

VERDAD RESOURCES

**WATTENBERG FIELD
1N-65W-12 SAFI 1224 PAD
SAFI 1224-09H**

Wellbore #1

Plan: Design #1

Standard Planning Report

16 May, 2019

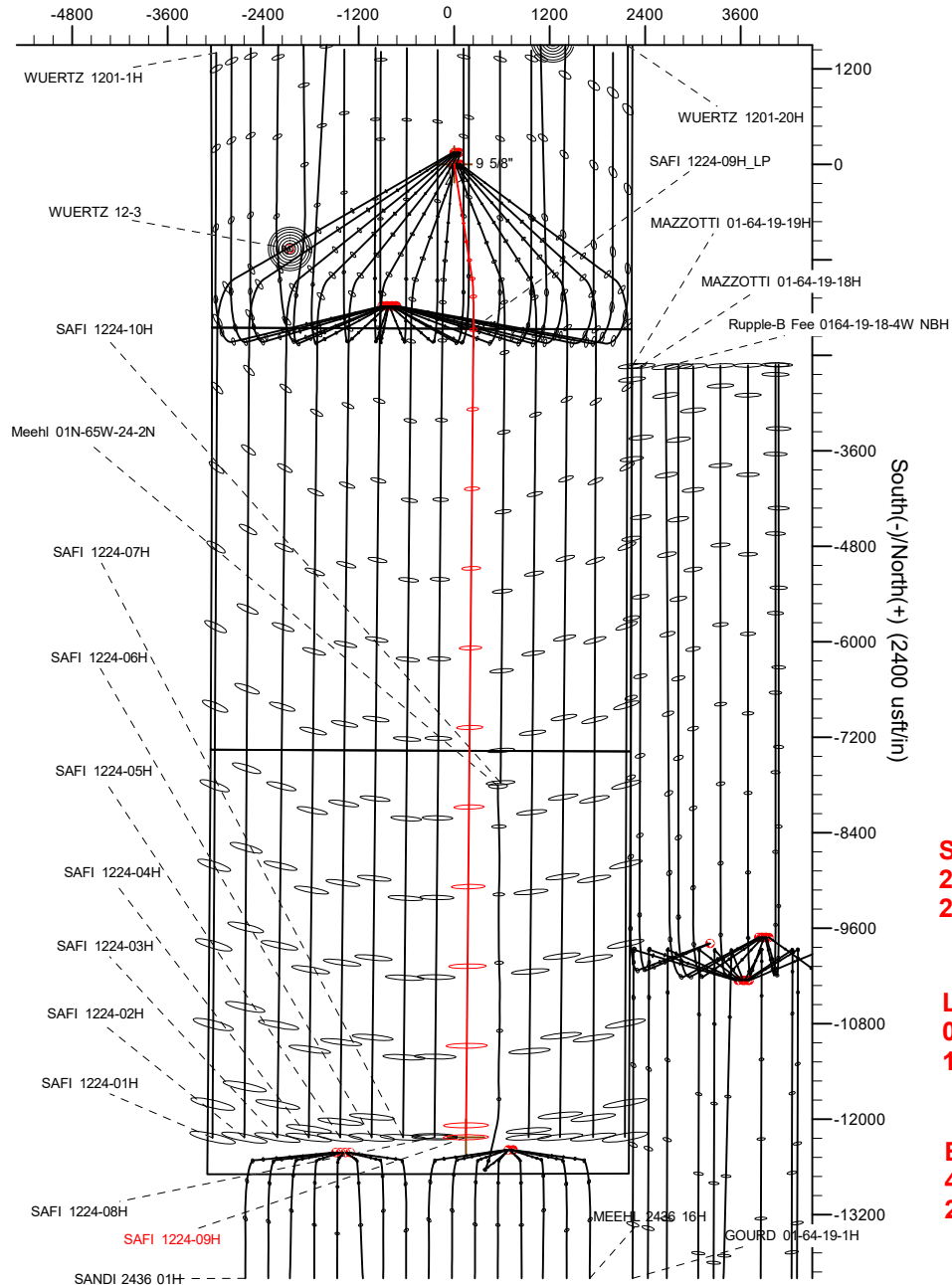
Project: WATTENBERG FIELD
Site: 1N-65W-12 SAFI 1224 PAD
Well: SAFI 1224-09H
Wellbore: Wellbore #1
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1724.63	9 5/8"	9-5/8

