

VERDAD RESOURCES

WATTENBERG FIELD

9N-58W-19 TIMBRO FED 1931 PAD

TIMBRO FED 1931 07H

Wellbore #1

Plan: Design #3

Standard Planning Report

11 November, 2019

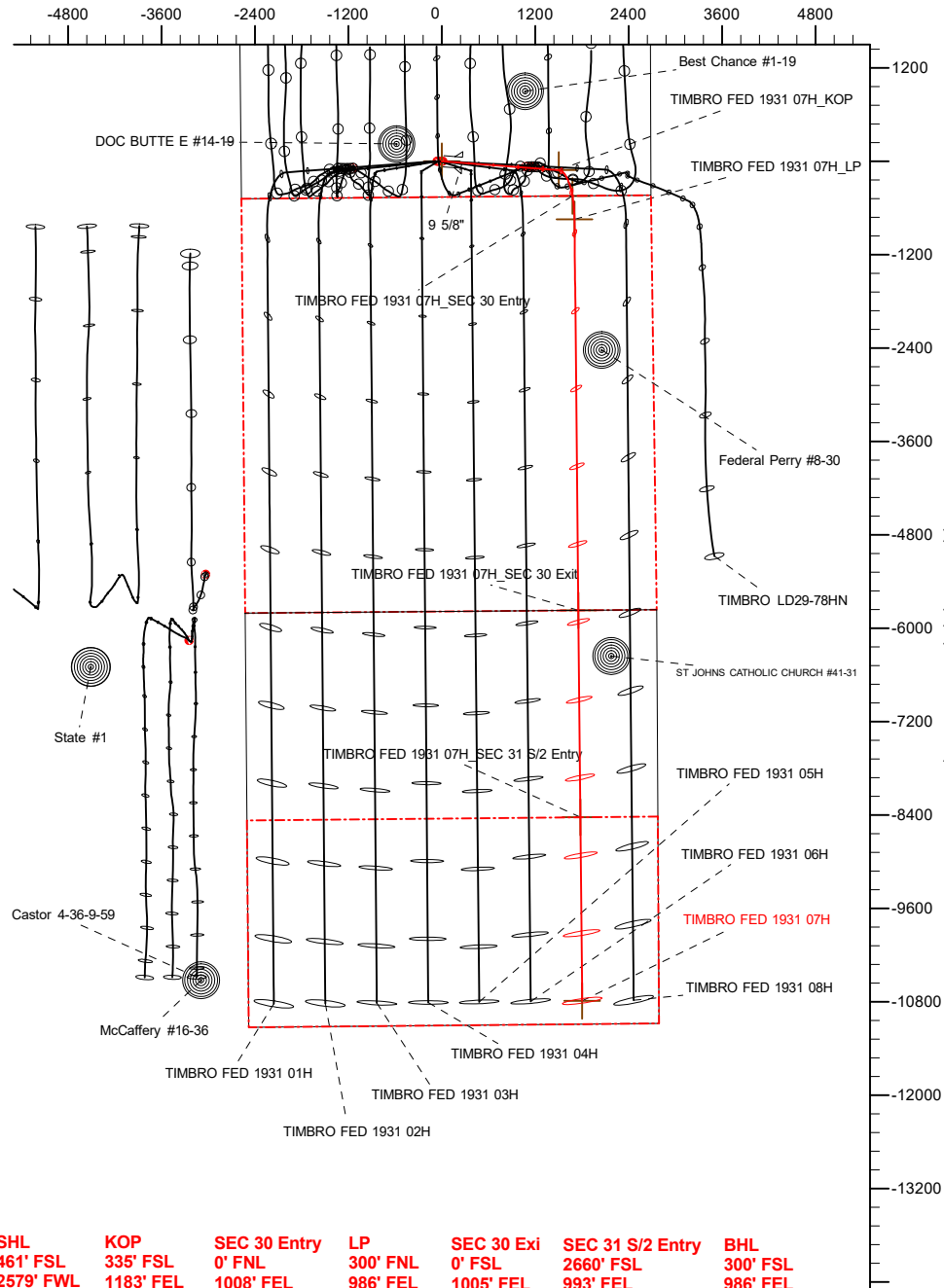
Project: WATTENBERG FIELD
Site: 9N-58W-19 TIMBRO FED 1931 PAD
Well: TIMBRO FED 1931 07H
Wellbore: Wellbore #1
Design: Design #3

