

VERDAD RESOURCES

WATTENBERG FIELD

1N-65W-12 RAMEN 1423 PAD

RAMEN 1423-08H

Plan B

Plan: Permit Rev-1

Standard Planning Report

07 December, 2023

Project: WATTENBERG FIELD
Site: 1N-65W-12 RAMEN 1423 PAD
Well: RAMEN 1423-08H
Wellbore: Plan B
Design: Permit Rev-1

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
2020.00	2159.95	9 5/8"	9-5/8

SHL
2215' FSL
2267' FEL

LP/TPZ
460' FNL
480' FEL

BPZ
460' FSL
480' FEL

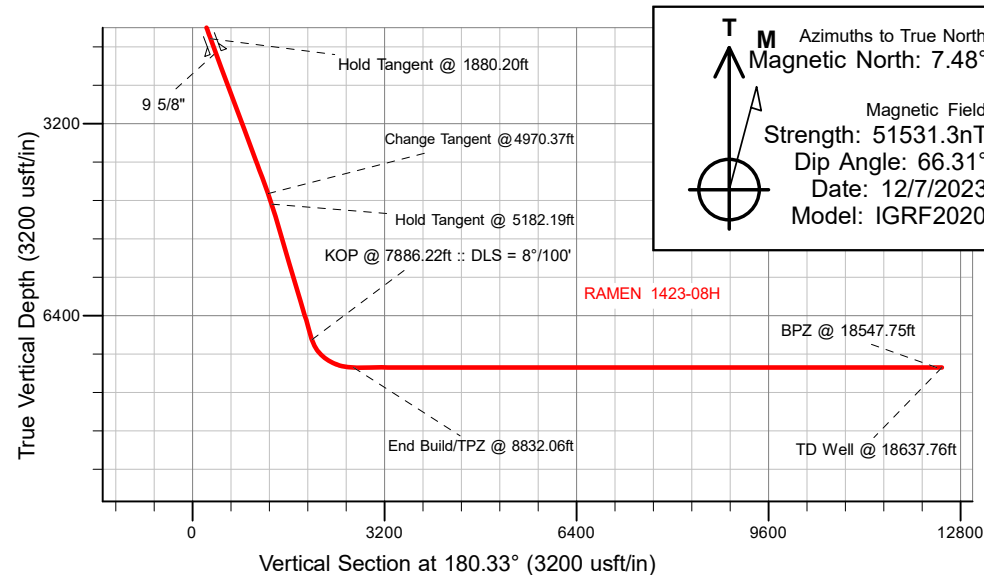
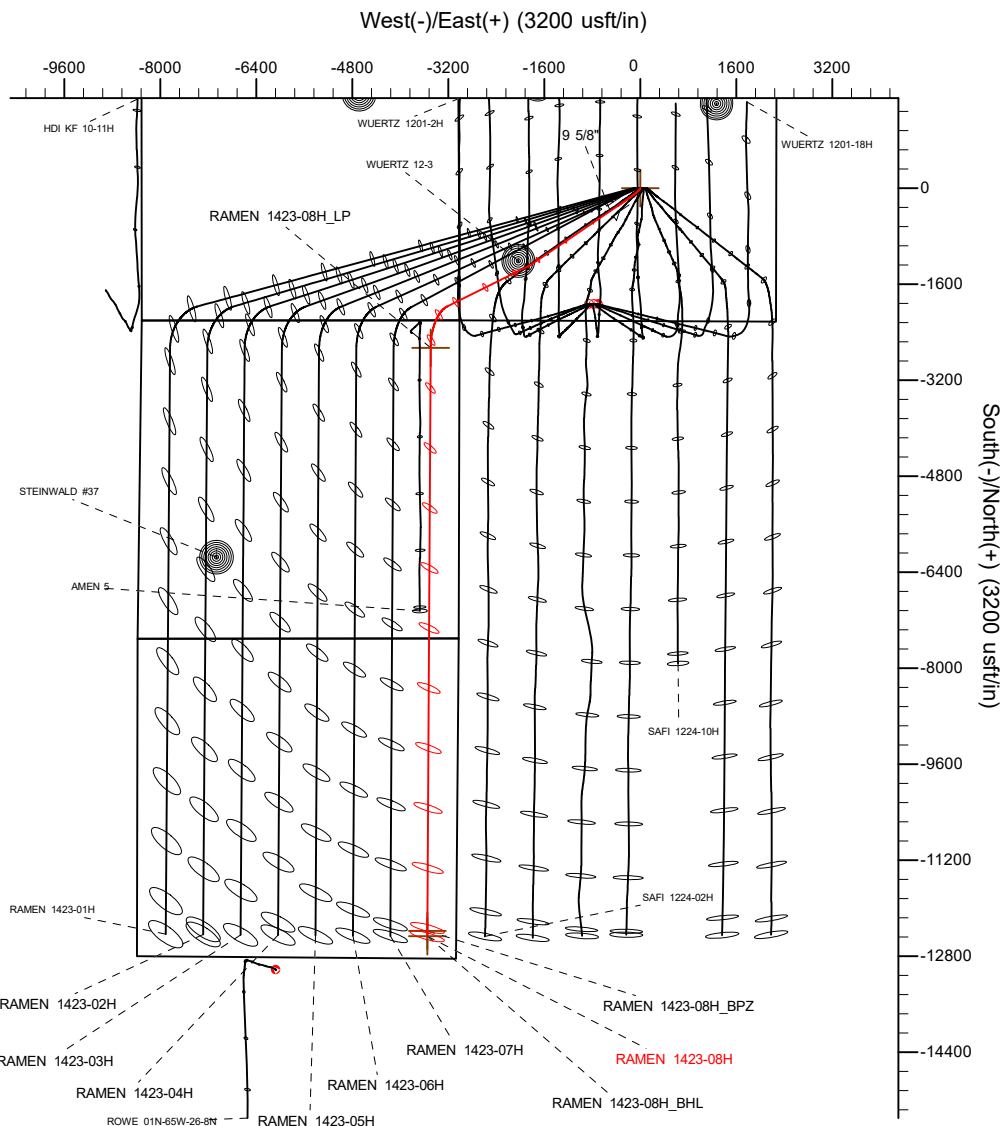
BHL
370' FSL
480' FEL

