

VERDAD RESOURCES

**WATTENBERG FIELD
1N-64W-19 CHIVE & SHALLOT PAD
CHIVE 2536-13H**

Plan A

Plan: Design #1

Standard Planning Report

19 May, 2023

Project: WATTENBERG FIELD
Site: 1N-64W-19 CHIVE & SHALLOT PAD
Well: CHIVE 2536-13H
Wellbore: Plan A
Design: Design #1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
2070.00	2219.48	9 5/8"	9-5/8

SHL
1875' FSL
1643' FWL

LP/TPZ
460' FNL
2336' FWL

BPZ
460' FSL
2330' FWL

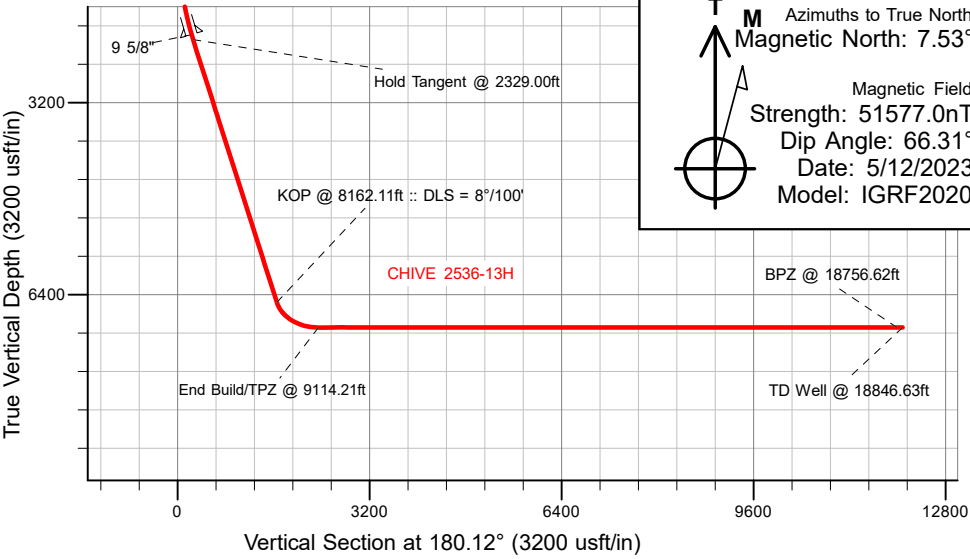
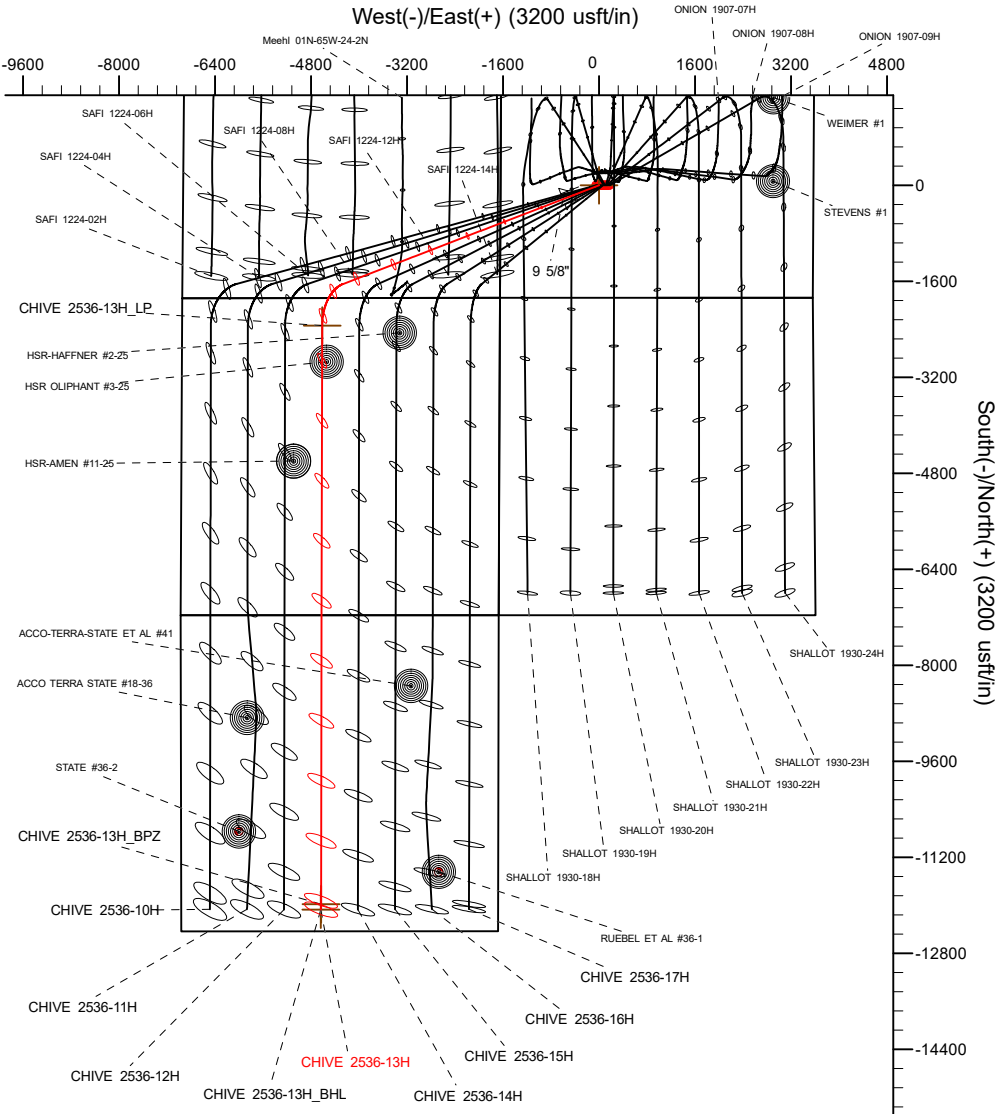
BHL
370' FSL
2330' FWL