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1500.00	1534.65	9 5/8"	9-5/8

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

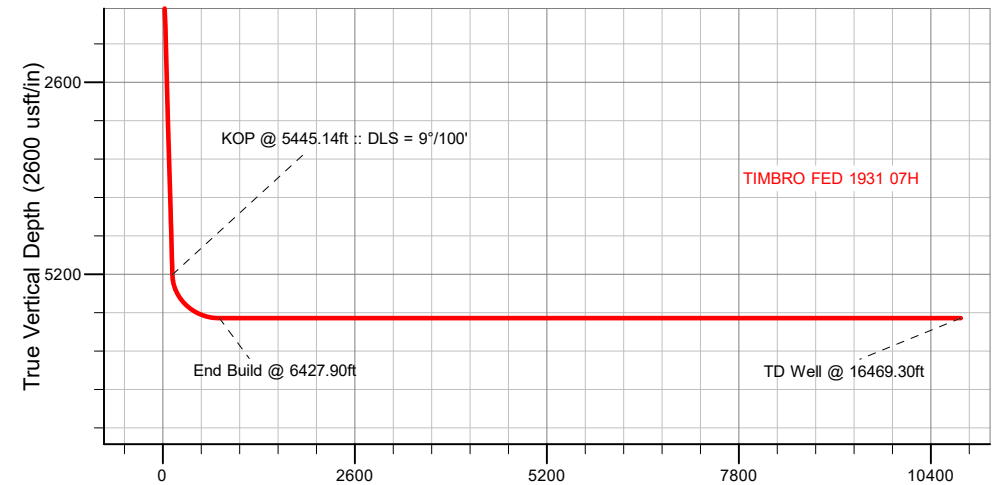


SECTION DETAILS

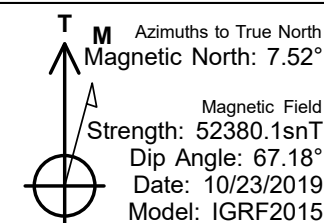
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1177.00	18.54	94.32	1160.91	-11.20	148.25	2.00	94.32	12.65	
4	5445.14	18.54	94.32	5207.54	-113.43	1501.53	0.00	0.00	128.10	
5	6427.90	90.00	179.44	5795.00	-747.85	1704.08	9.00	85.37	764.47	
6	16469.30	90.00	179.44	5795.00	-10788.76	1802.87	0.00	0.00	10805.87	TIMBRO FED 1931 07H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	MD	+N/-S	+E/-W	Latitude	Longitude
TIMBRO FED 1931 07H_SHL	0.00		0.00	0.00	40.730445	-103.907298
TIMBRO FED 1931 07H_KOP	5207.54	5445.14	-113.43	1501.53	40.730134	-103.901880
TIMBRO FED 1931 07H_SEC 30 Entry	5722.98	6113.80	-446.59	1677.05	40.729219	-103.901247
TIMBRO FED 1931 07H_SEC 30 Exit	5795.00	11450.85	-5770.55	1753.49	40.714606	-103.900973
TIMBRO FED 1931 07H_SEC 31 S/2 Entry	5795.00	14109.90	-8429.48	1779.65	40.707308	-103.900879
TIMBRO FED 1931 07H_BHL	5795.00		-10788.76	1802.87	40.700832	-103.900796



Vertical Section at 179.44° (2600 usft/in)



WELL DETAILS: TIMBRO FED 1931 07H

GL = 4824'

RKB = 16' @ 4840.00usft (Drilling Rig)

Design #3 (TIMBRO FED 1931 07H/Wellbore #1)