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	
151.00	0.00	0.00	151.00	0.00	0.00	0.00	0.00	0.00	
301.00	3.00	185.00	300.93	-3.91	-0.34	2.00	185.00	3.91	
1880.20	33.40	235.90	1786.45	-296.20	-373.36	2.00	54.65	298.35	
4970.37	33.40	235.90	4366.27	-1249.90	-1781.96	0.00	0.00	1260.14	
5182.19	33.40	243.60	4543.20	-1308.53	-1882.50	2.00	93.22	1319.35	
7886.22	33.40	243.60	6800.65	-1970.38	-3215.78	0.00	0.00	1988.87	
8832.06	90.00	180.33	7265.00	-2662.72	-3493.19	8.00	-67.20	2682.80	
18637.76	90.00	180.33	7265.00	-12468.26	-3548.81	0.00	0.00	12488.49	RAMEN 1423-08H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	Northing	Easting	Latitude	Longitude
RAMEN 1423-08H_SHL	0.00	1267694.66	3248874.43	40.064786	-104.610790
RAMEN 1423-08H_LP	7265.00	1264996.87	3245408.21	40.057475	-104.623269
RAMEN 1423-08H_BPZ	7265.00	1255281.44	3245450.43	40.030805	-104.623462
RAMEN 1423-08H_BHL	7265.00	1255191.44	3245450.82	40.030558	-104.623463



WELL DETAILS: RAMEN 1423-08H

GL = 4971'

RKB = 24' @ 4995.00usft (RIG)

Plan: Permit Rev-1 (RAMEN 1423-08H/Plan B)

