

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**1N-65W-12 RAMEN 1423 PAD**

**RAMEN 1423-03H**

**Plan B**

**Plan: Permit Rev-1**

## **Standard Planning Report**

**17 August, 2023**

Project: WATTENBERG FIELD  
Site: 1N-65W-12 RAMEN 1423 PAD  
Well: RAMEN 1423-03H  
Wellbore: Plan B  
Design: Permit Rev-1

# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
2020.00	2159.37	9 5/8"	9-5/8

**SHL**  
2215' FSL  
2347' FEL

**LP/TPZ**  
460' FNL  
1722' FWL

**BPZ**  
460' FSL  
1728' FWL

**BHL**  
370' FSL  
1728' FWL

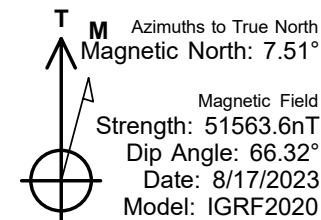
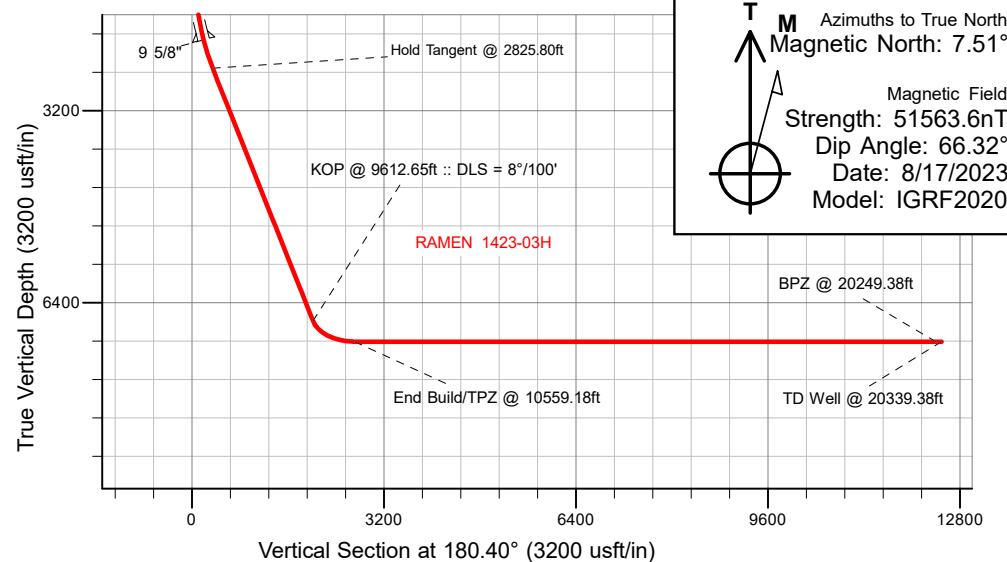
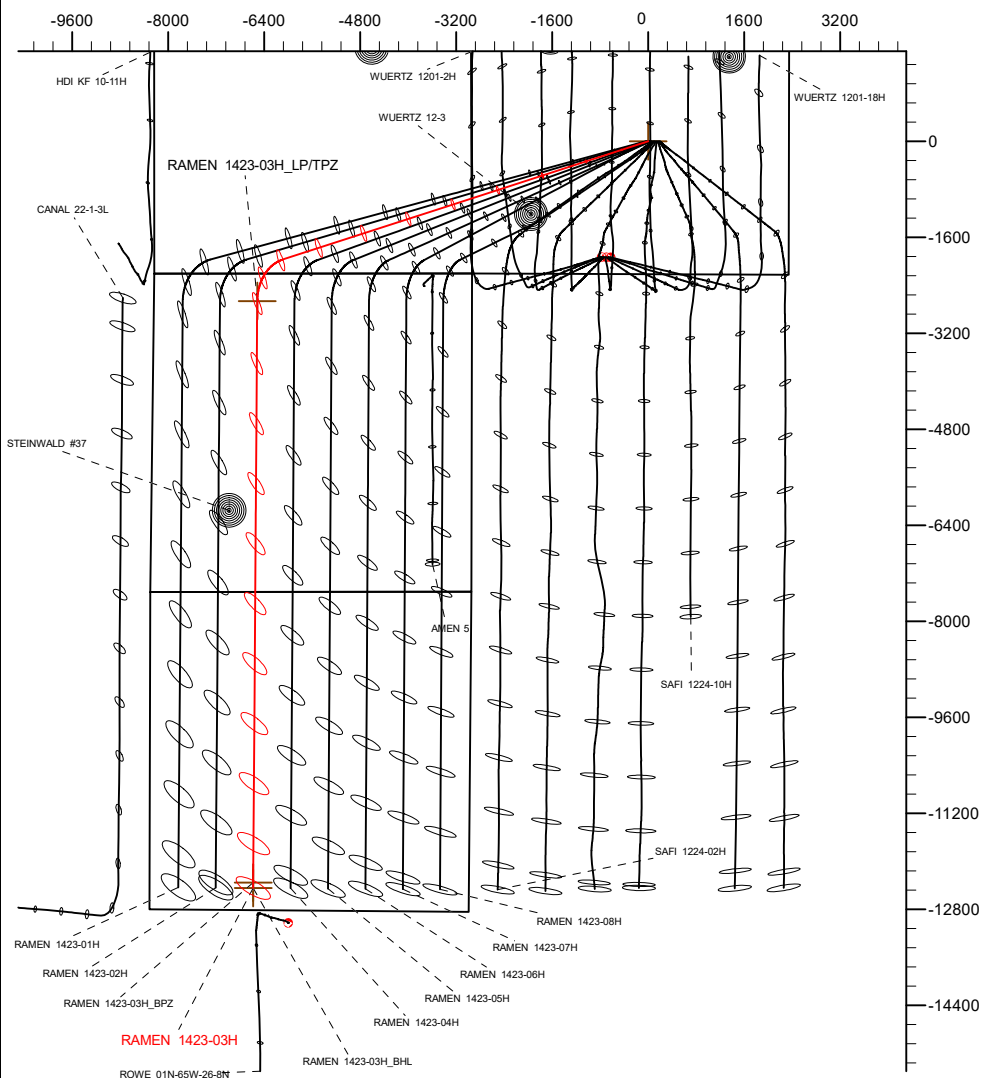
## SECTION DETAILS