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



SHL
2065' FSL
2235' FEL

LP
0' FNL
1988' FEL

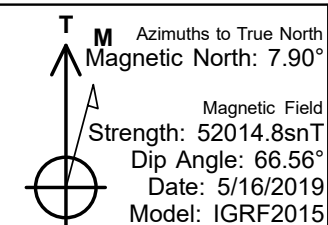
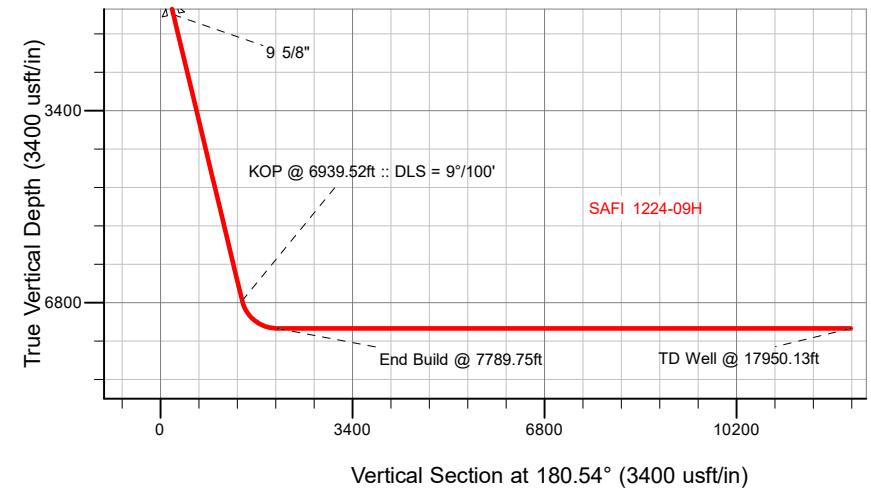
BHL
460' FSL
2050' FEL

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	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
1083.50	13.67	171.05	1077.03	-80.16	12.62	2.00	171.05	80.04	
6939.52	13.67	171.05	6767.17	-1447.26	227.93	0.00	0.00	1445.05	
7789.75	90.00	180.54	7255.00	-2066.50	241.67	9.00	9.76	2064.13	
17950.13	90.00	180.54	7255.00	-12226.44	146.20	0.00	0.00	12224.51	SAFI 1224-09H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SAFI 1224-09H_SHL	0.00	0.00	0.00	40.064374	-104.610678
SAFI 1224-09H_BHL	7255.00	-12226.44	146.20	40.030810	-104.610156



WELL DETAILS: SAFI 1224-09H

GL = 4771'
RKB = 24' @ 4995.00usft (RIG)

Plan: Design #1 (SAFI 1224-09H/Wellbore #1)

Date: 5/16/2019

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4995.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4995.00usft (RIG)
Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-09H	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 1224-09H				
Well Position	+N/-S	-252.63 usft	Northing:	1,267,544.87 usft	Latitude:	40.064374
	+E/-W	160.01 usft	Easting:	3,248,907.40 usft	Longitude:	-104.610678
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,971.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/16/2019	7.90	66.56	52,014.79923099