SherrylEnergy.com Date: 11/11/2019

SHL	KOP	SEC 30 Entry	LP	SEC 30 Exit	SEC 31 S/2 Entry	BHL
461' FSL	335' FSL	0' FNL	300' FNL	0' FSL	2660' FSL	300' FSL
2579' FWL	1183' FEL	1008' FEL	986' FEL	1005' FEL	993' FEL	986' FEL

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO FED 1931 07H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Site:	9N-58W-19 TIMBRO FED 1931 PAD	North Reference:	True
Well:	TIMBRO FED 1931 07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	9N-58W-19 TIMBRO FED 1931 PAD			
Site Position:		Northing:	1,512,905.79 usft	Latitude: 40.730442
From:	Lat/Long	Easting:	3,441,248.06 usft	Longitude: -103.907839
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 1.03 °

Well	TIMBRO FED 1931 07H			
Well Position	+N/-S	1.16 usft	Northing:	1,512,909.65 usft
	+E/-W	150.00 usft	Easting:	3,441,398.01 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	Ground Level: 4,824.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/23/2019	7.52	67.18	52,380.12873525

Design	Design #3			
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	179.44

Plan Survey Tool Program	Date	11/11/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,700.00	Design #3 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination
2	1,700.00	16,469.30	Design #3 (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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,177.00	18.54	94.32	1,160.91	-11.20	148.25	2.00	2.00	0.00	94.32	
5,445.14	18.54	94.32	5,207.54	-113.43	1,501.53	0.00	0.00	0.00	0.00	
6,427.90	90.00	179.44	5,795.00	-747.85	1,704.08	9.00	7.27	8.66	85.37	
16,469.30	90.00	179.44	5,795.00	-10,788.76	1,802.87	0.00	0.00	0.00	0.00	TIMBRO FED 1931 0

