,999.70	8,767.23	0.00	0.00	0.00
14,900.00	90.00	180.35	7,040.00	-8,849.07	-3,000.31	8,867.23	0.00	0.00	0.00
15,000.00	90.00	180.35	7,040.00	-8,949.06	-3,000.92	8,967.23	0.00	0.00	0.00
15,100.00	90.00	180.35	7,040.00	-9,049.06	-3,001.53	9,067.23	0.00	0.00	0.00
15,200.00	90.00	180.35	7,040.00	-9,149.06	-3,002.14	9,167.23	0.00	0.00	0.00
15,300.00	90.00	180.35	7,040.00	-9,249.06	-3,002.74	9,267.23	0.00	0.00	0.00
15,400.00	90.00	180.35	7,040.00	-9,349.06	-3,003.35	9,367.23	0.00	0.00	0.00
15,500.00	90.00	180.35	7,040.00	-9,449.06	-3,003.96	9,467.23	0.00	0.00	0.00
15,600.00	90.00	180.35	7,040.00	-9,549.05	-3,004.57	9,567.23	0.00	0.00	0.00
15,700.00	90.00	180.35	7,040.00	-9,649.05	-3,005.18	9,667.23	0.00	0.00	0.00
15,800.00	90.00	180.35	7,040.00	-9,749.05	-3,005.79	9,767.23	0.00	0.00	0.00
15,900.00	90.00	180.35	7,040.00	-9,849.05	-3,006.39	9,867.23	0.00	0.00	0.00
16,000.00	90.00	180.35	7,040.00	-9,949.05	-3,007.00	9,967.23	0.00	0.00	0.00
16,100.00	90.00	180.35	7,040.00	-10,049.04	-3,007.61	10,067.23	0.00	0.00	0.00
16,200.00	90.00	180.35	7,040.00	-10,149.04	-3,008.22	10,167.23	0.00	0.00	0.00
16,300.00	90.00	180.35	7,040.00	-10,249.04	-3,008.83	10,267.23	0.00	0.00	0.00
16,400.00	90.00	180.35	7,040.00	-10,349.04	-3,009.44	10,367.23	0.00	0.00	0.00
16,500.00	90.00	180.35	7,040.00	-10,449.04	-3,010.04	10,467.23	0.00	0.00	0.00
16,600.00	90.00	180.35	7,040.00	-10,549.03	-3,010.65	10,567.23	0.00	0.00	0.00
16,700.00	90.00	180.35	7,040.00	-10,649.03	-3,011.26	10,667.23	0.00	0.00	0.00
16,800.00	90.00	180.35	7,040.00	-10,749.03	-3,011.87	10,767.23	0.00	0.00	0.00
16,900.00	90.00	180.35	7,040.00	-10,849.03	-3,012.48	10,867.23	0.00	0.00	0.00
17,000.00	90.00	180.35	7,040.00	-10,949.03	-3,013.09	10,967.23	0.00	0.00	0.00
17,100.00	90.00	180.35	7,040.00	-11,049.03	-3,013.69	11,067.23	0.00	0.00	0.00
17,200.00	90.00	180.35	7,040.00	-11,149.02	-3,014.30	11,167.23	0.00	0.00	0.00
17,300.00	90.00	180.35	7,040.00	-11,249.02	-3,014.91	11,267.23	0.00	0.00	0.00
17,400.00	90.00	180.35	7,040.00	-11,349.02	-3,015.52	11,367.23	0.00	0.00	0.00
17,500.00	90.00	180.35	7,040.00	-11,449.02	-3,016.13	11,467.23	0.00	0.00	0.00
17,600.00	90.00	180.35	7,040.00	-11,549.02	-3,016.73	11,567.23	0.00	0.00	0.00
17,700.00	90.00	180.35	7,040.00	-11,649.01	-3,017.34	11,667.23	0.00	0.00	0.00
17,800.00	90.00	180.35	7,040.00	-11,749.01	-3,017.95	11,767.23	0.00	0.00	0.00
17,900.00	90.00	180.35	7,040.00	-11,849.01	-3,018.56	11,867.23	0.00	0.00	0.00
18,000.00	90.00	180.35	7,040.00	-11,949.01	-3,019.17	11,967.23	0.00	0.00	0.00
18,100.00	90.00	180.35	7,040.00	-12,049.01	-3,019.78	12,067.23	0.00	0.00	0.00
18,200.00	90.00	180.35	7,040.00	-12,149.01	-3,020.38	12,167.23	0.00	0.00	0.00
18,300.00	90.00	180.35	7,040.00	-12,249.00	-3,020.99	12,267.23	0.00	0.00	0.00
18,400.00	90.00	180.35	7,040.00	-12,349.00	-3,021.60	12,367.23	0.00	0.00	0.00
18,432.76	90.00	180.35	7,040.00	-12,381.76	-3,021.80	12,399.99	0.00	0.00	0.00
TD Well @ 18432.76ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,777.88	1,700.00	9 5/8"	9-5/8	13-1/2

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-01H
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 1224-01H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Begin Nudge @ 200.00ft
1,689.00	1,622.86	-171.46	-337.24	Hold Tangent @ 1689.00ft
6,224.00	5,558.96	-1,192.28	-2,345.04	Change Tangent Direction @ 6224.00ft
6,694.21	5,967.99	-1,329.44	-2,530.73	Hold Tangent @ 6694.21ft
7,492.14	6,660.55	-1,614.28	-2,806.28	KOP @ 7492.14ft :: DLS= 9°/100'
8,258.33	7,040.00	-2,207.52	-2,959.91	End Build @ 8258.33ft
18,432.76	7,040.00	-12,381.76	-3,021.80	TD Well @ 18432.76ft