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	
244.80	0.00	0.00	244.80	0.00	0.00	0.00	0.00	0.00	
2825.80	51.62	252.06	2490.54	-334.55	-1033.31	2.00	252.06	341.75	
9612.65	51.62	252.06	6704.32	-1973.30	-6094.92	0.00	0.00	2015.81	
10559.18	90.00	180.40	7050.00	-2664.49	-6514.01	8.00	-78.37	2709.90	
20339.38	90.00	180.40	7050.00	-12444.46	-6581.80	0.00	0.00	12490.10	RAMEN 1423-03H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
RAMEN 1423-03H_SHL	0.00	1267694.18	3248794.43	40.064787	-104.611076
RAMEN 1423-03H_LP/TPZ	7050.00	1264964.95	3242307.47	40.057471	-104.634347
RAMEN 1423-03H_BPZ	7050.00	1255274.37	3242337.44	40.030870	-104.634578
RAMEN 1423-03H_BHL	7050.00	1255184.37	3242337.71	40.030622	-104.634580

West(-)/East(+) (3200 usft/in)



## WELL DETAILS: RAMEN 1423-03H

GL = 4971'

RKB = 24' @ 4995.00usft (RIG)

Plan: Permit Rev-1 (RAMEN 1423-03H/Plan B)

Date: 8/17/2023

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well RAMEN 1423-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 RAMEN 1423 PAD	<b>North Reference:</b>	True
<b>Well:</b>	RAMEN 1423-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-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-65W-12 RAMEN 1423 PAD			
Site Position:		Northing:	1,267,694.08 usft	Latitude:	40.064787
From:	Map	Easting:	3,248,778.43 usft	Longitude:	-104.611134
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	

Well		RAMEN 1423-03H				
Well Position	+N/-S	0.00 usft	Northing:	1,267,694.18 usft	Latitude:	40.064787
	+E/-W	0.00 usft	Easting:	3,248,794.43 usft	Longitude:	-104.611077
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,971.00 usft
Grid Convergence:		0.57 °				

<b>Wellbore</b>	Plan B				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF202013	8/17/2023	7.51	66.32	51,563.64687651

<b>Design</b>	Permit Rev-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	180.40	

<b>Plan Survey Tool Program</b>		<b>Date</b>	8/17/2023		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	2,020.00	Permit Rev-1 (Plan B)	ISCWSA MWD	
				Fixed:v2:standard declination	
2	2,020.00	20,339.38	Permit Rev-1 (Plan B)	ISCWSA MWD	
				Fixed:v2:standard declination	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RAMEN 1423-03H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4995.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4995.00usft (RIG)
Site:	1N-65W-12 RAMEN 1423 PAD	North Reference:	True
Well:	RAMEN 1423-03H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-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	
244.80	0.00	0.00	244.80	0.00	0.00	0.00	0.00	0.00	0.00	
2,825.80	51.62	252.06	2,490.54	-334.55	-1,033.31	2.00	2.00	0.00	252.06	
9,612.65	51.62	252.06	6,704.32	-1,973.30	-6,094.92	0.00	0.00	0.00	0.00	
10,559.18	90.00	180.40	7,050.00	-2,664.49	-6,514.01	8.00	4.05	-7.57	-78.37	
20,339.38	90.00	180.40	7,050.00	-12,444.46	-6,581.80	0.00	0.00	0.00	0.00	RAMEN 1423-03H_B