Hewlett-Packard

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Site:	9N-58W-19 TIMBRO FED 1931 PAD	North Reference:	True
Well:	TIMBRO FED 1931 07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	94.32	300.00	-0.03	0.44	0.04	2.00	2.00	0.00
400.00	3.00	94.32	399.93	-0.30	3.91	0.33	2.00	2.00	0.00
500.00	5.00	94.32	499.68	-0.82	10.87	0.93	2.00	2.00	0.00
600.00	7.00	94.32	599.13	-1.61	21.29	1.82	2.00	2.00	0.00
700.00	9.00	94.32	698.15	-2.66	35.17	3.00	2.00	2.00	0.00
800.00	11.00	94.32	796.63	-3.96	52.48	4.48	2.00	2.00	0.00
900.00	13.00	94.32	894.44	-5.53	73.22	6.25	2.00	2.00	0.00
1,000.00	15.00	94.32	991.46	-7.35	97.34	8.30	2.00	2.00	0.00
1,100.00	17.00	94.32	1,087.58	-9.43	124.82	10.65	2.00	2.00	0.00
1,177.00	18.54	94.32	1,160.91	-11.20	148.25	12.65	2.00	2.00	0.00
Hold Tangent @ 1177.00ft									
1,200.00	18.54	94.32	1,182.71	-11.75	155.55	13.27	0.00	0.00	0.00
1,300.00	18.54	94.32	1,277.52	-14.15	187.25	15.97	0.00	0.00	0.00
1,400.00	18.54	94.32	1,372.33	-16.54	218.96	18.68	0.00	0.00	0.00
1,500.00	18.54	94.32	1,467.14	-18.94	250.67	21.38	0.00	0.00	0.00
1,534.65	18.54	94.32	1,500.00	-19.77	261.65	22.32	0.00	0.00	0.00
9 5/8"									
1,600.00	18.54	94.32	1,561.95	-21.33	282.37	24.09	0.00	0.00	0.00
1,700.00	18.54	94.32	1,656.76	-23.73	314.08	26.79	0.00	0.00	0.00
1,800.00	18.54	94.32	1,751.57	-26.12	345.79	29.50	0.00	0.00	0.00
1,900.00	18.54	94.32	1,846.39	-28.52	377.49	32.20	0.00	0.00	0.00
2,000.00	18.54	94.32	1,941.20	-30.91	409.20	34.91	0.00	0.00	0.00
2,100.00	18.54	94.32	2,036.01	-33.31	440.90	37.61	0.00	0.00	0.00
2,200.00	18.54	94.32	2,130.82	-35.70	472.61	40.32	0.00	0.00	0.00
2,300.00	18.54	94.32	2,225.63	-38.10	504.32	43.02	0.00	0.00	0.00
2,400.00	18.54	94.32	2,320.44	-40.49	536.02	45.73	0.00	0.00	0.00
2,500.00	18.54	94.32	2,415.25	-42.89	567.73	48.43	0.00	0.00	0.00
2,600.00	18.54	94.32	2,510.06	-45.28	599.44	51.14	0.00	0.00	0.00
2,700.00	18.54	94.32	2,604.87	-47.68	631.14	53.84	0.00	0.00	0.00
2,800.00	18.54	94.32	2,699.68	-50.07	662.85	56.55	0.00	0.00	0.00
2,900.00	18.54	94.32	2,794.49	-52.47	694.55	59.25	0.00	0.00	0.00
3,000.00	18.54	94.32	2,889.30	-54.86	726.26	61.96	0.00	0.00	0.00
3,100.00	18.54	94.32	2,984.11	-57.26	757.97	64.66	0.00	0.00	0.00
3,200.00	18.54	94.32	3,078.92	-59.65	789.67	67.37	0.00	0.00	0.00
3,300.00	18.54	94.32	3,173.73	-62.05	821.38	70.07	0.00	0.00	0.00
3,400.00	18.54	94.32	3,268.54	-64.44	853.09	72.78	0.00	0.00	0.00
3,500.00	18.54	94.32	3,363.35	-66.84	884.79	75.48	0.00	0.00	0.00
3,600.00	18.54	94.32	3,458.16	-69.23	916.50	78.19	0.00	0.00	0.00
3,700.00	18.54	94.32	3,552.97	-71.63	948.21	80.89	0.00	0.00	0.00
3,800.00	18.54	94.32	3,647.78	-74.02	979.91	83.60	0.00	0.00	0.00
3,900.00	18.54	94.32	3,742.59	-76.42	1,011.62	86.30	0.00	0.00	0.00
4,000.00	18.54	94.32	3,837.40	-78.81	1,043.32	89.01	0.00	0.00	0.00
4,100.00	18.54	94.32	3,932.21	-81.21	1,075.03	91.71	0.00	0.00	0.00
4,200.00	18.54	94.32	4,027.02	-83.60	1,106.74	94.42	0.00	0.00	0.00
4,300.00	18.54	94.32	4,121.83	-86.00	1,138.44	97.12	0.00	0.00	0.00
4,400.00	18.54	94.32	4,216.64	-88.39	1,170.15	99.83	0.00	0.00	0.00
4,500.00	18.54	94.32	4,311.45	-90.79	1,201.86	102.53	0.00	0.00	0.00
4,600.00	18.54	94.32	4,406.26	-93.19	1,233.56	105.24	0.00	0.00	0.00