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	180.54

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	17,950.13	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	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,083.50	13.67	171.05	1,077.03	-80.16	12.62	2.00	2.00	0.00	171.05	
6,939.52	13.67	171.05	6,767.17	-1,447.26	227.93	0.00	0.00	0.00	0.00	
7,789.75	90.00	180.54	7,255.00	-2,066.50	241.67	9.00	8.98	1.12	9.76	
17,950.13	90.00	180.54	7,255.00	-12,226.44	146.20	0.00	0.00	0.00	0.00	SAFI 1224-09H_BHL

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4995.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4995.00usft (RIG)
Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-09H	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
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 400.00ft									
500.00	2.00	171.05	499.98	-1.72	0.27	1.72	2.00	2.00	0.00
600.00	4.00	171.05	599.84	-6.89	1.09	6.88	2.00	2.00	0.00
700.00	6.00	171.05	699.45	-15.50	2.44	15.48	2.00	2.00	0.00
800.00	8.00	171.05	798.70	-27.54	4.34	27.50	2.00	2.00	0.00
900.00	10.00	171.05	897.47	-42.99	6.77	42.93	2.00	2.00	0.00
1,000.00	12.00	171.05	995.62	-61.84	9.74	61.75	2.00	2.00	0.00
1,083.50	13.67	171.05	1,077.03	-80.16	12.62	80.04	2.00	2.00	0.00
Hold Tangent @ 1083.50ft									
1,100.00	13.67	171.05	1,093.07	-84.01	13.23	83.89	0.00	0.00	0.00
1,200.00	13.67	171.05	1,190.23	-107.36	16.91	107.20	0.00	0.00	0.00
1,300.00	13.67	171.05	1,287.40	-130.71	20.58	130.51	0.00	0.00	0.00
1,400.00	13.67	171.05	1,384.57	-154.05	24.26	153.81	0.00	0.00	0.00
1,500.00	13.67	171.05	1,481.74	-177.40	27.94	177.12	0.00	0.00	0.00
1,600.00	13.67	171.05	1,578.90	-200.74	31.61	200.43	0.00	0.00	0.00
1,700.00	13.67	171.05	1,676.07	-224.09	35.29	223.74	0.00	0.00	0.00
1,724.63	13.67	171.05	1,700.00	-229.84	36.20	229.48	0.00	0.00	0.00
9 5/8"									
1,800.00	13.67	171.05	1,773.24	-247.43	38.97	247.05	0.00	0.00	0.00
