

# **VERDAD RESOURCES**

**WATTENBERG FIELD  
1N-64W-19 CHIVE & SHALLOT PAD  
CHIVE 2536-16H**

**Plan A**

**Plan: Design #1**

## **Standard Planning Report**

**19 May, 2023**

Project: WATTENBERG FIELD  
Site: 1N-64W-19 CHIVE & SHALLOT PAD  
Well: CHIVE 2536-16H  
Wellbore: Plan A  
Design: Design #1

# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
2070.00	2184.93	9 5/8"	9-5/8

**SHL**  
1875' FSL  
1691' FWL

**LP/TPZ**  
460' FNL  
1105' FEL

**BPZ**  
460' FSL  
1103' FEL

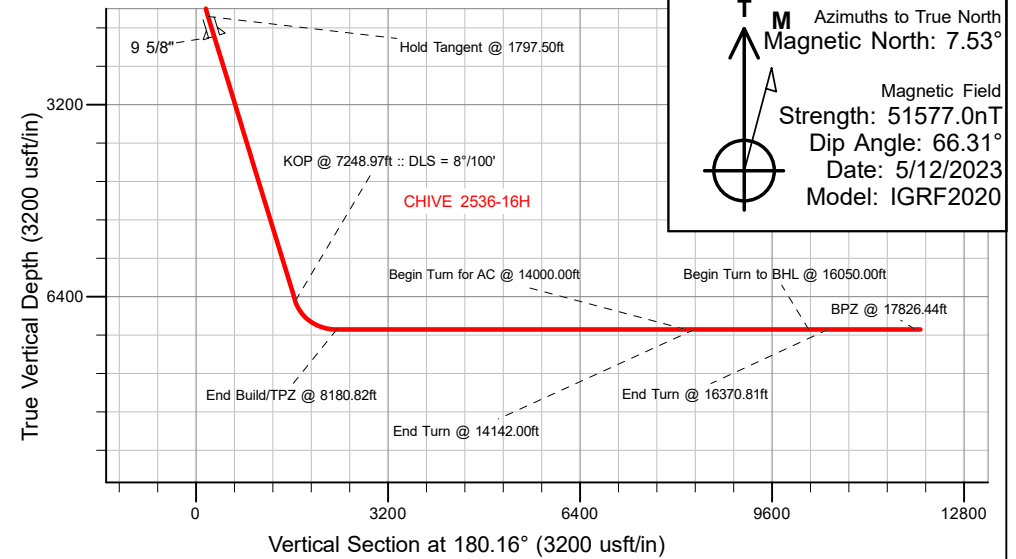
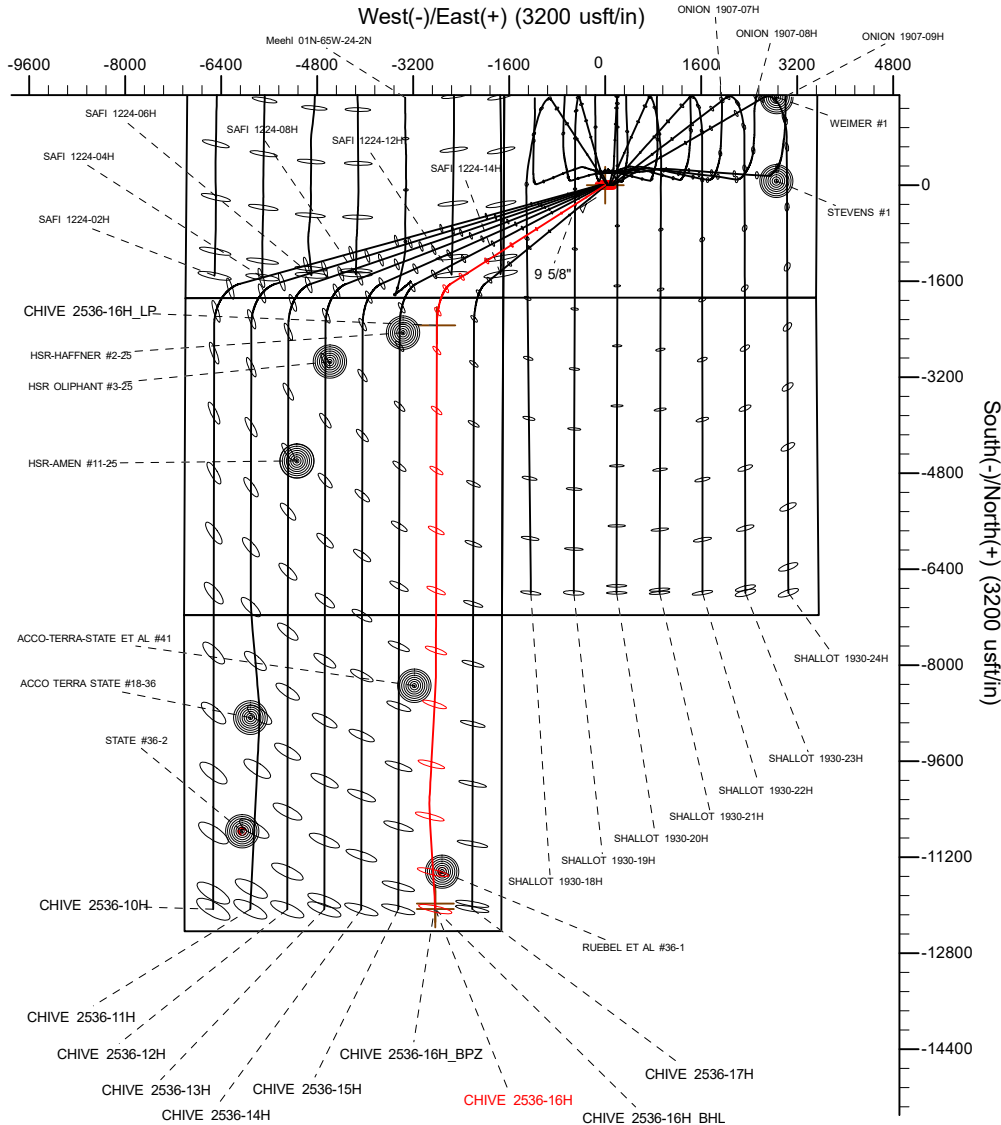
**BHL**  
370' FSL  
1103' FEL

## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
320.50	0.00	0.00	320.50	0.00	0.00	0.00	0.00	0.00	
1797.50	29.54	237.45	1732.93	-200.36	-313.90	2.00	237.45	201.23	
7248.97	29.54	237.45	6475.77	-1646.46	-2579.45	0.00	0.00	1653.66	
8180.82	90.00	180.16	6950.00	-2336.14	-2807.51	8.00	-60.81	2343.97	
14000.00	90.00	180.16	6950.00	-8155.29	-2823.76	0.00	0.00	8163.14	
14142.00	90.00	183.00	6950.00	-8297.22	-2827.67	2.00	90.00	8305.09	
16050.00	90.00	183.00	6950.00	-10202.61	-2927.53	0.00	0.00	10210.74	
16370.82	90.00	176.58	6950.00	-10523.25	-2926.36	2.00	-90.00	10531.38	
17916.59	90.00	176.58	6950.00	-12066.28	-2834.25	0.00	0.00	12074.15	CHIVE 2536-16H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
CHIVE 2536-16H_SHL	0.00	1256776.05	3252909.13	40.034702	-104.596773
CHIVE 2536-16H_LP	6950.00	1254411.41	3250125.56	40.028289	-104.606799
CHIVE 2536-16H_BPZ	6950.00	1244771.52	3250197.26	40.001825	-104.606889
CHIVE 2536-16H_BHL	6950.00	1244681.52	3250197.93	40.001578	-104.606890



## WELL DETAILS: CHIVE 2536-16H

GL = 5011'

RKB = 20' @ 5031.00usft (RIG)

Plan: Design #1 (CHIVE 2536-16H/Plan A)

Date: 5/19/2023

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CHIVE 2536-16H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Site:</b>	1N-64W-19 CHIVE & SHALLOT PAD	<b>North Reference:</b>	True
<b>Well:</b>	CHIVE 2536-16H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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-64W-19 CHIVE & SHALLOT PAD				
Site Position:		Northing:	1,256,775.08	usft	Latitude:	40.034702
From:	Map	Easting:	3,252,813.14	usft	Longitude:	-104.597116
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well		CHIVE 2536-16H				
Well Position	+N/-S	0.00 usft	Northing:	1,256,776.04 usft	Latitude:	40.034702
	+E/-W	0.00 usft	Easting:	3,252,909.13 usft	Longitude:	-104.596773
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	5,011.00 usft
Grid Convergence:		0.58 °				

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF202013	5/12/2023	7.53	66.31	51,577.04572940

<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	180.16	

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/15/2023			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	2,070.00	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	
2	2,070.00	17,915.96	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CHIVE 2536-16H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 5031.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5031.00usft (RIG)
Site:	1N-64W-19 CHIVE & SHALLOT PAD	North Reference:	True
Well:	CHIVE 2536-16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