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Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO FED 1931 07H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Site:	9N-58W-19 TIMBRO FED 1931 PAD	North Reference:	True
Well:	TIMBRO FED 1931 07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	18.54	94.32	4,501.07	-95.58	1,265.27	107.94	0.00	0.00	0.00
4,800.00	18.54	94.32	4,595.88	-97.98	1,296.97	110.65	0.00	0.00	0.00
4,900.00	18.54	94.32	4,690.69	-100.37	1,328.68	113.35	0.00	0.00	0.00
5,000.00	18.54	94.32	4,785.50	-102.77	1,360.39	116.06	0.00	0.00	0.00
5,100.00	18.54	94.32	4,880.31	-105.16	1,392.09	118.76	0.00	0.00	0.00
5,200.00	18.54	94.32	4,975.12	-107.56	1,423.80	121.47	0.00	0.00	0.00
5,300.00	18.54	94.32	5,069.93	-109.95	1,455.51	124.17	0.00	0.00	0.00
5,400.00	18.54	94.32	5,164.74	-112.35	1,487.21	126.88	0.00	0.00	0.00
5,445.14	18.54	94.32	5,207.54	-113.43	1,501.53	128.10	0.00	0.00	0.00
KOP @ 5445.14ft :: DLS = 9°/100'									
5,500.00	19.55	109.18	5,259.43	-117.10	1,518.90	131.94	9.00	1.83	27.08
5,600.00	23.94	130.60	5,352.44	-135.84	1,550.17	150.98	9.00	4.39	21.42
5,700.00	30.33	144.61	5,441.48	-169.69	1,580.25	185.13	9.00	6.39	14.00
5,800.00	37.72	153.84	5,524.35	-217.83	1,608.42	233.54	9.00	7.39	9.23
5,900.00	45.62	160.35	5,599.03	-279.07	1,633.98	295.02	9.00	7.90	6.51
6,000.00	53.80	165.28	5,663.66	-351.90	1,656.29	368.07	9.00	8.18	4.93
6,100.00	62.15	169.27	5,716.66	-434.53	1,674.82	450.88	9.00	8.34	3.98
6,200.00	70.59	172.67	5,756.72	-524.92	1,689.09	541.40	9.00	8.44	3.41
6,300.00	79.09	175.74	5,782.85	-620.85	1,698.77	637.43	9.00	8.50	3.07
6,400.00	87.62	178.64	5,794.42	-719.96	1,703.61	736.58	9.00	8.53	2.90
6,427.90	90.00	179.44	5,795.00	-747.85	1,704.08	764.47	9.00	8.54	2.85
End Build @ 6427.90ft									
6,500.00	90.00	179.44	5,795.00	-819.94	1,704.79	836.57	0.00	0.00	0.00
6,600.00	90.00	179.44	5,795.00	-919.94	1,705.77	936.57	0.00	0.00	0.00
6,700.00	90.00	179.44	5,795.00	-1,019.93	1,706.75	1,036.57	0.00	0.00	0.00
6,800.00	90.00	179.44	5,795.00	-1,119.93	1,707.74	1,136.57	0.00	0.00	0.00
6,900.00	90.00	179.44	5,795.00	-1,219.92	1,708.72	1,236.57	0.00	0.00	0.00
7,000.00	90.00	179.44	5,795.00	-1,319.92	1,709.71	1,336.57	0.00	0.00	0.00
7,100.00	90.00	179.44	5,795.00	-1,419.91	1,710.69	1,436.57	0.00	0.00	0.00
7,200.00	90.00	179.44	5,795.00	-1,519.91	1,711.67	1,536.57	0.00	0.00	0.00
7,300.00	90.00	179.44	5,795.00	-1,619.90	1,712.66	1,636.57	0.00	0.00	0.00
7,400.00	90.00	179.44	5,795.00	-1,719.90	1,713.64	1,736.57	0.00	0.00	0.00
7,500.00	90.00	179.44	5,795.00	-1,819.90	1,714.63	1,836.57	0.00	0.00	0.00
7,600.00	90.00	179.44	5,795.00	-1,919.89	1,715.61	1,936.57	0.00	0.00	0.00
7,700.00	90.00	179.44	5,795.00	-2,019.89	1,716.59	2,036.57	0.00	0.00	0.00
7,800.00	90.00	179.44	5,795.00	-2,119.88	1,717.58	2,136.57	0.00	0.00	0.00
7,900.00	90.00	179.44	5,795.00	-2,219.88	1,718.56	2,236.57	0.00	0.00	0.00
8,000.00	90.00	179.44	5,795.00	-2,319.87	1,719.54	2,336.57	0.00	0.00	0.00
8,100.00	90.00	179.44	5,795.00	-2,419.87	1,720.53	2,436.57	0.00	0.00	0.00
8,200.00	90.00	179.44	5,795.00	-2,519.86	1,721.51	2,536.57	0.00	0.00	0.00
8,300.00	90.00	179.44	5,795.00	-2,619.86	1,722.50	2,636.57	0.00	0.00	0.00
8,400.00	90.00	179.44	5,795.00	-2,719.85	1,723.48	2,736.57	0.00	0.00	0.00
8,500.00	90.00	179.44	5,795.00	-2,819.85	1,724.46	2,836.57	0.00	0.00	0.00
8,600.00	90.00	179.44	5,795.00	-2,919.84	1,725.45	2,936.57	0.00	0.00	0.00
8,700.00	90.00	179.44	5,795.00	-3,019.84	1,726.43	3,036.57	0.00	0.00	0.00
8,800.00	90.00	179.44	5,795.00	-3,119.83	1,727.41	3,136.57	0.00	0.00	0.00
8,900.00	90.00	179.44	5,795.00	-3,219.83	1,728.40	3,236.57	0.00	0.00	0.00
9,000.00	90.00	179.44	5,795.00	-3,319.82	1,729.38	3,336.57	0.00	0.00	0.00
9,100.00	90.00	179.44	5,795.00	-3,419.82	1,730.37	3,436.57	0.00	0.00	0.00
9,200.00	90.00	179.44	5,795.00	-3,519.81	1,731.35	3,536.57	0.00	0.00	0.00
9,300.00	90.00	179.44	5,795.00	-3,619.81	1,732.33	3,636.57	0.00	0.00	0.00
9,400.00	90.00	179.44	5,795.00	-3,719.80	1,733.32	3,736.57	0.00	0.00	0.00
9,500.00	90.00	179.44	5,795.00	-3,819.80	1,734.30	3,836.57	0.00	0.00	0.00
9,600.00	90.00	179.44	5,795.00	-3,919.79	1,735.29	3,936.57	0.00	0.00	0.00