1,900.00	13.67	171.05	1,870.40	-270.78	42.64	270.36	0.00	0.00	0.00
2,000.00	13.67	171.05	1,967.57	-294.12	46.32	293.67	0.00	0.00	0.00
2,100.00	13.67	171.05	2,064.74	-317.47	50.00	316.98	0.00	0.00	0.00
2,200.00	13.67	171.05	2,161.91	-340.81	53.67	340.29	0.00	0.00	0.00
2,300.00	13.67	171.05	2,259.07	-364.16	57.35	363.60	0.00	0.00	0.00
2,400.00	13.67	171.05	2,356.24	-387.50	61.03	386.91	0.00	0.00	0.00
2,500.00	13.67	171.05	2,453.41	-410.85	64.70	410.22	0.00	0.00	0.00
2,600.00	13.67	171.05	2,550.58	-434.19	68.38	433.53	0.00	0.00	0.00
2,700.00	13.67	171.05	2,647.74	-457.54	72.06	456.84	0.00	0.00	0.00
2,800.00	13.67	171.05	2,744.91	-480.88	75.73	480.15	0.00	0.00	0.00
2,900.00	13.67	171.05	2,842.08	-504.23	79.41	503.46	0.00	0.00	0.00
3,000.00	13.67	171.05	2,939.25	-527.57	83.09	526.77	0.00	0.00	0.00
3,100.00	13.67	171.05	3,036.41	-550.92	86.76	550.08	0.00	0.00	0.00
3,200.00	13.67	171.05	3,133.58	-574.26	90.44	573.39	0.00	0.00	0.00
3,300.00	13.67	171.05	3,230.75	-597.61	94.12	596.70	0.00	0.00	0.00
3,400.00	13.67	171.05	3,327.91	-620.95	97.79	620.01	0.00	0.00	0.00
3,500.00	13.67	171.05	3,425.08	-644.30	101.47	643.31	0.00	0.00	0.00
3,600.00	13.67	171.05	3,522.25	-667.64	105.15	666.62	0.00	0.00	0.00
3,700.00	13.67	171.05	3,619.42	-690.99	108.82	689.93	0.00	0.00	0.00
3,800.00	13.67	171.05	3,716.58	-714.34	112.50	713.24	0.00	0.00	0.00
3,900.00	13.67	171.05	3,813.75	-737.68	116.18	736.55	0.00	0.00	0.00
4,000.00	13.67	171.05	3,910.92	-761.03	119.85	759.86	0.00	0.00	0.00
4,100.00	13.67	171.05	4,008.09	-784.37	123.53	783.17	0.00	0.00	0.00
4,200.00	13.67	171.05	4,105.25	-807.72	127.21	806.48	0.00	0.00	0.00
4,300.00	13.67	171.05	4,202.42	-831.06	130.88	829.79	0.00	0.00	0.00
4,400.00	13.67	171.05	4,299.59	-854.41	134.56	853.10	0.00	0.00	0.00
4,500.00	13.67	171.05	4,396.75	-877.75	138.24	876.41	0.00	0.00	0.00
4,600.00	13.67	171.05	4,493.92	-901.10	141.91	899.72	0.00	0.00	0.00
4,700.00	13.67	171.05	4,591.09	-924.44	145.59	923.03	0.00	0.00	0.00