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	
320.50	0.00	0.00	320.50	0.00	0.00	0.00	0.00	0.00	0.00	
1,797.50	29.54	237.45	1,732.93	-200.36	-313.90	2.00	2.00	0.00	237.45	
7,248.97	29.54	237.45	6,475.77	-1,646.46	-2,579.45	0.00	0.00	0.00	0.00	
8,180.82	90.00	180.16	6,950.00	-2,336.14	-2,807.51	8.00	6.49	-6.15	-60.81	
14,000.00	90.00	180.16	6,950.00	-8,155.29	-2,823.76	0.00	0.00	0.00	0.00	
14,142.00	90.00	183.00	6,950.00	-8,297.22	-2,827.67	2.00	0.00	2.00	90.00	
16,050.00	90.00	183.00	6,950.00	-10,202.61	-2,927.53	0.00	0.00	0.00	0.00	
16,370.82	90.00	176.58	6,950.00	-10,523.25	-2,926.36	2.00	0.00	-2.00	-90.00	
17,916.59	90.00	176.58	6,950.00	-12,066.28	-2,834.25	0.00	0.00	0.00	0.00	CHIVE 2536-16H_BH

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CHIVE 2536-16H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Site:</b>	1N-64W-19 CHIVE & SHALLOT PAD	<b>North Reference:</b>	True
<b>Well:</b>	CHIVE 2536-16H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
320.50	0.00	0.00	320.50	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 320.50ft									
400.00	1.59	237.45	399.99	-0.59	-0.93	0.60	2.00	2.00	0.00
500.00	3.59	237.45	499.88	-3.02	-4.74	3.04	2.00	2.00	0.00
600.00	5.59	237.45	599.56	-7.33	-11.48	7.36	2.00	2.00	0.00
700.00	7.59	237.45	698.89	-13.50	-21.16	13.56	2.00	2.00	0.00
800.00	9.59	237.45	797.76	-21.54	-33.75	21.63	2.00	2.00	0.00
900.00	11.59	237.45	896.06	-31.43	-49.24	31.57	2.00	2.00	0.00
1,000.00	13.59	237.45	993.65	-43.15	-67.61	43.34	2.00	2.00	0.00
1,100.00	15.59	237.45	1,090.42	-56.71	-88.84	56.96	2.00	2.00	0.00
1,200.00	17.59	237.45	1,186.25	-72.07	-112.91	72.38	2.00	2.00	0.00
1,300.00	19.59	237.45	1,281.03	-89.22	-139.78	89.61	2.00	2.00	0.00
1,400.00	21.59	237.45	1,374.63	-108.14	-169.42	108.61	2.00	2.00	0.00
1,500.00	23.59	237.45	1,466.96	-128.81	-201.80	129.37	2.00	2.00	0.00
1,600.00	25.59	237.45	1,557.88	-151.19	-236.87	151.86	2.00	2.00	0.00
1,700.00	27.59	237.45	1,647.30	-175.28	-274.60	176.04	2.00	2.00	0.00
1,797.50	29.54	237.45	1,732.93	-200.36	-313.90	201.23	2.00	2.00	0.00
Hold Tangent @ 1797.50ft									
1,800.00	29.54	237.45	1,735.11	-201.02	-314.93	201.90	0.00	0.00	0.00
1,900.00	29.54	237.45	1,822.11	-227.55	-356.49	228.54	0.00	0.00	0.00
2,000.00	29.54	237.45	1,909.11	-254.08	-398.05	255.19	0.00	0.00	0.00
2,100.00	29.54	237.45	1,996.11	-280.60	-439.61	281.83	0.00	0.00	0.00
2,184.93	29.54	237.45	2,070.00	-303.13	-474.91	304.46	0.00	0.00	0.00
9 5/8"									
2,200.00	29.54	237.45	2,083.11	-307.13	-481.17	308.47	0.00	0.00	0.00
2,300.00	29.54	237.45	2,170.11	-333.66	-522.73	335.11	0.00	0.00	0.00
2,400.00	29.54	237.45	2,257.11	-360.18	-564.29	361.76	0.00	0.00	0.00
2,500.00	29.54	237.45	2,344.11	-386.71	-605.84	388.40	0.00	0.00	0.00
2,600.00	29.54	237.45	2,431.11	-413.24	-647.40	415.04	0.00	0.00	0.00
2,700.00	29.54	237.45	2,518.12	-439.76	-688.96	441.69	0.00	0.00	0.00
2,800.00	29.54	237.45	2,605.12	-466.29	-730.52	468.33	0.00	0.00	0.00
2,900.00	29.54	237.45	2,692.12	-492.82	-772.08	494.97	0.00	0.00	0.00
3,000.00	29.54	237.45	2,779.12	-519.34	-813.64	521.61	0.00	0.00	0.00
3,100.00	29.54	237.45	2,866.12	-545.87	-855.20	548.26	0.00	0.00	0.00
3,200.00	29.54	237.45	2,953.12	-572.40	-896.76	574.90	0.00	0.00	0.00