Hewlett-Packard

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Site:	9N-58W-19 TIMBRO FED 1931 PAD	North Reference:	True
Well:	TIMBRO FED 1931 07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	179.44	5,795.00	-4,019.79	1,736.27	4,036.57	0.00	0.00	0.00	
9,800.00	90.00	179.44	5,795.00	-4,119.78	1,737.25	4,136.57	0.00	0.00	0.00	
9,900.00	90.00	179.44	5,795.00	-4,219.78	1,738.24	4,236.57	0.00	0.00	0.00	
10,000.00	90.00	179.44	5,795.00	-4,319.77	1,739.22	4,336.57	0.00	0.00	0.00	
10,100.00	90.00	179.44	5,795.00	-4,419.77	1,740.20	4,436.57	0.00	0.00	0.00	
10,200.00	90.00	179.44	5,795.00	-4,519.76	1,741.19	4,536.57	0.00	0.00	0.00	
10,300.00	90.00	179.44	5,795.00	-4,619.76	1,742.17	4,636.57	0.00	0.00	0.00	
10,400.00	90.00	179.44	5,795.00	-4,719.75	1,743.16	4,736.57	0.00	0.00	0.00	
10,500.00	90.00	179.44	5,795.00	-4,819.75	1,744.14	4,836.57	0.00	0.00	0.00	
10,600.00	90.00	179.44	5,795.00	-4,919.75	1,745.12	4,936.57	0.00	0.00	0.00	
10,700.00	90.00	179.44	5,795.00	-5,019.74	1,746.11	5,036.57	0.00	0.00	0.00	
10,800.00	90.00	179.44	5,795.00	-5,119.74	1,747.09	5,136.57	0.00	0.00	0.00	
10,900.00	90.00	179.44	5,795.00	-5,219.73	1,748.07	5,236.57	0.00	0.00	0.00	
11,000.00	90.00	179.44	5,795.00	-5,319.73	1,749.06	5,336.57	0.00	0.00	0.00	
11,100.00	90.00	179.44	5,795.00	-5,419.72	1,750.04	5,436.57	0.00	0.00	0.00	
11,200.00	90.00	179.44	5,795.00	-5,519.72	1,751.03	5,536.57	0.00	0.00	0.00	
11,300.00	90.00	179.44	5,795.00	-5,619.71	1,752.01	5,636.57	0.00	0.00	0.00	
11,400.00	90.00	179.44	5,795.00	-5,719.71	1,752.99	5,736.57	0.00	0.00	0.00	
11,500.00	90.00	179.44	5,795.00	-5,819.70	1,753.98	5,836.57	0.00	0.00	0.00	
11,600.00	90.00	179.44	5,795.00	-5,919.70	1,754.96	5,936.57	0.00	0.00	0.00	
11,700.00	90.00	179.44	5,795.00	-6,019.69	1,755.95	6,036.57	0.00	0.00	0.00	
11,800.00	90.00	179.44	5,795.00	-6,119.69	1,756.93	6,136.57	0.00	0.00	0.00	
11,900.00	90.00	179.44	5,795.00	-6,219.68	1,757.91	6,236.57	0.00	0.00	0.00	
12,000.00	90.00	179.44	5,795.00	-6,319.68	1,758.90	6,336.57	0.00	0.00	0.00	
12,100.00	90.00	179.44	5,795.00	-6,419.67	1,759.88	6,436.57	0.00	0.00	0.00	
12,200.00	90.00	179.44	5,795.00	-6,519.67	1,760.86	6,536.57	0.00	0.00	0.00	