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well RAMEN 1423-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 RAMEN 1423 PAD	<b>North Reference:</b>	True
<b>Well:</b>	RAMEN 1423-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-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
244.80	0.00	0.00	244.80	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 244.80ft									
300.00	1.10	252.06	300.00	-0.16	-0.51	0.17	2.00	2.00	0.00
400.00	3.10	252.06	399.92	-1.29	-4.00	1.32	2.00	2.00	0.00
500.00	5.10	252.06	499.66	-3.50	-10.81	3.57	2.00	2.00	0.00
600.00	7.10	252.06	599.09	-6.77	-20.92	6.92	2.00	2.00	0.00
700.00	9.10	252.06	698.09	-11.12	-34.33	11.36	2.00	2.00	0.00
800.00	11.10	252.06	796.53	-16.52	-51.02	16.88	2.00	2.00	0.00
900.00	13.10	252.06	894.30	-22.98	-70.97	23.47	2.00	2.00	0.00
1,000.00	15.10	252.06	991.28	-30.48	-94.15	31.14	2.00	2.00	0.00
1,100.00	17.10	252.06	1,087.35	-39.03	-120.54	39.87	2.00	2.00	0.00
1,200.00	19.10	252.06	1,182.40	-48.60	-150.10	49.64	2.00	2.00	0.00
1,300.00	21.10	252.06	1,276.30	-59.18	-182.80	60.46	2.00	2.00	0.00
1,400.00	23.10	252.06	1,368.95	-70.77	-218.60	72.30	2.00	2.00	0.00
1,500.00	25.10	252.06	1,460.22	-83.35	-257.45	85.15	2.00	2.00	0.00
1,600.00	27.10	252.06	1,550.02	-96.91	-299.31	98.99	2.00	2.00	0.00
1,700.00	29.10	252.06	1,638.22	-111.42	-344.13	113.81	2.00	2.00	0.00
1,800.00	31.10	252.06	1,724.73	-126.86	-391.84	129.60	2.00	2.00	0.00
1,900.00	33.10	252.06	1,809.43	-143.23	-442.40	146.32	2.00	2.00	0.00
2,000.00	35.10	252.06	1,892.23	-160.50	-495.74	163.96	2.00	2.00	0.00
2,100.00	37.10	252.06	1,973.02	-178.65	-551.80	182.50	2.00	2.00	0.00
2,159.37	38.29	252.06	2,020.00	-189.83	-586.34	193.92	2.00	2.00	0.00
9 5/8"									
2,200.00	39.10	252.06	2,051.71	-197.66	-610.51	201.92	2.00	2.00	0.00
2,300.00	41.10	252.06	2,128.19	-217.50	-671.79	222.18	2.00	2.00	0.00
2,400.00	43.10	252.06	2,202.38	-238.15	-735.57	243.28	2.00	2.00	0.00
2,500.00	45.10	252.06	2,274.19	-259.59	-801.78	265.18	2.00	2.00	0.00
2,600.00	47.10	252.06	2,343.52	-281.78	-870.34	287.85	2.00	2.00	0.00
2,700.00	49.10	252.06	2,410.29	-304.71	-941.15	311.27	2.00	2.00	0.00
2,800.00	51.10	252.06	2,474.43	-328.34	-1,014.14	335.41	2.00	2.00	0.00
2,825.80	51.62	252.06	2,490.54	-334.55	-1,033.31	341.75	2.00	2.00	0.00
Hold Tangent @ 2825.80ft									
2,900.00	51.62	252.06	2,536.61	-352.46	-1,088.65	360.05	0.00	0.00	0.00
3,000.00	51.62	252.06	2,598.69	-376.61	-1,163.23	384.72	0.00	0.00	0.00
3,100.00	51.62	252.06	2,660.78	-400.75	-1,237.81	409.39	0.00	0.00	0.00
3,200.00	51.62	252.06	2,722.87	-424.90	-1,312.39	434.05	0.00	0.00	0.00
3,300.00	51.62	252.06	2,784.96	-449.05	-1,386.96	458.72	0.00	0.00	0.00
3,400.00	51.62	252.06	2,847.04	-473.19	-1,461.54	483.38	0.00	0.00	0.00
3,500.00	51.62	252.06	2,909.13	-497.34	-1,536.12	508.05	0.00	0.00	0.00
3,600.00	51.62	252.06	2,971.22	-521.49	-1,610.70	532.72	0.00	0.00	0.00
3,700.00	51.62	252.06	3,033.31	-545.63	-1,685.28	557.38	0.00	0.00	0.00
3,800.00	51.62	252.06	3,095.39	-569.78	-1,759.86	582.05	0.00	0.00	0.00
3,900.00	51.62	252.06	3,157.48	-593.92	-1,834.44	606.72	0.00	0.00	0.00
4,000.00	51.62	252.06	3,219.57	-618.07	-1,909.02	631.38	0.00	0.00	0.00
4,100.00	51.62	252.06	3,281.66	-642.22	-1,983.60	656.05	0.00	0.00	0.00
4,200.00	51.62	252.06	3,343.74	-666.36	-2,058.18	680.71	0.00	0.00	0.00
4,300.00	51.62	252.06	3,405.83	-690.51	-2,132.76	705.38	0.00	0.00	0.00
4,400.00	51.62	252.06	3,467.92	-714.65	-2,207.34	730.05	0.00	0.00	0.00
4,500.00	51.62	252.06	3,530.01	-738.80	-2,281.92	754.71	0.00	0.00	0.00
4,600.00	51.62	252.06	3,592.09	-762.95	-2,356.50	779.38	0.00	0.00	0.00