3,300.00	29.54	237.45	3,040.12	-598.92	-938.31	601.54	0.00	0.00	0.00
3,400.00	29.54	237.45	3,127.12	-625.45	-979.87	628.18	0.00	0.00	0.00
3,500.00	29.54	237.45	3,214.12	-651.98	-1,021.43	654.83	0.00	0.00	0.00
3,600.00	29.54	237.45	3,301.13	-678.50	-1,062.99	681.47	0.00	0.00	0.00
3,700.00	29.54	237.45	3,388.13	-705.03	-1,104.55	708.11	0.00	0.00	0.00
3,800.00	29.54	237.45	3,475.13	-731.56	-1,146.11	734.76	0.00	0.00	0.00
3,900.00	29.54	237.45	3,562.13	-758.08	-1,187.67	761.40	0.00	0.00	0.00
4,000.00	29.54	237.45	3,649.13	-784.61	-1,229.23	788.04	0.00	0.00	0.00
4,100.00	29.54	237.45	3,736.13	-811.14	-1,270.78	814.68	0.00	0.00	0.00
4,200.00	29.54	237.45	3,823.13	-837.67	-1,312.34	841.33	0.00	0.00	0.00
4,300.00	29.54	237.45	3,910.13	-864.19	-1,353.90	867.97	0.00	0.00	0.00
4,400.00	29.54	237.45	3,997.14	-890.72	-1,395.46	894.61	0.00	0.00	0.00
4,500.00	29.54	237.45	4,084.14	-917.25	-1,437.02	921.26	0.00	0.00	0.00
4,600.00	29.54	237.45	4,171.14	-943.77	-1,478.58	947.90	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CHIVE 2536-16H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Site:</b>	1N-64W-19 CHIVE & SHALLOT PAD	<b>North Reference:</b>	True
<b>Well:</b>	CHIVE 2536-16H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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	29.54	237.45	4,258.14	-970.30	-1,520.14	974.54	0.00	0.00	0.00
4,800.00	29.54	237.45	4,345.14	-996.83	-1,561.69	1,001.18	0.00	0.00	0.00
4,900.00	29.54	237.45	4,432.14	-1,023.35	-1,603.25	1,027.83	0.00	0.00	0.00
5,000.00	29.54	237.45	4,519.14	-1,049.88	-1,644.81	1,054.47	0.00	0.00	0.00
5,100.00	29.54	237.45	4,606.14	-1,076.41	-1,686.37	1,081.11	0.00	0.00	0.00
5,200.00	29.54	237.45	4,693.14	-1,102.93	-1,727.93	1,107.75	0.00	0.00	0.00
5,300.00	29.54	237.45	4,780.15	-1,129.46	-1,769.49	1,134.40	0.00	0.00	0.00
5,400.00	29.54	237.45	4,867.15	-1,155.99	-1,811.05	1,161.04	0.00	0.00	0.00
5,500.00	29.54	237.45	4,954.15	-1,182.51	-1,852.61	1,187.68	0.00	0.00	0.00
5,600.00	29.54	237.45	5,041.15	-1,209.04	-1,894.16	1,214.33	0.00	0.00	0.00
5,700.00	29.54	237.45	5,128.15	-1,235.57	-1,935.72	1,240.97	0.00	0.00	0.00
5,800.00	29.54	237.45	5,215.15	-1,262.09	-1,977.28	1,267.61	0.00	0.00	0.00
5,900.00	29.54	237.45	5,302.15	-1,288.62	-2,018.84	1,294.25	0.00	0.00	0.00
6,000.00	29.54	237.45	5,389.15	-1,315.15	-2,060.40	1,320.90	0.00	0.00	0.00
6,100.00	29.54	237.45	5,476.16	-1,341.67	-2,101.96	1,347.54	0.00	0.00	0.00
6,200.00	29.54	237.45	5,563.16	-1,368.20	-2,143.52	1,374.18	0.00	0.00	0.00
6,300.00	29.54	237.45	5,650.16	-1,394.73	-2,185.07	1,400.82	0.00	0.00	0.00
6,400.00	29.54	237.45	5,737.16	-1,421.26	-2,226.63	1,427.47	0.00	0.00	0.00
6,500.00	29.54	237.45	5,824.16	-1,447.78	-2,268.19	1,454.11	0.00	0.00	0.00
6,600.00	29.54	237.45	5,911.16	-1,474.31	-2,309.75	1,480.75	0.00	0.00	0.00
6,700.00	29.54	237.45	5,998.16	-1,500.84	-2,351.31	1,507.40	0.00	0.00	0.00
6,800.00	29.54	237.45	6,085.16	-1,527.36	-2,392.87	1,534.04	0.00	0.00	0.00
6,900.00	29.54	237.45	6,172.16	-1,553.89	-2,434.43	1,560.68	0.00	0.00	0.00
7,000.00	29.54	237.45	6,259.17	-1,580.42	-2,475.99	1,587.32	0.00	0.00	0.00
7,100.00	29.54	237.45	6,346.17	-1,606.94	-2,517.54	1,613.97	0.00	0.00	0.00
7,200.00	29.54	237.45	6,433.17	-1,633.47	-2,559.10	1,640.61	0.00	0.00	0.00