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	
259.00	0.00	0.00	259.00	0.00	0.00	0.00	0.00	0.00	
2329.00	41.40	248.93	2153.52	-257.36	-668.02	2.00	248.93	258.76	
8162.11	41.40	248.93	6529.00	-1644.17	-4267.62	0.00	0.00	1653.10	
9114.21	90.00	180.12	6950.00	-2338.85	-4615.17	8.00	-73.78	2348.51	
18846.62	90.00	180.12	6950.00	-12071.24	-4636.06	0.00	0.00	12080.92	CHIVE 2536-13H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
CHIVE 2536-13H_SHL	0.00	1256775.57	3252861.14	40.034702	-104.596944
CHIVE 2536-13H_LP	6950.00	1254389.92	3248269.87	40.028281	-104.613426
CHIVE 2536-13H_BPZ	6950.00	1244747.74	3248347.53	40.001810	-104.613492
CHIVE 2536-13H_BHL	6950.00	1244657.74	3248348.25	40.001563	-104.613493



T M Azimuths to True North
Magnetic North: 7.53°
Magnetic Field
Strength: 51577.0nT
Dip Angle: 66.31°
Date: 5/12/2023
Model: IGRF2020

WELL DETAILS: CHIVE 2536-13H

GL = 5011'
RKB = 20' @ 5031.00usft (RIG)

Plan: Design #1 (CHIVE 2536-13H/Plan A)

Date: 5/19/2023

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CHIVE 2536-13H
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 2536-13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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-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 2536-13H				
Well Position	+N/-S	0.00 usft	Northing:	1,256,775.56 usft	Latitude:	40.034702
	+E/-W	0.00 usft	Easting:	3,252,861.14 usft	Longitude:	-104.596945
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	5,011.00 usft
Grid Convergence:		0.58 °				

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	5/12/2023	7.53	66.31	51,577.02815924

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	180.12	

Plan Survey Tool Program		Date	5/15/2023		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,070.00	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	
2	2,070.00	18,846.63	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 5031.00usft (RIG)
Site:	1N-64W-19 CHIVE & SHALLOT PAD	North Reference:	True
Well:	CHIVE 2536-13H	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	
259.00	0.00	0.00	259.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,329.00	41.40	248.93	2,153.52	-257.36	-668.02	2.00	2.00	0.00	248.93	
8,162.11	41.40	248.93	6,529.00	-1,644.17	-4,267.62	0.00	0.00	0.00	0.00	
9,114.21	90.00	180.12	6,950.00	-2,338.85	-4,615.17	8.00	5.10	-7.23	-73.78	
18,846.62	90.00	180.12	6,950.00	-12,071.24	-4,636.06	0.00	0.00	0.00	0.00	CHIVE 2536-13H_BH