# Planning Report

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<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 RAMEN 1423 PAD	<b>North Reference:</b>	True
<b>Well:</b>	RAMEN 1423-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-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	51.62	252.06	3,654.18	-787.09	-2,431.08	804.04	0.00	0.00	0.00
4,800.00	51.62	252.06	3,716.27	-811.24	-2,505.66	828.71	0.00	0.00	0.00
4,900.00	51.62	252.06	3,778.35	-835.38	-2,580.24	853.38	0.00	0.00	0.00
5,000.00	51.62	252.06	3,840.44	-859.53	-2,654.82	878.04	0.00	0.00	0.00
5,100.00	51.62	252.06	3,902.53	-883.68	-2,729.40	902.71	0.00	0.00	0.00
5,200.00	51.62	252.06	3,964.62	-907.82	-2,803.98	927.38	0.00	0.00	0.00
5,300.00	51.62	252.06	4,026.70	-931.97	-2,878.56	952.04	0.00	0.00	0.00
5,400.00	51.62	252.06	4,088.79	-956.11	-2,953.14	976.71	0.00	0.00	0.00
5,500.00	51.62	252.06	4,150.88	-980.26	-3,027.72	1,001.37	0.00	0.00	0.00
5,600.00	51.62	252.06	4,212.97	-1,004.41	-3,102.30	1,026.04	0.00	0.00	0.00
5,700.00	51.62	252.06	4,275.05	-1,028.55	-3,176.88	1,050.71	0.00	0.00	0.00
5,800.00	51.62	252.06	4,337.14	-1,052.70	-3,251.46	1,075.37	0.00	0.00	0.00
5,900.00	51.62	252.06	4,399.23	-1,076.84	-3,326.03	1,100.04	0.00	0.00	0.00
6,000.00	51.62	252.06	4,461.32	-1,100.99	-3,400.61	1,124.70	0.00	0.00	0.00
6,100.00	51.62	252.06	4,523.40	-1,125.14	-3,475.19	1,149.37	0.00	0.00	0.00
6,200.00	51.62	252.06	4,585.49	-1,149.28	-3,549.77	1,174.04	0.00	0.00	0.00
6,300.00	51.62	252.06	4,647.58	-1,173.43	-3,624.35	1,198.70	0.00	0.00	0.00
6,400.00	51.62	252.06	4,709.67	-1,197.58	-3,698.93	1,223.37	0.00	0.00	0.00
6,500.00	51.62	252.06	4,771.75	-1,221.72	-3,773.51	1,248.04	0.00	0.00	0.00
6,600.00	51.62	252.06	4,833.84	-1,245.87	-3,848.09	1,272.70	0.00	0.00	0.00
6,700.00	51.62	252.06	4,895.93	-1,270.01	-3,922.67	1,297.37	0.00	0.00	0.00
6,800.00	51.62	252.06	4,958.02	-1,294.16	-3,997.25	1,322.03	0.00	0.00	0.00
6,900.00	51.62	252.06	5,020.10	-1,318.31	-4,071.83	1,346.70	0.00	0.00	0.00
7,000.00	51.62	252.06	5,082.19	-1,342.45	-4,146.41	1,371.37	0.00	0.00	0.00
7,100.00	51.62	252.06	5,144.28	-1,366.60	-4,220.99	1,396.03	0.00	0.00	0.00
7,200.00	51.62	252.06	5,206.37	-1,390.74	-4,295.57	1,420.70	0.00	0.00	0.00
7,300.00	51.62	252.06	5,268.45	-1,414.89	-4,370.15	1,445.36	0.00	0.00	0.00
7,400.00	51.62	252.06	5,330.54	-1,439.04	-4,444.73	1,470.03	0.00	0.00	0.00
7,500.00	51.62	252.06	5,392.63	-1,463.18	-4,519.31	1,494.70	0.00	0.00	0.00
7,600.00	51.62	252.06	5,454.72	-1,487.33	-4,593.89	1,519.36	0.00	0.00	0.00
7,700.00	51.62	252.06	5,516.80	-1,511.47	-4,668.47	1,544.03	0.00	0.00	0.00
7,800.00	51.62	252.06	5,578.89	-1,535.62	-4,743.05	1,568.70	0.00	0.00	0.00
7,900.00	51.62	252.06	5,640.98	-1,559.77	-4,817.63	1,593.36	0.00	0.00	0.00
8,000.00	51.62	252.06	5,703.06	-1,583.91	-4,892.21	1,618.03	0.00	0.00	0.00
8,100.00	51.62	252.06	5,765.15	-1,608.06	-4,966.79	1,642.69	0.00	0.00	0.00
8,200.00	51.62	252.06	5,827.24	-1,632.20	-5,041.37	1,667.36	0.00	0.00	0.00
8,300.00	51.62	252.06	5,889.33	-1,656.35	-5,115.95	1,692.03	0.00	0.00	0.00
8,400.00	51.62	252.06	5,951.41	-1,680.50	-5,190.53	1,716.69	0.00	0.00	0.00
8,500.00	51.62	252.06	6,013.50	-1,704.64	-5,265.10	1,741.36	0.00	0.00	0.00
8,600.00	51.62	252.06	6,075.59	-1,728.79	-5,339.68	1,766.02	0.00	0.00	0.00
8,700.00	51.62	252.06	6,137.68	-1,752.93	-5,414.26	1,790.69	0.00	0.00	0.00
8,800.00	51.62	252.06	6,199.76	-1,777.08	-5,488.84	1,815.36	0.00	0.00	0.00
8,900.00	51.62	252.06	6,261.85	-1,801.23	-5,563.42	1,840.02	0.00	0.00	0.00
9,000.00	51.62	252.06	6,323.94	-1,825.37	-5,638.00	1,864.69	0.00	0.00	0.00
9,100.00	51.62	252.06	6,386.03	-1,849.52	-5,712.58	1,889.36	0.00	0.00	0.00
9,200.00	51.62	252.06	6,448.11	-1,873.67	-5,787.16	1,914.02	0.00	0.00	0.00
9,300.00	51.62	252.06	6,510.20	-1,897.81	-5,861.74	1,938.69	0.00	0.00	0.00
9,400.00	51.62	252.06	6,572.29	-1,921.96	-5,936.32	1,963.35	0.00	0.00	0.00
9,500.00	51.62	252.06	6,634.38	-1,946.10	-6,010.90	1,988.02	0.00	0.00	0.00
9,600.00	51.62	252.06	6,696.46	-1,970.25	-6,085.48	2,012.69	0.00	0.00	0.00
9,612.65	51.62	252.06	6,704.32	-1,973.30	-6,094.92	2,015.81	0.00	0.00	0.00
KOP @ 9612.65ft :: DLS = 8°/100'									
9,650.00	52.28	248.36	6,727.34	-1,983.26	-6,122.58	2,025.96	8.00	1.77	-9.91
9,700.00	53.34	243.52	6,757.58	-1,999.51	-6,158.93	2,042.45	8.00	2.12	-9.68