7,248.97	29.54	237.45	6,475.77	-1,646.46	-2,579.45	1,653.66	0.00	0.00	0.00
<b>KOP @ 7248.97ft :: DLS = 8°/100'</b>									
7,250.00	29.58	237.30	6,476.67	-1,646.73	-2,579.88	1,653.93	8.00	3.91	-14.15
7,300.00	31.71	230.66	6,519.69	-1,661.74	-2,600.44	1,668.99	8.00	4.27	-13.29
7,350.00	34.15	224.82	6,561.67	-1,680.03	-2,620.51	1,687.34	8.00	4.87	-11.68
7,400.00	36.83	219.70	6,602.38	-1,701.52	-2,639.98	1,708.89	8.00	5.36	-10.24
7,450.00	39.71	215.21	6,641.64	-1,726.11	-2,658.77	1,733.53	8.00	5.75	-8.99
7,500.00	42.73	211.23	6,679.26	-1,753.68	-2,676.78	1,761.15	8.00	6.05	-7.94
7,550.00	45.88	207.70	6,715.04	-1,784.09	-2,693.93	1,791.60	8.00	6.30	-7.07
7,600.00	49.13	204.53	6,748.81	-1,817.19	-2,710.12	1,824.75	8.00	6.49	-6.34
7,650.00	52.45	201.66	6,780.42	-1,852.82	-2,725.30	1,860.43	8.00	6.65	-5.74
7,700.00	55.84	199.04	6,809.71	-1,890.82	-2,739.37	1,898.46	8.00	6.78	-5.25
7,750.00	59.28	196.62	6,836.52	-1,930.98	-2,752.27	1,938.66	8.00	6.88	-4.84
7,800.00	62.76	194.37	6,860.75	-1,973.13	-2,763.93	1,980.84	8.00	6.96	-4.50
7,850.00	66.28	192.25	6,882.25	-2,017.04	-2,774.31	2,024.78	8.00	7.03	-4.23
7,900.00	69.82	190.25	6,900.94	-2,062.52	-2,783.35	2,070.29	8.00	7.09	-4.00
7,950.00	73.39	188.34	6,916.72	-2,109.33	-2,791.00	2,117.12	8.00	7.13	-3.83
8,000.00	76.97	186.50	6,929.51	-2,157.26	-2,797.23	2,165.06	8.00	7.16	-3.69
8,050.00	80.56	184.71	6,939.25	-2,206.05	-2,802.01	2,213.87	8.00	7.19	-3.58
8,100.00	84.17	182.95	6,945.89	-2,255.49	-2,805.32	2,263.32	8.00	7.21	-3.51
8,150.00	87.77	181.22	6,949.40	-2,305.32	-2,807.13	2,313.15	8.00	7.22	-3.46
8,180.82	90.00	180.16	6,950.00	-2,336.14	-2,807.51	2,343.97	8.00	7.22	-3.44
<b>End Build/TPZ @ 8180.82ft</b>									
8,200.00	90.00	180.16	6,950.00	-2,355.31	-2,807.56	2,363.14	0.00	0.00	0.00
8,300.00	90.00	180.16	6,950.00	-2,455.31	-2,807.84	2,463.14	0.00	0.00	0.00
8,400.00	90.00	180.16	6,950.00	-2,555.31	-2,808.12	2,563.14	0.00	0.00	0.00
8,500.00	90.00	180.16	6,950.00	-2,655.31	-2,808.40	2,663.14	0.00	0.00	0.00
8,600.00	90.00	180.16	6,950.00	-2,755.31	-2,808.68	2,763.14	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CHIVE 2536-16H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Site:</b>	1N-64W-19 CHIVE & SHALLOT PAD	<b>North Reference:</b>	True
<b>Well:</b>	CHIVE 2536-16H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)	
8,700.00	90.00	180.16	6,950.00	-2,855.31	-2,808.96	2,863.14	0.00	0.00	0.00	
8,800.00	90.00	180.16	6,950.00	-2,955.31	-2,809.24	2,963.14	0.00	0.00	0.00	
8,900.00	90.00	180.16	6,950.00	-3,055.31	-2,809.51	3,063.14	0.00	0.00	0.00	
9,000.00	90.00	180.16	6,950.00	-3,155.31	-2,809.79	3,163.14	0.00	0.00	0.00	
9,100.00	90.00	180.16	6,950.00	-3,255.31	-2,810.07	3,263.14	0.00	0.00	0.00	
9,200.00	90.00	180.16	6,950.00	-3,355.31	-2,810.35	3,363.14	0.00	0.00	0.00	
9,300.00	90.00	180.16	6,950.00	-3,455.31	-2,810.63	3,463.14	0.00	0.00	0.00	
9,400.00	90.00	180.16	6,950.00	-3,555.31	-2,810.91	3,563.14	0.00	0.00	0.00	
9,500.00	90.00	180.16	6,950.00	-3,655.31	-2,811.19	3,663.14	0.00	0.00	0.00	
9,600.00	90.00	180.16	6,950.00	-3,755.31	-2,811.47	3,763.14	0.00	0.00	0.00	
9,700.00	90.00	180.16	6,950.00	-3,855.31	-2,811.75	3,863.14	0.00	0.00	0.00	
9,800.00	90.00	180.16	6,950.00	-3,955.31	-2,812.03	3,963.14	0.00	0.00	0.00	