Hewlett-Packard

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4995.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4995.00usft (RIG)
Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-09H	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)
4,800.00	13.67	171.05	4,688.26	-947.79	149.27	946.34	0.00	0.00	0.00
4,900.00	13.67	171.05	4,785.42	-971.13	152.94	969.65	0.00	0.00	0.00
5,000.00	13.67	171.05	4,882.59	-994.48	156.62	992.96	0.00	0.00	0.00
5,100.00	13.67	171.05	4,979.76	-1,017.82	160.30	1,016.27	0.00	0.00	0.00
5,200.00	13.67	171.05	5,076.93	-1,041.17	163.97	1,039.58	0.00	0.00	0.00
5,300.00	13.67	171.05	5,174.09	-1,064.51	167.65	1,062.89	0.00	0.00	0.00
5,400.00	13.67	171.05	5,271.26	-1,087.86	171.33	1,086.20	0.00	0.00	0.00
5,500.00	13.67	171.05	5,368.43	-1,111.20	175.00	1,109.50	0.00	0.00	0.00
5,600.00	13.67	171.05	5,465.60	-1,134.55	178.68	1,132.81	0.00	0.00	0.00
5,700.00	13.67	171.05	5,562.76	-1,157.89	182.36	1,156.12	0.00	0.00	0.00
5,800.00	13.67	171.05	5,659.93	-1,181.24	186.03	1,179.43	0.00	0.00	0.00
5,900.00	13.67	171.05	5,757.10	-1,204.58	189.71	1,202.74	0.00	0.00	0.00
6,000.00	13.67	171.05	5,854.26	-1,227.93	193.39	1,226.05	0.00	0.00	0.00
6,100.00	13.67	171.05	5,951.43	-1,251.27	197.06	1,249.36	0.00	0.00	0.00
6,200.00	13.67	171.05	6,048.60	-1,274.62	200.74	1,272.67	0.00	0.00	0.00
6,300.00	13.67	171.05	6,145.77	-1,297.97	204.42	1,295.98	0.00	0.00	0.00
6,400.00	13.67	171.05	6,242.93	-1,321.31	208.09	1,319.29	0.00	0.00	0.00
6,500.00	13.67	171.05	6,340.10	-1,344.66	211.77	1,342.60	0.00	0.00	0.00
6,600.00	13.67	171.05	6,437.27	-1,368.00	215.45	1,365.91	0.00	0.00	0.00
6,700.00	13.67	171.05	6,534.44	-1,391.35	219.12	1,389.22	0.00	0.00	0.00
6,800.00	13.67	171.05	6,631.60	-1,414.69	222.80	1,412.53	0.00	0.00	0.00
6,900.00	13.67	171.05	6,728.77	-1,438.04	226.48	1,435.84	0.00	0.00	0.00
6,939.52	13.67	171.05	6,767.17	-1,447.26	227.93	1,445.05	0.00	0.00	0.00
KOP @ 6939.52ft :: DLS = 9°/100'									
7,000.00	19.06	173.87	6,825.18	-1,464.15	230.10	1,461.92	9.00	8.91	4.67
7,100.00	28.01	176.22	6,916.77	-1,503.89	233.40	1,501.63	9.00	8.95	2.34
7,200.00	36.98	177.49	7,001.03	-1,557.48	236.27	1,555.19	9.00	8.97	1.27
7,300.00	45.97	178.32	7,075.88	-1,623.60	238.65	1,621.28	9.00	8.98	0.83
7,400.00	54.95	178.93	7,139.47	-1,700.62	240.48	1,698.28	9.00	8.99	0.61
7,500.00	63.95	179.42	7,190.25	-1,786.64	241.70	1,784.28	9.00	8.99	0.49
7,600.00	72.94	179.83	7,226.96	-1,879.55	242.30	1,877.18	9.00	8.99	0.42
7,700.00	81.93	180.21	7,248.69	-1,977.05	242.26	1,974.68	9.00	8.99	0.38
7,789.75	90.00	180.54	7,255.00	-2,066.50	241.67	2,064.13	9.00	8.99	0.36
End Build @ 7789.75ft									
7,800.00	90.00	180.54	7,255.00	-2,076.75	241.57	2,074.38	0.00	0.00	0.00
7,900.00	90.00	180.54	7,255.00	-2,176.75	240.63	2,174.38	0.00	0.00	0.00