Planning Report

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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 2536-13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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
259.00	0.00	0.00	259.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 259.00ft									
300.00	0.82	248.93	300.00	-0.11	-0.27	0.11	2.00	2.00	0.00
400.00	2.82	248.93	399.94	-1.25	-3.24	1.25	2.00	2.00	0.00
500.00	4.82	248.93	499.72	-3.64	-9.45	3.66	2.00	2.00	0.00
600.00	6.82	248.93	599.20	-7.29	-18.92	7.33	2.00	2.00	0.00
700.00	8.82	248.93	698.26	-12.18	-31.61	12.25	2.00	2.00	0.00
800.00	10.82	248.93	796.79	-18.31	-47.53	18.41	2.00	2.00	0.00
900.00	12.82	248.93	894.66	-25.67	-66.64	25.81	2.00	2.00	0.00
1,000.00	14.82	248.93	991.76	-34.26	-88.93	34.45	2.00	2.00	0.00
1,100.00	16.82	248.93	1,087.97	-44.06	-114.37	44.30	2.00	2.00	0.00
1,200.00	18.82	248.93	1,183.17	-55.06	-142.92	55.36	2.00	2.00	0.00
1,300.00	20.82	248.93	1,277.24	-67.25	-174.56	67.62	2.00	2.00	0.00
1,400.00	22.82	248.93	1,370.07	-80.61	-209.24	81.05	2.00	2.00	0.00
1,500.00	24.82	248.93	1,461.55	-95.13	-246.93	95.65	2.00	2.00	0.00
1,600.00	26.82	248.93	1,551.56	-110.79	-287.57	111.39	2.00	2.00	0.00
1,700.00	28.82	248.93	1,640.00	-127.57	-331.11	128.26	2.00	2.00	0.00
1,800.00	30.82	248.93	1,726.75	-145.44	-377.51	146.23	2.00	2.00	0.00
1,900.00	32.82	248.93	1,811.72	-164.40	-426.71	165.29	2.00	2.00	0.00
2,000.00	34.82	248.93	1,894.80	-184.41	-478.65	185.41	2.00	2.00	0.00
2,100.00	36.82	248.93	1,975.88	-205.45	-533.25	206.56	2.00	2.00	0.00
2,200.00	38.82	248.93	2,054.87	-227.49	-590.47	228.72	2.00	2.00	0.00
2,219.48	39.21	248.93	2,070.00	-231.90	-601.91	233.16	2.00	2.00	0.00
9 5/8"									
2,300.00	40.82	248.93	2,131.67	-250.51	-650.22	251.87	2.00	2.00	0.00
2,329.00	41.40	248.93	2,153.52	-257.36	-668.02	258.76	2.00	2.00	0.00
Hold Tangent @ 2329.00ft									
2,400.00	41.40	248.93	2,206.78	-274.24	-711.83	275.73	0.00	0.00	0.00
2,500.00	41.40	248.93	2,281.79	-298.02	-773.54	299.64	0.00	0.00	0.00
2,600.00	41.40	248.93	2,356.80	-321.79	-835.25	323.54	0.00	0.00	0.00
2,700.00	41.40	248.93	2,431.81	-345.57	-896.96	347.45	0.00	0.00	0.00
2,800.00	41.40	248.93	2,506.82	-369.34	-958.67	371.35	0.00	0.00	0.00
2,900.00	41.40	248.93	2,581.83	-393.12	-1,020.38	395.25	0.00	0.00	0.00
3,000.00	41.40	248.93	2,656.84	-416.89	-1,082.09	419.16	0.00	0.00	0.00
3,100.00	41.40	248.93	2,731.85	-440.67	-1,143.80	443.06	0.00	0.00	0.00
3,200.00	41.40	248.93	2,806.87	-464.44	-1,205.51	466.97	0.00	0.00	0.00
3,300.00	41.40	248.93	2,881.88	-488.22	-1,267.22	490.87	0.00	0.00	0.00
3,400.00	41.40	248.93	2,956.89	-511.99	-1,328.93	514.77	0.00	0.00	0.00
3,500.00	41.40	248.93	3,031.90	-535.77	-1,390.64	538.68	0.00	0.00	0.00
3,600.00	41.40	248.93	3,106.91	-559.54	-1,452.35	562.58	0.00	0.00	0.00
3,700.00	41.40	248.93	3,181.92	-583.32	-1,514.06	586.49	0.00	0.00	0.00
3,800.00	41.40	248.93	3,256.93	-607.09	-1,575.77	610.39	0.00	0.00	0.00
3,900.00	41.40	248.93	3,331.94	-630.87	-1,637.48	634.29	0.00	0.00	0.00
4,000.00	41.40	248.93	3,406.95	-654.64	-1,699.19	658.20	0.00	0.00	0.00
4,100.00	41.40	248.93	3,481.97	-678.41	-1,760.90	682.10	0.00	0.00	0.00
4,200.00	41.40	248.93	3,556.98	-702.19	-1,822.61	706.00	0.00	0.00	0.00
4,300.00	41.40	248.93	3,631.99	-725.96	-1,884.32	729.91	0.00	0.00	0.00
4,400.00	41.40	248.93	3,707.00	-749.74	-1,946.03	753.81	0.00	0.00	0.00
4,500.00	41.40	248.93	3,782.01	-773.51	-2,007.74	777.72	0.00	0.00	0.00
4,600.00	41.40	248.93	3,857.02	-797.29	-2,069.45	801.62	0.00	0.00	0.00