9,900.00	90.00	180.16	6,950.00	-4,055.31	-2,812.31	4,063.14	0.00	0.00	0.00	
10,000.00	90.00	180.16	6,950.00	-4,155.31	-2,812.59	4,163.14	0.00	0.00	0.00	
10,100.00	90.00	180.16	6,950.00	-4,255.31	-2,812.87	4,263.14	0.00	0.00	0.00	
10,200.00	90.00	180.16	6,950.00	-4,355.31	-2,813.15	4,363.14	0.00	0.00	0.00	
10,300.00	90.00	180.16	6,950.00	-4,455.31	-2,813.42	4,463.14	0.00	0.00	0.00	
10,400.00	90.00	180.16	6,950.00	-4,555.30	-2,813.70	4,563.14	0.00	0.00	0.00	
10,500.00	90.00	180.16	6,950.00	-4,655.30	-2,813.98	4,663.14	0.00	0.00	0.00	
10,600.00	90.00	180.16	6,950.00	-4,755.30	-2,814.26	4,763.14	0.00	0.00	0.00	
10,700.00	90.00	180.16	6,950.00	-4,855.30	-2,814.54	4,863.14	0.00	0.00	0.00	
10,800.00	90.00	180.16	6,950.00	-4,955.30	-2,814.82	4,963.14	0.00	0.00	0.00	
10,900.00	90.00	180.16	6,950.00	-5,055.30	-2,815.10	5,063.14	0.00	0.00	0.00	
11,000.00	90.00	180.16	6,950.00	-5,155.30	-2,815.38	5,163.14	0.00	0.00	0.00	
11,100.00	90.00	180.16	6,950.00	-5,255.30	-2,815.66	5,263.14	0.00	0.00	0.00	
11,200.00	90.00	180.16	6,950.00	-5,355.30	-2,815.94	5,363.14	0.00	0.00	0.00	
11,300.00	90.00	180.16	6,950.00	-5,455.30	-2,816.22	5,463.14	0.00	0.00	0.00	
11,400.00	90.00	180.16	6,950.00	-5,555.30	-2,816.50	5,563.14	0.00	0.00	0.00	
11,500.00	90.00	180.16	6,950.00	-5,655.30	-2,816.78	5,663.14	0.00	0.00	0.00	
11,600.00	90.00	180.16	6,950.00	-5,755.30	-2,817.05	5,763.14	0.00	0.00	0.00	
11,700.00	90.00	180.16	6,950.00	-5,855.30	-2,817.33	5,863.14	0.00	0.00	0.00	
11,800.00	90.00	180.16	6,950.00	-5,955.30	-2,817.61	5,963.14	0.00	0.00	0.00	
11,900.00	90.00	180.16	6,950.00	-6,055.30	-2,817.89	6,063.14	0.00	0.00	0.00	
12,000.00	90.00	180.16	6,950.00	-6,155.30	-2,818.17	6,163.14	0.00	0.00	0.00	
12,100.00	90.00	180.16	6,950.00	-6,255.30	-2,818.45	6,263.14	0.00	0.00	0.00	
12,200.00	90.00	180.16	6,950.00	-6,355.30	-2,818.73	6,363.14	0.00	0.00	0.00	
12,300.00	90.00	180.16	6,950.00	-6,455.30	-2,819.01	6,463.14	0.00	0.00	0.00	
12,400.00	90.00	180.16	6,950.00	-6,555.30	-2,819.29	6,563.14	0.00	0.00	0.00	
12,500.00	90.00	180.16	6,950.00	-6,655.30	-2,819.57	6,663.14	0.00	0.00	0.00	
12,600.00	90.00	180.16	6,950.00	-6,755.30	-2,819.85	6,763.14	0.00	0.00	0.00	
12,700.00	90.00	180.16	6,950.00	-6,855.30	-2,820.13	6,863.14	0.00	0.00	0.00	
12,800.00	90.00	180.16	6,950.00	-6,955.30	-2,820.41	6,963.14	0.00	0.00	0.00	
12,900.00	90.00	180.16	6,950.00	-7,055.30	-2,820.68	7,063.14	0.00	0.00	0.00	
13,000.00	90.00	180.16	6,950.00	-7,155.29	-2,820.96	7,163.14	0.00	0.00	0.00	
13,100.00	90.00	180.16	6,950.00	-7,255.29	-2,821.24	7,263.14	0.00	0.00	0.00	
13,200.00	90.00	180.16	6,950.00	-7,355.29	-2,821.52	7,363.14	0.00	0.00	0.00	
13,300.00	90.00	180.16	6,950.00	-7,455.29	-2,821.80	7,463.14	0.00	0.00	0.00	
13,400.00	90.00	180.16	6,950.00	-7,555.29	-2,822.08	7,563.14	0.00	0.00	0.00	
13,500.00	90.00	180.16	6,950.00	-7,655.29	-2,822.36	7,663.14	0.00	0.00	0.00	
13,600.00	90.00	180.16	6,950.00	-7,755.29	-2,822.64	7,763.14	0.00	0.00	0.00	
13,700.00	90.00	180.16	6,950.00	-7,855.29	-2,822.92	7,863.14	0.00	0.00	0.00	
13,800.00	90.00	180.16	6,950.00	-7,955.29	-2,823.20	7,963.14	0.00	0.00	0.00	
13,900.00	90.00	180.16	6,950.00	-8,055.29	-2,823.48	8,063.14	0.00	0.00	0.00	
14,000.00	90.00	180.16	6,950.00	-8,155.29	-2,823.76	8,163.14	0.00	0.00	0.00	