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well RAMEN 1423-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 RAMEN 1423 PAD	<b>North Reference:</b>	True
<b>Well:</b>	RAMEN 1423-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-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)
9,750.00	54.59	238.82	6,787.00	-2,019.01	-6,194.33	2,062.20	8.00	2.50	-9.40
9,800.00	56.02	234.27	6,815.47	-2,041.67	-6,228.60	2,085.11	8.00	2.86	-9.09
9,850.00	57.61	229.89	6,842.84	-2,067.39	-6,261.59	2,111.05	8.00	3.18	-8.77
9,900.00	59.35	225.66	6,868.99	-2,096.03	-6,293.13	2,139.92	8.00	3.47	-8.46
9,950.00	61.21	221.58	6,893.79	-2,127.47	-6,323.06	2,171.56	8.00	3.73	-8.15
10,000.00	63.20	217.66	6,917.11	-2,161.53	-6,351.25	2,205.82	8.00	3.97	-7.85
10,050.00	65.29	213.87	6,938.84	-2,198.07	-6,377.55	2,242.54	8.00	4.18	-7.58
10,100.00	67.47	210.21	6,958.88	-2,236.90	-6,401.84	2,281.54	8.00	4.36	-7.32
10,150.00	69.73	206.67	6,977.13	-2,277.83	-6,423.99	2,322.62	8.00	4.52	-7.09
10,200.00	72.06	203.23	6,993.50	-2,320.66	-6,443.91	2,365.59	8.00	4.66	-6.88
10,250.00	74.45	199.88	7,007.90	-2,365.18	-6,461.48	2,410.24	8.00	4.78	-6.70
10,300.00	76.89	196.60	7,020.28	-2,411.19	-6,476.63	2,456.34	8.00	4.88	-6.54
10,350.00	79.37	193.40	7,030.57	-2,458.44	-6,489.29	2,503.68	8.00	4.96	-6.42
10,400.00	81.88	190.24	7,038.71	-2,506.72	-6,499.39	2,552.03	8.00	5.02	-6.31
10,450.00	84.42	187.12	7,044.68	-2,555.78	-6,506.88	2,601.15	8.00	5.07	-6.23
10,500.00	86.97	184.04	7,048.43	-2,605.40	-6,511.72	2,650.79	8.00	5.10	-6.18
10,550.00	89.53	180.96	7,049.96	-2,655.31	-6,513.90	2,700.72	8.00	5.12	-6.15
10,559.18	90.00	180.40	7,050.00	-2,664.49	-6,514.01	2,709.90	8.00	5.13	-6.14
End Build/TPZ @ 10559.18ft									
10,600.00	90.00	180.40	7,050.00	-2,705.31	-6,514.29	2,750.72	0.00	0.00	0.00
10,700.00	90.00	180.40	7,050.00	-2,805.31	-6,514.98	2,850.72	0.00	0.00	0.00
10,800.00	90.00	180.40	7,050.00	-2,905.31	-6,515.68	2,950.72	0.00	0.00	0.00
10,900.00	90.00	180.40	7,050.00	-3,005.31	-6,516.37	3,050.72	0.00	0.00	0.00
11,000.00	90.00	180.40	7,050.00	-3,105.30	-6,517.06	3,150.72	0.00	0.00	0.00
11,100.00	90.00	180.40	7,050.00	-3,205.30	-6,517.76	3,250.72	0.00	0.00	0.00
11,200.00	90.00	180.40	7,050.00	-3,305.30	-6,518.45	3,350.72	0.00	0.00	0.00
11,300.00	90.00	180.40	7,050.00	-3,405.30	-6,519.14	3,450.72	0.00	0.00	0.00
11,400.00	90.00	180.40	7,050.00	-3,505.29	-6,519.83	3,550.72	0.00	0.00	0.00
11,500.00	90.00	180.40	7,050.00	-3,605.29	-6,520.53	3,650.72	0.00	0.00	0.00
11,600.00	90.00	180.40	7,050.00	-3,705.29	-6,521.22	3,750.72	0.00	0.00	0.00
11,700.00	90.00	180.40	7,050.00	-3,805.29	-6,521.91	3,850.72	0.00	0.00	0.00
11,800.00	90.00	180.40	7,050.00	-3,905.28	-6,522.61	3,950.72	0.00	0.00	0.00
11,900.00	90.00	180.40	7,050.00	-4,005.28	-6,523.30	4,050.72	0.00	0.00	0.00
12,000.00	90.00	180.40	7,050.00	-4,105.28	-6,523.99	4,150.72	0.00	0.00	0.00
12,100.00	90.00	180.40	7,050.00	-4,205.28	-6,524.69	4,250.72	0.00	0.00	0.00