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Site:	1N-64W-19 CHIVE & SHALLOT PAD	North Reference:	True
Well:	CHIVE 2536-13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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	41.40	248.93	3,932.03	-821.06	-2,131.16	825.52	0.00	0.00	0.00
4,800.00	41.40	248.93	4,007.04	-844.84	-2,192.87	849.43	0.00	0.00	0.00
4,900.00	41.40	248.93	4,082.05	-868.61	-2,254.58	873.33	0.00	0.00	0.00
5,000.00	41.40	248.93	4,157.07	-892.39	-2,316.29	897.24	0.00	0.00	0.00
5,100.00	41.40	248.93	4,232.08	-916.16	-2,377.99	921.14	0.00	0.00	0.00
5,200.00	41.40	248.93	4,307.09	-939.94	-2,439.70	945.04	0.00	0.00	0.00
5,300.00	41.40	248.93	4,382.10	-963.71	-2,501.41	968.95	0.00	0.00	0.00
5,400.00	41.40	248.93	4,457.11	-987.49	-2,563.12	992.85	0.00	0.00	0.00
5,500.00	41.40	248.93	4,532.12	-1,011.26	-2,624.83	1,016.76	0.00	0.00	0.00
5,600.00	41.40	248.93	4,607.13	-1,035.04	-2,686.54	1,040.66	0.00	0.00	0.00
5,700.00	41.40	248.93	4,682.14	-1,058.81	-2,748.25	1,064.56	0.00	0.00	0.00
5,800.00	41.40	248.93	4,757.15	-1,082.58	-2,809.96	1,088.47	0.00	0.00	0.00
5,900.00	41.40	248.93	4,832.17	-1,106.36	-2,871.67	1,112.37	0.00	0.00	0.00
6,000.00	41.40	248.93	4,907.18	-1,130.13	-2,933.38	1,136.28	0.00	0.00	0.00
6,100.00	41.40	248.93	4,982.19	-1,153.91	-2,995.09	1,160.18	0.00	0.00	0.00
6,200.00	41.40	248.93	5,057.20	-1,177.68	-3,056.80	1,184.08	0.00	0.00	0.00
6,300.00	41.40	248.93	5,132.21	-1,201.46	-3,118.51	1,207.99	0.00	0.00	0.00
6,400.00	41.40	248.93	5,207.22	-1,225.23	-3,180.22	1,231.89	0.00	0.00	0.00
6,500.00	41.40	248.93	5,282.23	-1,249.01	-3,241.93	1,255.79	0.00	0.00	0.00
6,600.00	41.40	248.93	5,357.24	-1,272.78	-3,303.64	1,279.70	0.00	0.00	0.00
6,700.00	41.40	248.93	5,432.25	-1,296.56	-3,365.35	1,303.60	0.00	0.00	0.00
6,800.00	41.40	248.93	5,507.27	-1,320.33	-3,427.06	1,327.51	0.00	0.00	0.00
6,900.00	41.40	248.93	5,582.28	-1,344.11	-3,488.77	1,351.41	0.00	0.00	0.00
7,000.00	41.40	248.93	5,657.29	-1,367.88	-3,550.48	1,375.31	0.00	0.00	0.00
7,100.00	41.40	248.93	5,732.30	-1,391.66	-3,612.19	1,399.22	0.00	0.00	0.00
7,200.00	41.40	248.93	5,807.31	-1,415.43	-3,673.90	1,423.12	0.00	0.00	0.00