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CHIVE 2536-16H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Site:</b>	1N-64W-19 CHIVE & SHALLOT PAD	<b>North Reference:</b>	True
<b>Well:</b>	CHIVE 2536-16H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<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)
Begin Turn for AC @ 14000.00ft									
14,100.00	90.00	182.16	6,950.00	-8,255.27	-2,825.78	8,263.12	2.00	0.00	2.00
14,142.00	90.00	183.00	6,950.00	-8,297.22	-2,827.67	8,305.09	2.00	0.00	2.00
End Turn @ 14142.00ft									
14,200.00	90.00	183.00	6,950.00	-8,355.14	-2,830.71	8,363.02	0.00	0.00	0.00
14,300.00	90.00	183.00	6,950.00	-8,455.01	-2,835.94	8,462.89	0.00	0.00	0.00
14,400.00	90.00	183.00	6,950.00	-8,554.87	-2,841.17	8,562.77	0.00	0.00	0.00
14,500.00	90.00	183.00	6,950.00	-8,654.73	-2,846.41	8,662.65	0.00	0.00	0.00
14,600.00	90.00	183.00	6,950.00	-8,754.59	-2,851.64	8,762.52	0.00	0.00	0.00
14,700.00	90.00	183.00	6,950.00	-8,854.46	-2,856.88	8,862.40	0.00	0.00	0.00
14,800.00	90.00	183.00	6,950.00	-8,954.32	-2,862.11	8,962.28	0.00	0.00	0.00
14,900.00	90.00	183.00	6,950.00	-9,054.18	-2,867.34	9,062.16	0.00	0.00	0.00
15,000.00	90.00	183.00	6,950.00	-9,154.05	-2,872.58	9,162.03	0.00	0.00	0.00
15,100.00	90.00	183.00	6,950.00	-9,253.91	-2,877.81	9,261.91	0.00	0.00	0.00
15,200.00	90.00	183.00	6,950.00	-9,353.77	-2,883.04	9,361.79	0.00	0.00	0.00
15,300.00	90.00	183.00	6,950.00	-9,453.64	-2,888.28	9,461.66	0.00	0.00	0.00
15,400.00	90.00	183.00	6,950.00	-9,553.50	-2,893.51	9,561.54	0.00	0.00	0.00
15,500.00	90.00	183.00	6,950.00	-9,653.36	-2,898.74	9,661.42	0.00	0.00	0.00
15,600.00	90.00	183.00	6,950.00	-9,753.22	-2,903.98	9,761.30	0.00	0.00	0.00
15,700.00	90.00	183.00	6,950.00	-9,853.09	-2,909.21	9,861.17	0.00	0.00	0.00
15,800.00	90.00	183.00	6,950.00	-9,952.95	-2,914.44	9,961.05	0.00	0.00	0.00
15,900.00	90.00	183.00	6,950.00	-10,052.81	-2,919.68	10,060.93	0.00	0.00	0.00
16,000.00	90.00	183.00	6,950.00	-10,152.68	-2,924.91	10,160.80	0.00	0.00	0.00
16,050.00	90.00	183.00	6,950.00	-10,202.61	-2,927.53	10,210.74	0.00	0.00	0.00
Begin Turn to BHL @ 16050.00ft									
16,100.00	90.00	182.00	6,950.00	-10,252.56	-2,929.71	10,260.70	2.00	0.00	-2.00
16,200.00	90.00	180.00	6,950.00	-10,352.54	-2,931.45	10,360.68	2.00	0.00	-2.00
16,300.00	90.00	178.00	6,950.00	-10,452.52	-2,929.71	10,460.66	2.00	0.00	-2.00
16,370.82	90.00	176.58	6,950.00	-10,523.25	-2,926.36	10,531.38	2.00	0.00	-2.00
End Turn @ 16370.81ft									
16,400.00	90.00	176.58	6,950.00	-10,552.39	-2,924.62	10,560.51	0.00	0.00	0.00
16,500.00	90.00	176.58	6,950.00	-10,652.21	-2,918.67	10,660.32	0.00	0.00	0.00
16,600.00	90.00	176.58	6,950.00	-10,752.03	-2,912.71	10,760.12	0.00	0.00	0.00
16,700.00	90.00	176.58	6,950.00	-10,851.85	-2,906.75	10,859.93	0.00	0.00	0.00
16,800.00	90.00	176.58	6,950.00	-10,951.68	-2,900.79	10,959.73	0.00	0.00	0.00
16,900.00	90.00	176.58	6,950.00	-11,051.50	-2,894.83	11,059.54	0.00	0.00	0.00
17,000.00	90.00	176.58	6,950.00	-11,151.32	-2,888.87	11,159.34	0.00	0.00	0.00
17,100.00	90.00	176.58	6,950.00	-11,251.14	-2,882.91	11,259.15	0.00	0.00	0.00
17,200.00	90.00	176.58	6,950.00	-11,350.96	-2,876.95	11,358.95	0.00	0.00	0.00
17,300.00	90.00	176.58	6,950.00	-11,450.79	-2,870.99	11,458.76	0.00	0.00	0.00
17,400.00	90.00	176.58	6,950.00	-11,550.61	-2,865.03	11,558.56	0.00	0.00	0.00
17,500.00	90.00	176.58	6,950.00	-11,650.43	-2,859.08	11,658.37	0.00	0.00	0.00
17,600.00	90.00	176.58	6,950.00	-11,750.25	-2,853.12	11,758.18	0.00	0.00	0.00
17,700.00	90.00	176.58	6,950.00	-11,850.08	-2,847.16	11,857.98	0.00	0.00	0.00
17,800.00	90.00	176.58	6,950.00	-11,949.90	-2,841.20	11,957.79	0.00	0.00	0.00
17,826.44	90.00	176.58	6,950.00	-11,976.29	-2,839.62	11,984.17	0.00	0.00	0.00
BPZ @ 17826.44ft									
17,900.00	90.00	176.58	6,950.00	-12,049.72	-2,835.24	12,057.59	0.00	0.00	0.00
17,916.59	90.00	176.58	6,950.00	-12,066.28	-2,834.25	12,074.15	0.00	0.00	0.00
TD Well @ 17916.60ft									