12,300.00	90.00	179.44	5,795.00	-6,619.66	1,761.85	6,636.57	0.00	0.00	0.00	
12,400.00	90.00	179.44	5,795.00	-6,719.66	1,762.83	6,736.57	0.00	0.00	0.00	
12,500.00	90.00	179.44	5,795.00	-6,819.65	1,763.82	6,836.57	0.00	0.00	0.00	
12,600.00	90.00	179.44	5,795.00	-6,919.65	1,764.80	6,936.57	0.00	0.00	0.00	
12,700.00	90.00	179.44	5,795.00	-7,019.64	1,765.78	7,036.57	0.00	0.00	0.00	
12,800.00	90.00	179.44	5,795.00	-7,119.64	1,766.77	7,136.57	0.00	0.00	0.00	
12,900.00	90.00	179.44	5,795.00	-7,219.63	1,767.75	7,236.57	0.00	0.00	0.00	
13,000.00	90.00	179.44	5,795.00	-7,319.63	1,768.73	7,336.57	0.00	0.00	0.00	
13,100.00	90.00	179.44	5,795.00	-7,419.62	1,769.72	7,436.57	0.00	0.00	0.00	
13,200.00	90.00	179.44	5,795.00	-7,519.62	1,770.70	7,536.57	0.00	0.00	0.00	
13,300.00	90.00	179.44	5,795.00	-7,619.61	1,771.69	7,636.57	0.00	0.00	0.00	
13,400.00	90.00	179.44	5,795.00	-7,719.61	1,772.67	7,736.57	0.00	0.00	0.00	
13,500.00	90.00	179.44	5,795.00	-7,819.60	1,773.65	7,836.57	0.00	0.00	0.00	
13,600.00	90.00	179.44	5,795.00	-7,919.60	1,774.64	7,936.57	0.00	0.00	0.00	
13,700.00	90.00	179.44	5,795.00	-8,019.60	1,775.62	8,036.57	0.00	0.00	0.00	
13,800.00	90.00	179.44	5,795.00	-8,119.59	1,776.61	8,136.57	0.00	0.00	0.00	
13,900.00	90.00	179.44	5,795.00	-8,219.59	1,777.59	8,236.57	0.00	0.00	0.00	
14,000.00	90.00	179.44	5,795.00	-8,319.58	1,778.57	8,336.57	0.00	0.00	0.00	
14,100.00	90.00	179.44	5,795.00	-8,419.58	1,779.56	8,436.57	0.00	0.00	0.00	
14,200.00	90.00	179.44	5,795.00	-8,519.57	1,780.54	8,536.57	0.00	0.00	0.00	
14,300.00	90.00	179.44	5,795.00	-8,619.57	1,781.52	8,636.57	0.00	0.00	0.00	
14,400.00	90.00	179.44	5,795.00	-8,719.56	1,782.51	8,736.57	0.00	0.00	0.00	
14,500.00	90.00	179.44	5,795.00	-8,819.56	1,783.49	8,836.57	0.00	0.00	0.00	
14,600.00	90.00	179.44	5,795.00	-8,919.55	1,784.48	8,936.57	0.00	0.00	0.00	
14,700.00	90.00	179.44	5,795.00	-9,019.55	1,785.46	9,036.57	0.00	0.00	0.00	
14,800.00	90.00	179.44	5,795.00	-9,119.54	1,786.44	9,136.57	0.00	0.00	0.00	
14,900.00	90.00	179.44	5,795.00	-9,219.54	1,787.43	9,236.57	0.00	0.00	0.00	
15,000.00	90.00	179.44	5,795.00	-9,319.53	1,788.41	9,336.57	0.00	0.00	0.00	