7,300.00	41.40	248.93	5,882.32	-1,439.21	-3,735.61	1,447.03	0.00	0.00	0.00
7,400.00	41.40	248.93	5,957.33	-1,462.98	-3,797.32	1,470.93	0.00	0.00	0.00
7,500.00	41.40	248.93	6,032.34	-1,486.75	-3,859.03	1,494.83	0.00	0.00	0.00
7,600.00	41.40	248.93	6,107.35	-1,510.53	-3,920.74	1,518.74	0.00	0.00	0.00
7,700.00	41.40	248.93	6,182.37	-1,534.30	-3,982.45	1,542.64	0.00	0.00	0.00
7,800.00	41.40	248.93	6,257.38	-1,558.08	-4,044.16	1,566.55	0.00	0.00	0.00
7,900.00	41.40	248.93	6,332.39	-1,581.85	-4,105.87	1,590.45	0.00	0.00	0.00
8,000.00	41.40	248.93	6,407.40	-1,605.63	-4,167.58	1,614.35	0.00	0.00	0.00
8,100.00	41.40	248.93	6,482.41	-1,629.40	-4,229.29	1,638.26	0.00	0.00	0.00
8,162.11	41.40	248.93	6,529.00	-1,644.17	-4,267.62	1,653.10	0.00	0.00	0.00
KOP @ 8162.11ft :: DLS = 8°/100'									
8,200.00	42.33	244.61	6,557.22	-1,654.15	-4,290.84	1,663.13	8.00	2.45	-11.41
8,250.00	43.79	239.15	6,593.77	-1,670.24	-4,320.91	1,679.29	8.00	2.93	-10.91
8,300.00	45.50	234.00	6,629.35	-1,689.60	-4,350.20	1,698.71	8.00	3.42	-10.30
8,350.00	47.43	229.16	6,663.80	-1,712.13	-4,378.57	1,721.30	8.00	3.85	-9.68
8,400.00	49.54	224.63	6,696.95	-1,737.72	-4,405.87	1,746.94	8.00	4.23	-9.07
8,450.00	51.82	220.38	6,728.64	-1,766.24	-4,431.98	1,775.51	8.00	4.57	-8.49
8,500.00	54.25	216.40	6,758.71	-1,797.55	-4,456.76	1,806.88	8.00	4.85	-7.96
8,550.00	56.80	212.66	6,787.01	-1,831.50	-4,480.10	1,840.88	8.00	5.10	-7.48
8,600.00	59.46	209.14	6,813.42	-1,867.94	-4,501.89	1,877.36	8.00	5.31	-7.05
8,650.00	62.20	205.81	6,837.79	-1,906.67	-4,522.01	1,916.13	8.00	5.49	-6.67
8,700.00	65.02	202.64	6,860.02	-1,947.51	-4,540.36	1,957.01	8.00	5.64	-6.33
8,750.00	67.91	199.62	6,879.99	-1,990.26	-4,556.87	1,999.80	8.00	5.77	-6.05
8,800.00	70.84	196.71	6,897.60	-2,034.72	-4,571.44	2,044.29	8.00	5.88	-5.80
8,850.00	73.83	193.92	6,912.78	-2,080.66	-4,584.02	2,090.26	8.00	5.96	-5.60
8,900.00	76.84	191.20	6,925.44	-2,127.86	-4,594.52	2,137.48	8.00	6.03	-5.43
8,950.00	79.89	188.55	6,935.52	-2,176.10	-4,602.92	2,185.74	8.00	6.09	-5.30
9,000.00	82.95	185.95	6,942.98	-2,225.14	-4,609.15	2,234.79	8.00	6.13	-5.20