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well CHIVE 2536-16H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 5031.00usft (RIG)
<b>Site:</b>	1N-64W-19 CHIVE & SHALLOT PAD	<b>North Reference:</b>	True
<b>Well:</b>	CHIVE 2536-16H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Design #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
2,184.93	2,070.00	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)		
320.50	320.50	0.00	0.00	Begin Nudge @ 320.50ft	
1,797.50	1,732.93	-200.36	-313.90	Hold Tangent @ 1797.50ft	
7,248.97	6,475.77	-1,646.46	-2,579.45	KOP @ 7248.97ft :: DLS = 8°/100'	
8,180.82	6,950.00	-2,336.14	-2,807.51	End Build/TPZ @ 8180.82ft	
14,000.00	6,950.00	-8,155.29	-2,823.76	Begin Turn for AC @ 14000.00ft	
14,142.00	6,950.00	-8,297.22	-2,827.67	End Turn @ 14142.00ft	
16,050.00	6,950.00	-10,202.61	-2,927.53	Begin Turn to BHL @ 16050.00ft	
16,370.82	6,950.00	-10,523.25	-2,926.36	End Turn @ 16370.81ft	
17,826.44	6,950.00	-11,976.29	-2,839.62	BPZ @ 17826.44ft	
17,916.59	6,950.00	-12,066.28	-2,834.25	TD Well @ 17916.60ft	