12,200.00	90.00	180.40	7,050.00	-4,305.27	-6,525.38	4,350.72	0.00	0.00	0.00
12,300.00	90.00	180.40	7,050.00	-4,405.27	-6,526.07	4,450.72	0.00	0.00	0.00
12,400.00	90.00	180.40	7,050.00	-4,505.27	-6,526.77	4,550.72	0.00	0.00	0.00
12,500.00	90.00	180.40	7,050.00	-4,605.27	-6,527.46	4,650.72	0.00	0.00	0.00
12,600.00	90.00	180.40	7,050.00	-4,705.26	-6,528.15	4,750.72	0.00	0.00	0.00
12,700.00	90.00	180.40	7,050.00	-4,805.26	-6,528.85	4,850.72	0.00	0.00	0.00
12,800.00	90.00	180.40	7,050.00	-4,905.26	-6,529.54	4,950.72	0.00	0.00	0.00
12,900.00	90.00	180.40	7,050.00	-5,005.26	-6,530.23	5,050.72	0.00	0.00	0.00
13,000.00	90.00	180.40	7,050.00	-5,105.25	-6,530.93	5,150.72	0.00	0.00	0.00
13,100.00	90.00	180.40	7,050.00	-5,205.25	-6,531.62	5,250.72	0.00	0.00	0.00
13,200.00	90.00	180.40	7,050.00	-5,305.25	-6,532.31	5,350.72	0.00	0.00	0.00
13,300.00	90.00	180.40	7,050.00	-5,405.25	-6,533.00	5,450.72	0.00	0.00	0.00
13,400.00	90.00	180.40	7,050.00	-5,505.25	-6,533.70	5,550.72	0.00	0.00	0.00
13,500.00	90.00	180.40	7,050.00	-5,605.24	-6,534.39	5,650.72	0.00	0.00	0.00
13,600.00	90.00	180.40	7,050.00	-5,705.24	-6,535.08	5,750.72	0.00	0.00	0.00
13,700.00	90.00	180.40	7,050.00	-5,805.24	-6,535.78	5,850.72	0.00	0.00	0.00
13,800.00	90.00	180.40	7,050.00	-5,905.24	-6,536.47	5,950.72	0.00	0.00	0.00
13,900.00	90.00	180.40	7,050.00	-6,005.23	-6,537.16	6,050.72	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well RAMEN 1423-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 RAMEN 1423 PAD	<b>North Reference:</b>	True
<b>Well:</b>	RAMEN 1423-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-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)	
14,000.00	90.00	180.40	7,050.00	-6,105.23	-6,537.86	6,150.72	0.00	0.00	0.00	
14,100.00	90.00	180.40	7,050.00	-6,205.23	-6,538.55	6,250.72	0.00	0.00	0.00	
14,200.00	90.00	180.40	7,050.00	-6,305.23	-6,539.24	6,350.72	0.00	0.00	0.00	
14,300.00	90.00	180.40	7,050.00	-6,405.22	-6,539.94	6,450.72	0.00	0.00	0.00	
14,400.00	90.00	180.40	7,050.00	-6,505.22	-6,540.63	6,550.72	0.00	0.00	0.00	
14,500.00	90.00	180.40	7,050.00	-6,605.22	-6,541.32	6,650.72	0.00	0.00	0.00	
14,600.00	90.00	180.40	7,050.00	-6,705.22	-6,542.02	6,750.72	0.00	0.00	0.00	
14,700.00	90.00	180.40	7,050.00	-6,805.21	-6,542.71	6,850.72	0.00	0.00	0.00	
14,800.00	90.00	180.40	7,050.00	-6,905.21	-6,543.40	6,950.72	0.00	0.00	0.00	
14,900.00	90.00	180.40	7,050.00	-7,005.21	-6,544.10	7,050.72	0.00	0.00	0.00	
15,000.00	90.00	180.40	7,050.00	-7,105.21	-6,544.79	7,150.72	0.00	0.00	0.00	
15,100.00	90.00	180.40	7,050.00	-7,205.20	-6,545.48	7,250.72	0.00	0.00	0.00	
15,200.00	90.00	180.40	7,050.00	-7,305.20	-6,546.17	7,350.72	0.00	0.00	0.00	
15,300.00	90.00	180.40	7,050.00	-7,405.20	-6,546.87	7,450.72	0.00	0.00	0.00	
15,400.00	90.00	180.40	7,050.00	-7,505.20	-6,547.56	7,550.72	0.00	0.00	0.00	
15,500.00	90.00	180.40	7,050.00	-7,605.19	-6,548.25	7,650.72	0.00	0.00	0.00	