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CHIVE 2536-13H
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 2536-13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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)
9,050.00	86.03	183.39	6,947.78	-2,274.73	-4,613.20	2,284.39	8.00	6.16	-5.13
9,100.00	89.12	180.85	6,949.89	-2,324.64	-4,615.05	2,334.30	8.00	6.18	-5.09
9,114.21	90.00	180.12	6,950.00	-2,338.85	-4,615.17	2,348.51	8.00	6.18	-5.08
End Build/TPZ @ 9114.21ft									
9,200.00	90.00	180.12	6,950.00	-2,424.64	-4,615.35	2,434.30	0.00	0.00	0.00
9,300.00	90.00	180.12	6,950.00	-2,524.64	-4,615.57	2,534.30	0.00	0.00	0.00
9,400.00	90.00	180.12	6,950.00	-2,624.64	-4,615.78	2,634.30	0.00	0.00	0.00
9,500.00	90.00	180.12	6,950.00	-2,724.64	-4,616.00	2,734.30	0.00	0.00	0.00
9,600.00	90.00	180.12	6,950.00	-2,824.64	-4,616.21	2,834.30	0.00	0.00	0.00
9,700.00	90.00	180.12	6,950.00	-2,924.64	-4,616.42	2,934.30	0.00	0.00	0.00
9,800.00	90.00	180.12	6,950.00	-3,024.64	-4,616.64	3,034.30	0.00	0.00	0.00
9,900.00	90.00	180.12	6,950.00	-3,124.64	-4,616.85	3,134.30	0.00	0.00	0.00
10,000.00	90.00	180.12	6,950.00	-3,224.64	-4,617.07	3,234.30	0.00	0.00	0.00
10,100.00	90.00	180.12	6,950.00	-3,324.64	-4,617.28	3,334.30	0.00	0.00	0.00
10,200.00	90.00	180.12	6,950.00	-3,424.64	-4,617.50	3,434.30	0.00	0.00	0.00
10,300.00	90.00	180.12	6,950.00	-3,524.64	-4,617.71	3,534.30	0.00	0.00	0.00
10,400.00	90.00	180.12	6,950.00	-3,624.64	-4,617.93	3,634.30	0.00	0.00	0.00
10,500.00	90.00	180.12	6,950.00	-3,724.64	-4,618.14	3,734.30	0.00	0.00	0.00
10,600.00	90.00	180.12	6,950.00	-3,824.64	-4,618.36	3,834.30	0.00	0.00	0.00
10,700.00	90.00	180.12	6,950.00	-3,924.64	-4,618.57	3,934.30	0.00	0.00	0.00
10,800.00	90.00	180.12	6,950.00	-4,024.64	-4,618.79	4,034.30	0.00	0.00	0.00
10,900.00	90.00	180.12	6,950.00	-4,124.64	-4,619.00	4,134.30	0.00	0.00	0.00
11,000.00	90.00	180.12	6,950.00	-4,224.64	-4,619.22	4,234.30	0.00	0.00	0.00
11,100.00	90.00	180.12	6,950.00	-4,324.64	-4,619.43	4,334.30	0.00	0.00	0.00
11,200.00	90.00	180.12	6,950.00	-4,424.64	-4,619.65	4,434.30	0.00	0.00	0.00
11,300.00	90.00	180.12	6,950.00	-4,524.64	-4,619.86	4,534.30	0.00	0.00	0.00
11,400.00	90.00	180.12	6,950.00	-4,624.64	-4,620.07	4,634.30	0.00	0.00	0.00
11,500.00	90.00	180.12	6,950.00	-4,724.64	-4,620.29	4,734.30	0.00	0.00	0.00
11,600.00	90.00	180.12	6,950.00	-4,824.63	-4,620.50	4,834.30	0.00	0.00	0.00
11,700.00	90.00	180.12	6,950.00	-4,924.63	-4,620.72	4,934.30	0.00	0.00	0.00
11,800.00	90.00	180.12	6,950.00	-5,024.63	-4,620.93	5,034.30	0.00	0.00	0.00
11,900.00	90.00	180.12	6,950.00	-5,124.63	-4,621.15	5,134.30	0.00	0.00	0.00
12,000.00	90.00	180.12	6,950.00	-5,224.63	-4,621.36	5,234.30	0.00	0.00	0.00
12,100.00	90.00	180.12	6,950.00	-5,324.63	-4,621.58	5,334.30	0.00	0.00	0.00
12,200.00	90.00	180.12	6,950.00	-5,424.63	-4,621.79	5,434.30	0.00	0.00	0.00
12,300.00	90.00	180.12	6,950.00	-5,524.63	-4,622.01	5,534.30	0.00	0.00	0.00
12,400.00	90.00	180.12	6,950.00	-5,624.63	-4,622.22	5,634.30	0.00	0.00	0.00
12,500.00	90.00	180.12	6,950.00	-5,724.63	-4,622.44	5,734.30	0.00	0.00	0.00
12,600.00	90.00	180.12	6,950.00	-5,824.63	-4,622.65	5,834.30	0.00	0.00	0.00
12,700.00	90.00	180.12	6,950.00	-5,924.63	-4,622.87	5,934.30	0.00	0.00	0.00
12,800.00	90.00	180.12	6,950.00	-6,024.63	-4,623.08	6,034.30	0.00	0.00	0.00
12,900.00	90.00	180.12	6,950.00	-6,124.63	-4,623.29	6,134.30	0.00	0.00	0.00
13,000.00	90.00	180.12	6,950.00	-6,224.63	-4,623.51	6,234.30	0.00	0.00	0.00
13,100.00	90.00	180.12	6,950.00	-6,324.63	-4,623.72	6,334.30	0.00	0.00	0.00
13,200.00	90.00	180.12	6,950.00	-6,424.63	-4,623.94	6,434.30	0.00	0.00	0.00
13,300.00	90.00	180.12	6,950.00	-6,524.63	-4,624.15	6,534.30	0.00	0.00	0.00
13,400.00	90.00	180.12	6,950.00	-6,624.63	-4,624.37	6,634.30	0.00	0.00	0.00
13,500.00	90.00	180.12	6,950.00	-6,724.63	-4,624.58	6,734.30	0.00	0.00	0.00
13,600.00	90.00	180.12	6,950.00	-6,824.63	-4,624.80	6,834.30	0.00	0.00	0.00
13,700.00	90.00	180.12	6,950.00	-6,924.63	-4,625.01	6,934.30	0.00	0.00	0.00
13,800.00	90.00	180.12	6,950.00	-7,024.63	-4,625.23	7,034.30	0.00	0.00	0.00
13,900.00	90.00	180.12	6,950.00	-7,124.63	-4,625.44	7,134.30	0.00	0.00	0.00
14,000.00	90.00	180.12	6,950.00	-7,224.63	-4,625.66	7,234.30	0.00	0.00	0.00