8,000.00	90.00	180.54	7,255.00	-2,276.74	239.70	2,274.38	0.00	0.00	0.00
8,100.00	90.00	180.54	7,255.00	-2,376.74	238.76	2,374.38	0.00	0.00	0.00
8,200.00	90.00	180.54	7,255.00	-2,476.74	237.82	2,474.38	0.00	0.00	0.00
8,300.00	90.00	180.54	7,255.00	-2,576.73	236.88	2,574.38	0.00	0.00	0.00
8,400.00	90.00	180.54	7,255.00	-2,676.73	235.94	2,674.38	0.00	0.00	0.00
8,500.00	90.00	180.54	7,255.00	-2,776.72	235.00	2,774.38	0.00	0.00	0.00
8,600.00	90.00	180.54	7,255.00	-2,876.72	234.06	2,874.38	0.00	0.00	0.00
8,700.00	90.00	180.54	7,255.00	-2,976.71	233.12	2,974.38	0.00	0.00	0.00
8,800.00	90.00	180.54	7,255.00	-3,076.71	232.18	3,074.38	0.00	0.00	0.00
8,900.00	90.00	180.54	7,255.00	-3,176.70	231.24	3,174.38	0.00	0.00	0.00
9,000.00	90.00	180.54	7,255.00	-3,276.70	230.30	3,274.38	0.00	0.00	0.00
9,100.00	90.00	180.54	7,255.00	-3,376.70	229.36	3,374.38	0.00	0.00	0.00
9,200.00	90.00	180.54	7,255.00	-3,476.69	228.42	3,474.38	0.00	0.00	0.00
9,300.00	90.00	180.54	7,255.00	-3,576.69	227.48	3,574.38	0.00	0.00	0.00
9,400.00	90.00	180.54	7,255.00	-3,676.68	226.54	3,674.38	0.00	0.00	0.00
9,500.00	90.00	180.54	7,255.00	-3,776.68	225.60	3,774.38	0.00	0.00	0.00
9,600.00	90.00	180.54	7,255.00	-3,876.67	224.66	3,874.38	0.00	0.00	0.00
9,700.00	90.00	180.54	7,255.00	-3,976.67	223.72	3,974.38	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 1224-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4995.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4995.00usft (RIG)
Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-09H	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)
9,800.00	90.00	180.54	7,255.00	-4,076.66	222.78	4,074.38	0.00	0.00	0.00
9,900.00	90.00	180.54	7,255.00	-4,176.66	221.84	4,174.38	0.00	0.00	0.00
10,000.00	90.00	180.54	7,255.00	-4,276.66	220.90	4,274.38	0.00	0.00	0.00
10,100.00	90.00	180.54	7,255.00	-4,376.65	219.96	4,374.38	0.00	0.00	0.00
10,200.00	90.00	180.54	7,255.00	-4,476.65	219.02	4,474.38	0.00	0.00	0.00
10,300.00	90.00	180.54	7,255.00	-4,576.64	218.08	4,574.38	0.00	0.00	0.00
10,400.00	90.00	180.54	7,255.00	-4,676.64	217.14	4,674.38	0.00	0.00	0.00
10,500.00	90.00	180.54	7,255.00	-4,776.63	216.20	4,774.38	0.00	0.00	0.00
10,600.00	90.00	180.54	7,255.00	-4,876.63	215.27	4,874.38	0.00	0.00	0.00
10,700.00	90.00	180.54	7,255.00	-4,976.63	214.33	4,974.38	0.00	0.00	0.00
10,800.00	90.00	180.54	7,255.00	-5,076.62	213.39	5,074.38	0.00	0.00	0.00
10,900.00	90.00	180.54	7,255.00	-5,176.62	212.45	5,174.38	0.00	0.00	0.00
11,000.00	90.00	180.54	7,255.00	-5,276.61	211.51	5,274.38	0.00	0.00	0.00
11,100.00	90.00	180.54	7,255.00	-5,376.61	210.57	5,374.38	0.00	0.00	0.00
11,200.00	90.00	180.54	7,255.00	-5,476.60	209.63	5,474.38	0.00	0.00	0.00