15,600.00	90.00	180.40	7,050.00	-7,705.19	-6,548.95	7,750.72	0.00	0.00	0.00	
15,700.00	90.00	180.40	7,050.00	-7,805.19	-6,549.64	7,850.72	0.00	0.00	0.00	
15,800.00	90.00	180.40	7,050.00	-7,905.19	-6,550.33	7,950.72	0.00	0.00	0.00	
15,900.00	90.00	180.40	7,050.00	-8,005.19	-6,551.03	8,050.72	0.00	0.00	0.00	
16,000.00	90.00	180.40	7,050.00	-8,105.18	-6,551.72	8,150.72	0.00	0.00	0.00	
16,100.00	90.00	180.40	7,050.00	-8,205.18	-6,552.41	8,250.72	0.00	0.00	0.00	
16,200.00	90.00	180.40	7,050.00	-8,305.18	-6,553.11	8,350.72	0.00	0.00	0.00	
16,300.00	90.00	180.40	7,050.00	-8,405.18	-6,553.80	8,450.72	0.00	0.00	0.00	
16,400.00	90.00	180.40	7,050.00	-8,505.17	-6,554.49	8,550.72	0.00	0.00	0.00	
16,500.00	90.00	180.40	7,050.00	-8,605.17	-6,555.19	8,650.72	0.00	0.00	0.00	
16,600.00	90.00	180.40	7,050.00	-8,705.17	-6,555.88	8,750.72	0.00	0.00	0.00	
16,700.00	90.00	180.40	7,050.00	-8,805.17	-6,556.57	8,850.72	0.00	0.00	0.00	
16,800.00	90.00	180.40	7,050.00	-8,905.16	-6,557.27	8,950.72	0.00	0.00	0.00	
16,900.00	90.00	180.40	7,050.00	-9,005.16	-6,557.96	9,050.72	0.00	0.00	0.00	
17,000.00	90.00	180.40	7,050.00	-9,105.16	-6,558.65	9,150.72	0.00	0.00	0.00	
17,100.00	90.00	180.40	7,050.00	-9,205.16	-6,559.34	9,250.72	0.00	0.00	0.00	
17,200.00	90.00	180.40	7,050.00	-9,305.15	-6,560.04	9,350.72	0.00	0.00	0.00	
17,300.00	90.00	180.40	7,050.00	-9,405.15	-6,560.73	9,450.72	0.00	0.00	0.00	
17,400.00	90.00	180.40	7,050.00	-9,505.15	-6,561.42	9,550.72	0.00	0.00	0.00	
17,500.00	90.00	180.40	7,050.00	-9,605.15	-6,562.12	9,650.72	0.00	0.00	0.00	
17,600.00	90.00	180.40	7,050.00	-9,705.14	-6,562.81	9,750.72	0.00	0.00	0.00	
17,700.00	90.00	180.40	7,050.00	-9,805.14	-6,563.50	9,850.72	0.00	0.00	0.00	
17,800.00	90.00	180.40	7,050.00	-9,905.14	-6,564.20	9,950.72	0.00	0.00	0.00	
17,900.00	90.00	180.40	7,050.00	-10,005.14	-6,564.89	10,050.72	0.00	0.00	0.00	
18,000.00	90.00	180.40	7,050.00	-10,105.13	-6,565.58	10,150.72	0.00	0.00	0.00	
18,100.00	90.00	180.40	7,050.00	-10,205.13	-6,566.28	10,250.72	0.00	0.00	0.00	
18,200.00	90.00	180.40	7,050.00	-10,305.13	-6,566.97	10,350.72	0.00	0.00	0.00	
18,300.00	90.00	180.40	7,050.00	-10,405.13	-6,567.66	10,450.72	0.00	0.00	0.00	
18,400.00	90.00	180.40	7,050.00	-10,505.13	-6,568.36	10,550.72	0.00	0.00	0.00	
18,500.00	90.00	180.40	7,050.00	-10,605.12	-6,569.05	10,650.72	0.00	0.00	0.00	
18,600.00	90.00	180.40	7,050.00	-10,705.12	-6,569.74	10,750.72	0.00	0.00	0.00	
18,700.00	90.00	180.40	7,050.00	-10,805.12	-6,570.44	10,850.72	0.00	0.00	0.00	
18,800.00	90.00	180.40	7,050.00	-10,905.12	-6,571.13	10,950.72	0.00	0.00	0.00	
18,900.00	90.00	180.40	7,050.00	-11,005.11	-6,571.82	11,050.72	0.00	0.00	0.00	
19,000.00	90.00	180.40	7,050.00	-11,105.11	-6,572.51	11,150.72	0.00	0.00	0.00	
19,100.00	90.00	180.40	7,050.00	-11,205.11	-6,573.21	11,250.72	0.00	0.00	0.00	
19,200.00	90.00	180.40	7,050.00	-11,305.11	-6,573.90	11,350.72	0.00	0.00	0.00	
19,300.00	90.00	180.40	7,050.00	-11,405.10	-6,574.59	11,450.72	0.00	0.00	0.00	