Planning Report

Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.16 Single User Db VERDAD RESOURCES WATTENBERG FIELD 1N-64W-19 CHIVE & SHALLOT PAD CHIVE 2536-13H Plan A Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well CHIVE 2536-13H RKB = 20' @ 5031.00usft (RIG) RKB = 20' @ 5031.00usft (RIG) True Minimum Curvature
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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)
14,100.00	90.00	180.12	6,950.00	-7,324.63	-4,625.87	7,334.30	0.00	0.00	0.00
14,200.00	90.00	180.12	6,950.00	-7,424.63	-4,626.09	7,434.30	0.00	0.00	0.00
14,300.00	90.00	180.12	6,950.00	-7,524.63	-4,626.30	7,534.30	0.00	0.00	0.00
14,400.00	90.00	180.12	6,950.00	-7,624.63	-4,626.51	7,634.30	0.00	0.00	0.00
14,500.00	90.00	180.12	6,950.00	-7,724.63	-4,626.73	7,734.30	0.00	0.00	0.00
14,600.00	90.00	180.12	6,950.00	-7,824.63	-4,626.94	7,834.30	0.00	0.00	0.00
14,700.00	90.00	180.12	6,950.00	-7,924.63	-4,627.16	7,934.30	0.00	0.00	0.00
14,800.00	90.00	180.12	6,950.00	-8,024.63	-4,627.37	8,034.30	0.00	0.00	0.00
14,900.00	90.00	180.12	6,950.00	-8,124.63	-4,627.59	8,134.30	0.00	0.00	0.00
15,000.00	90.00	180.12	6,950.00	-8,224.63	-4,627.80	8,234.30	0.00	0.00	0.00
15,100.00	90.00	180.12	6,950.00	-8,324.63	-4,628.02	8,334.30	0.00	0.00	0.00
15,200.00	90.00	180.12	6,950.00	-8,424.63	-4,628.23	8,434.30	0.00	0.00	0.00
15,300.00	90.00	180.12	6,950.00	-8,524.63	-4,628.45	8,534.30	0.00	0.00	0.00
15,400.00	90.00	180.12	6,950.00	-8,624.63	-4,628.66	8,634.30	0.00	0.00	0.00
15,500.00	90.00	180.12	6,950.00	-8,724.63	-4,628.88	8,734.30	0.00	0.00	0.00
15,600.00	90.00	180.12	6,950.00	-8,824.63	-4,629.09	8,834.30	0.00	0.00	0.00
15,700.00	90.00	180.12	6,950.00	-8,924.63	-4,629.31	8,934.30	0.00	0.00	0.00
15,800.00	90.00	180.12	6,950.00	-9,024.63	-4,629.52	9,034.30	0.00	0.00	0.00
15,900.00	90.00	180.12	6,950.00	-9,124.63	-4,629.73	9,134.30	0.00	0.00	0.00
16,000.00	90.00	180.12	6,950.00	-9,224.62	-4,629.95	9,234.30	0.00	0.00	0.00
16,100.00	90.00	180.12	6,950.00	-9,324.62	-4,630.16	9,334.30	0.00	0.00	0.00
16,200.00	90.00	180.12	6,950.00	-9,424.62	-4,630.38	9,434.30	0.00	0.00	0.00
16,300.00	90.00	180.12	6,950.00	-9,524.62	-4,630.59	9,534.30	0.00	0.00	0.00
16,400.00	90.00	180.12	6,950.00	-9,624.62	-4,630.81	9,634.30	0.00	0.00	0.00
16,500.00	90.00	180.12	6,950.00	-9,724.62	-4,631.02	9,734.30	0.00	0.00	0.00
16,600.00	90.00	180.12	6,950.00	-9,824.62	-4,631.24	9,834.30	0.00	0.00	0.00
16,700.00	90.00	180.12	6,950.00	-9,924.62	-4,631.45	9,934.30	0.00	0.00	0.00