11,300.00	90.00	180.54	7,255.00	-5,576.60	208.69	5,574.38	0.00	0.00	0.00
11,400.00	90.00	180.54	7,255.00	-5,676.59	207.75	5,674.38	0.00	0.00	0.00
11,500.00	90.00	180.54	7,255.00	-5,776.59	206.81	5,774.38	0.00	0.00	0.00
11,600.00	90.00	180.54	7,255.00	-5,876.59	205.87	5,874.38	0.00	0.00	0.00
11,700.00	90.00	180.54	7,255.00	-5,976.58	204.93	5,974.38	0.00	0.00	0.00
11,800.00	90.00	180.54	7,255.00	-6,076.58	203.99	6,074.38	0.00	0.00	0.00
11,900.00	90.00	180.54	7,255.00	-6,176.57	203.05	6,174.38	0.00	0.00	0.00
12,000.00	90.00	180.54	7,255.00	-6,276.57	202.11	6,274.38	0.00	0.00	0.00
12,100.00	90.00	180.54	7,255.00	-6,376.56	201.17	6,374.38	0.00	0.00	0.00
12,200.00	90.00	180.54	7,255.00	-6,476.56	200.23	6,474.38	0.00	0.00	0.00
12,300.00	90.00	180.54	7,255.00	-6,576.55	199.29	6,574.38	0.00	0.00	0.00
12,400.00	90.00	180.54	7,255.00	-6,676.55	198.35	6,674.38	0.00	0.00	0.00
12,500.00	90.00	180.54	7,255.00	-6,776.55	197.41	6,774.38	0.00	0.00	0.00
12,600.00	90.00	180.54	7,255.00	-6,876.54	196.47	6,874.38	0.00	0.00	0.00
12,700.00	90.00	180.54	7,255.00	-6,976.54	195.53	6,974.38	0.00	0.00	0.00
12,800.00	90.00	180.54	7,255.00	-7,076.53	194.59	7,074.38	0.00	0.00	0.00
12,900.00	90.00	180.54	7,255.00	-7,176.53	193.65	7,174.38	0.00	0.00	0.00
13,000.00	90.00	180.54	7,255.00	-7,276.52	192.71	7,274.38	0.00	0.00	0.00
13,100.00	90.00	180.54	7,255.00	-7,376.52	191.77	7,374.38	0.00	0.00	0.00
13,200.00	90.00	180.54	7,255.00	-7,476.51	190.84	7,474.38	0.00	0.00	0.00
13,300.00	90.00	180.54	7,255.00	-7,576.51	189.90	7,574.38	0.00	0.00	0.00
13,400.00	90.00	180.54	7,255.00	-7,676.51	188.96	7,674.38	0.00	0.00	0.00
13,500.00	90.00	180.54	7,255.00	-7,776.50	188.02	7,774.38	0.00	0.00	0.00
13,600.00	90.00	180.54	7,255.00	-7,876.50	187.08	7,874.38	0.00	0.00	0.00
13,700.00	90.00	180.54	7,255.00	-7,976.49	186.14	7,974.38	0.00	0.00	0.00
13,800.00	90.00	180.54	7,255.00	-8,076.49	185.20	8,074.38	0.00	0.00	0.00
13,900.00	90.00	180.54	7,255.00	-8,176.48	184.26	8,174.38	0.00	0.00	0.00
14,000.00	90.00	180.54	7,255.00	-8,276.48	183.32	8,274.38	0.00	0.00	0.00
14,100.00	90.00	180.54	7,255.00	-8,376.48	182.38	8,374.38	0.00	0.00	0.00
14,200.00	90.00	180.54	7,255.00	-8,476.47	181.44	8,474.38	0.00	0.00	0.00
14,300.00	90.00	180.54	7,255.00	-8,576.47	180.50	8,574.38	0.00	0.00	0.00
14,400.00	90.00	180.54	7,255.00	-8,676.46	179.56	8,674.38	0.00	0.00	0.00
14,500.00	90.00	180.54	7,255.00	-8,776.46	178.62	8,774.38	0.00	0.00	0.00
14,600.00	90.00	180.54	7,255.00	-8,876.45	177.68	8,874.38	0.00	0.00	0.00
14,700.00	90.00	180.54	7,255.00	-8,976.45	176.74	8,974.38	0.00	0.00	0.00
14,800.00	90.00	180.54	7,255.00	-9,076.44	175.80	9,074.38	0.00	0.00	0.00
14,900.00	90.00	180.54	7,255.00	-9,176.44	174.86	9,174.38	0.00	0.00	0.00
15,000.00	90.00	180.54	7,255.00	-9,276.44	173.92	9,274.38	0.00	0.00	0.00