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well RAMEN 1423-03H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 4995.00usft (RIG)
<b>Site:</b>	1N-65W-12 RAMEN 1423 PAD	<b>North Reference:</b>	True
<b>Well:</b>	RAMEN 1423-03H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan B		
<b>Design:</b>	Permit Rev-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)	
19,400.00	90.00	180.40	7,050.00	-11,505.10	-6,575.29	11,550.72	0.00	0.00	0.00	
19,500.00	90.00	180.40	7,050.00	-11,605.10	-6,575.98	11,650.72	0.00	0.00	0.00	
19,600.00	90.00	180.40	7,050.00	-11,705.10	-6,576.67	11,750.72	0.00	0.00	0.00	
19,700.00	90.00	180.40	7,050.00	-11,805.09	-6,577.37	11,850.72	0.00	0.00	0.00	
19,800.00	90.00	180.40	7,050.00	-11,905.09	-6,578.06	11,950.72	0.00	0.00	0.00	
19,900.00	90.00	180.40	7,050.00	-12,005.09	-6,578.75	12,050.72	0.00	0.00	0.00	
20,000.00	90.00	180.40	7,050.00	-12,105.09	-6,579.45	12,150.72	0.00	0.00	0.00	
20,100.00	90.00	180.40	7,050.00	-12,205.08	-6,580.14	12,250.72	0.00	0.00	0.00	
20,200.00	90.00	180.40	7,050.00	-12,305.08	-6,580.83	12,350.72	0.00	0.00	0.00	
20,249.38	90.00	180.40	7,050.00	-12,354.46	-6,581.17	12,400.10	0.00	0.00	0.00	
BPZ @ 20249.38ft										
20,300.00	90.00	180.40	7,050.00	-12,405.08	-6,581.53	12,450.72	0.00	0.00	0.00	
20,339.38	90.00	180.40	7,050.00	-12,444.46	-6,581.80	12,490.10	0.00	0.00	0.00	
TD Well @ 20339.38ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
2,159.37	2,020.00	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)		
244.80	244.80	0.00	0.00	Begin Nudge @ 244.80ft	
2,825.80	2,490.54	-334.55	-1,033.31	Hold Tangent @ 2825.80ft	
9,612.65	6,704.32	-1,973.30	-6,094.92	KOP @ 9612.65ft :: DLS = 8°/100'	
10,559.18	7,050.00	-2,664.49	-6,514.01	End Build/TPZ @ 10559.18ft	
20,249.38	7,050.00	-12,354.46	-6,581.17	BPZ @ 20249.38ft	
20,339.38	7,050.00	-12,444.46	-6,581.80	TD Well @ 20339.38ft	