Hewlett-Packard

Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well TIMBRO FED 1931 07H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 16' @ 4840.00usft (Drilling Rig)
Site:	9N-58W-19 TIMBRO FED 1931 PAD	North Reference:	True
Well:	TIMBRO FED 1931 07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	179.44	5,795.00	-9,419.53	1,789.39	9,436.57	0.00	0.00	0.00	
15,200.00	90.00	179.44	5,795.00	-9,519.52	1,790.38	9,536.57	0.00	0.00	0.00	
15,300.00	90.00	179.44	5,795.00	-9,619.52	1,791.36	9,636.57	0.00	0.00	0.00	
15,400.00	90.00	179.44	5,795.00	-9,719.51	1,792.35	9,736.57	0.00	0.00	0.00	
15,500.00	90.00	179.44	5,795.00	-9,819.51	1,793.33	9,836.57	0.00	0.00	0.00	
15,600.00	90.00	179.44	5,795.00	-9,919.50	1,794.31	9,936.57	0.00	0.00	0.00	
15,700.00	90.00	179.44	5,795.00	-10,019.50	1,795.30	10,036.57	0.00	0.00	0.00	
15,800.00	90.00	179.44	5,795.00	-10,119.49	1,796.28	10,136.57	0.00	0.00	0.00	
15,900.00	90.00	179.44	5,795.00	-10,219.49	1,797.27	10,236.57	0.00	0.00	0.00	
16,000.00	90.00	179.44	5,795.00	-10,319.48	1,798.25	10,336.57	0.00	0.00	0.00	
16,100.00	90.00	179.44	5,795.00	-10,419.48	1,799.23	10,436.57	0.00	0.00	0.00	
16,200.00	90.00	179.44	5,795.00	-10,519.47	1,800.22	10,536.57	0.00	0.00	0.00	
16,300.00	90.00	179.44	5,795.00	-10,619.47	1,801.20	10,636.57	0.00	0.00	0.00	
16,400.00	90.00	179.44	5,795.00	-10,719.46	1,802.18	10,736.57	0.00	0.00	0.00	
16,469.30	90.00	179.44	5,795.00	-10,788.76	1,802.87	10,805.87	0.00	0.00	0.00	
TD Well @ 16469.30ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,534.65	1,500.00	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	
250.00	250.00	0.00	0.00	Begin Nudge @ 250.00ft	
1,177.00	1,160.91	-11.20	148.25	Hold Tangent @ 1177.00ft	
5,445.14	5,207.54	-113.43	1,501.53	KOP @ 5445.14ft :: DLS = 9°/100'	
6,427.90	5,795.00	-747.85	1,704.08	End Build @ 6427.90ft	
16,469.30	5,795.00	-10,788.76	1,802.87	TD Well @ 16469.30ft	