16,800.00	90.00	180.12	6,950.00	-10,024.62	-4,631.67	10,034.30	0.00	0.00	0.00
16,900.00	90.00	180.12	6,950.00	-10,124.62	-4,631.88	10,134.30	0.00	0.00	0.00
17,000.00	90.00	180.12	6,950.00	-10,224.62	-4,632.10	10,234.30	0.00	0.00	0.00
17,100.00	90.00	180.12	6,950.00	-10,324.62	-4,632.31	10,334.30	0.00	0.00	0.00
17,200.00	90.00	180.12	6,950.00	-10,424.62	-4,632.53	10,434.30	0.00	0.00	0.00
17,300.00	90.00	180.12	6,950.00	-10,524.62	-4,632.74	10,534.30	0.00	0.00	0.00
17,400.00	90.00	180.12	6,950.00	-10,624.62	-4,632.96	10,634.30	0.00	0.00	0.00
17,500.00	90.00	180.12	6,950.00	-10,724.62	-4,633.17	10,734.30	0.00	0.00	0.00
17,600.00	90.00	180.12	6,950.00	-10,824.62	-4,633.38	10,834.30	0.00	0.00	0.00
17,700.00	90.00	180.12	6,950.00	-10,924.62	-4,633.60	10,934.30	0.00	0.00	0.00
17,800.00	90.00	180.12	6,950.00	-11,024.62	-4,633.81	11,034.30	0.00	0.00	0.00
17,900.00	90.00	180.12	6,950.00	-11,124.62	-4,634.03	11,134.30	0.00	0.00	0.00
18,000.00	90.00	180.12	6,950.00	-11,224.62	-4,634.24	11,234.30	0.00	0.00	0.00
18,100.00	90.00	180.12	6,950.00	-11,324.62	-4,634.46	11,334.30	0.00	0.00	0.00
18,200.00	90.00	180.12	6,950.00	-11,424.62	-4,634.67	11,434.30	0.00	0.00	0.00
18,300.00	90.00	180.12	6,950.00	-11,524.62	-4,634.89	11,534.30	0.00	0.00	0.00
18,400.00	90.00	180.12	6,950.00	-11,624.62	-4,635.10	11,634.30	0.00	0.00	0.00
18,500.00	90.00	180.12	6,950.00	-11,724.62	-4,635.32	11,734.30	0.00	0.00	0.00
18,600.00	90.00	180.12	6,950.00	-11,824.62	-4,635.53	11,834.30	0.00	0.00	0.00
18,700.00	90.00	180.12	6,950.00	-11,924.62	-4,635.75	11,934.30	0.00	0.00	0.00
18,756.62	90.00	180.12	6,950.00	-11,981.24	-4,635.87	11,990.92	0.00	0.00	0.00
BPZ @ 18756.62ft									
18,800.00	90.00	180.12	6,950.00	-12,024.62	-4,635.96	12,034.30	0.00	0.00	0.00
18,846.62	90.00	180.12	6,950.00	-12,071.24	-4,636.06	12,080.92	0.00	0.00	0.00
TD Well @ 18846.63ft									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well CHIVE 2536-13H
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 2536-13H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #1		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
2,219.48	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)		
259.00	259.00	0.00	0.00	Begin Nudge @ 259.00ft	
2,329.00	2,153.52	-257.36	-668.02	Hold Tangent @ 2329.00ft	
8,162.11	6,529.00	-1,644.17	-4,267.62	KOP @ 8162.11ft :: DLS = 8°/100'	
9,114.21	6,950.00	-2,338.85	-4,615.17	End Build/TPZ @ 9114.21ft	
18,756.62	6,950.00	-11,981.24	-4,635.87	BPZ @ 18756.62ft	
18,846.62	6,950.00	-12,071.24	-4,636.06	TD Well @ 18846.63ft	