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well SAFI 1224-09H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4995.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4995.00usft (RIG)
Site:	1N-65W-12 SAFI 1224 PAD	North Reference:	True
Well:	SAFI 1224-09H	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)	
15,100.00	90.00	180.54	7,255.00	-9,376.43	172.98	9,374.38	0.00	0.00	0.00	
15,200.00	90.00	180.54	7,255.00	-9,476.43	172.04	9,474.38	0.00	0.00	0.00	
15,300.00	90.00	180.54	7,255.00	-9,576.42	171.10	9,574.38	0.00	0.00	0.00	
15,400.00	90.00	180.54	7,255.00	-9,676.42	170.16	9,674.38	0.00	0.00	0.00	
15,500.00	90.00	180.54	7,255.00	-9,776.41	169.22	9,774.38	0.00	0.00	0.00	
15,600.00	90.00	180.54	7,255.00	-9,876.41	168.28	9,874.38	0.00	0.00	0.00	
15,700.00	90.00	180.54	7,255.00	-9,976.40	167.34	9,974.38	0.00	0.00	0.00	
15,800.00	90.00	180.54	7,255.00	-10,076.40	166.41	10,074.38	0.00	0.00	0.00	
15,900.00	90.00	180.54	7,255.00	-10,176.40	165.47	10,174.38	0.00	0.00	0.00	
16,000.00	90.00	180.54	7,255.00	-10,276.39	164.53	10,274.38	0.00	0.00	0.00	
16,100.00	90.00	180.54	7,255.00	-10,376.39	163.59	10,374.38	0.00	0.00	0.00	
16,200.00	90.00	180.54	7,255.00	-10,476.38	162.65	10,474.38	0.00	0.00	0.00	
16,300.00	90.00	180.54	7,255.00	-10,576.38	161.71	10,574.38	0.00	0.00	0.00	
16,400.00	90.00	180.54	7,255.00	-10,676.37	160.77	10,674.38	0.00	0.00	0.00	
16,500.00	90.00	180.54	7,255.00	-10,776.37	159.83	10,774.38	0.00	0.00	0.00	
16,600.00	90.00	180.54	7,255.00	-10,876.36	158.89	10,874.38	0.00	0.00	0.00	
16,700.00	90.00	180.54	7,255.00	-10,976.36	157.95	10,974.38	0.00	0.00	0.00	
16,800.00	90.00	180.54	7,255.00	-11,076.36	157.01	11,074.38	0.00	0.00	0.00	
16,900.00	90.00	180.54	7,255.00	-11,176.35	156.07	11,174.38	0.00	0.00	0.00	
17,000.00	90.00	180.54	7,255.00	-11,276.35	155.13	11,274.38	0.00	0.00	0.00	
17,100.00	90.00	180.54	7,255.00	-11,376.34	154.19	11,374.38	0.00	0.00	0.00	
17,200.00	90.00	180.54	7,255.00	-11,476.34	153.25	11,474.38	0.00	0.00	0.00	
17,300.00	90.00	180.54	7,255.00	-11,576.33	152.31	11,574.38	0.00	0.00	0.00	
17,400.00	90.00	180.54	7,255.00	-11,676.33	151.37	11,674.38	0.00	0.00	0.00	
17,500.00	90.00	180.54	7,255.00	-11,776.33	150.43	11,774.38	0.00	0.00	0.00	
17,600.00	90.00	180.54	7,255.00	-11,876.32	149.49	11,874.38	0.00	0.00	0.00	
17,700.00	90.00	180.54	7,255.00	-11,976.32	148.55	11,974.38	0.00	0.00	0.00	
17,800.00	90.00	180.54	7,255.00	-12,076.31	147.61	12,074.38	0.00	0.00	0.00	
17,900.00	90.00	180.54	7,255.00	-12,176.31	146.67	12,174.38	0.00	0.00	0.00	
17,950.13	90.00	180.54	7,255.00	-12,226.44	146.20	12,224.51	0.00	0.00	0.00	
TD Well @ 17950.13ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,724.63	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	
400.00	400.00	0.00	0.00	Begin Nudge @ 400.00ft	
1,083.50	1,077.03	-80.16	12.62	Hold Tangent @ 1083.50ft	
6,939.52	6,767.17	-1,447.26	227.93	KOP @ 6939.52ft :: DLS = 9°/100'	
7,789.75	7,255.00	-2,066.50	241.67	End Build @ 7789.75ft	
17,950.13	7,255.00	-12,226.44	146.20	TD Well @ 17950.13ft	