Date: 12/7/2023

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RAMEN 1423-08H
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 1423-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	Permit Rev-1		

Project	WATTENBERG FIELD		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	1N-65W-12 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 1423-08H			
Well Position	+N/-S	0.00 usft	Northing:	1,267,694.66 usft
	+E/-W	0.00 usft	Easting:	3,248,874.43 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft
Grid Convergence:		0.57 °	Ground Level:	4,971.00 usft

Wellbore	Plan B				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	12/7/2023	7.48	66.31	51,531.29983472

Design	Permit Rev-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	180.33	

Plan Survey Tool Program		Date	12/7/2023		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,020.00	Permit Rev-1 (Plan B)	ISCWSA MWD	Fixed:v2:standard declination
2	2,020.00	18,637.76	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 1423-08H
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 1423-08H	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	
151.00	0.00	0.00	151.00	0.00	0.00	0.00	0.00	0.00	0.00	
301.00	3.00	185.00	300.93	-3.91	-0.34	2.00	2.00	0.00	185.00	
1,880.20	33.40	235.90	1,786.45	-296.20	-373.36	2.00	1.93	3.22	54.65	
4,970.37	33.40	235.90	4,366.27	-1,249.90	-1,781.96	0.00	0.00	0.00	0.00	
5,182.19	33.40	243.60	4,543.20	-1,308.53	-1,882.50	2.00	0.00	3.64	93.22	
7,886.22	33.40	243.60	6,800.65	-1,970.38	-3,215.78	0.00	0.00	0.00	0.00	
8,832.06	90.00	180.33	7,265.00	-2,662.72	-3,493.19	8.00	5.98	-6.69	-67.20	
18,637.76	90.00	180.33	7,265.00	-12,468.26	-3,548.82	0.00	0.00	0.00	0.00	RAMEN 1423-08H_B

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RAMEN 1423-08H
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 1423-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	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
151.00	0.00	0.00	151.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 151.00ft									
200.00	0.98	185.00	200.00	-0.42	-0.04	0.42	2.00	2.00	0.00
301.00	3.00	185.00	300.93	-3.91	-0.34	3.91	2.00	2.00	0.00
Change Tangent @ 301.00ft									
400.00	4.45	206.30	399.72	-9.93	-2.27	9.95	2.00	1.46	21.52
500.00	6.22	216.52	499.29	-17.76	-7.21	17.80	2.00	1.77	10.22
600.00	8.09	222.13	598.51	-27.34	-15.16	27.42	2.00	1.88	5.61
700.00	10.02	225.62	697.26	-38.64	-26.09	38.79	2.00	1.92	3.49
800.00	11.97	227.98	795.42	-51.66	-40.01	51.89	2.00	1.95	2.37
900.00	13.93	229.70	892.87	-66.39	-56.90	66.72	2.00	1.96	1.71
1,000.00	15.90	230.99	989.50	-82.80	-76.72	83.24	2.00	1.97	1.29
1,100.00	17.88	232.00	1,085.18	-100.87	-99.46	101.45	2.00	1.98	1.01
1,200.00	19.86	232.82	1,179.80	-120.59	-125.10	121.31	2.00	1.98	0.82
1,300.00	21.85	233.50	1,273.25	-141.93	-153.59	142.81	2.00	1.99	0.68
1,400.00	23.84	234.07	1,365.40	-164.86	-184.91	165.92	2.00	1.99	0.57
1,500.00	25.82	234.55	1,456.15	-189.35	-219.02	190.61	2.00	1.99	0.48
1,600.00	27.82	234.97	1,545.39	-215.38	-255.87	216.85	2.00	1.99	0.42
1,700.00	29.81	235.34	1,633.00	-242.91	-295.43	244.61	2.00	1.99	0.37
1,800.00	31.80	235.66	1,718.89	-271.91	-337.63	273.85	2.00	1.99	0.33
1,880.20	33.40	235.90	1,786.45	-296.20	-373.36	298.35	2.00	1.99	0.29
Hold Tangent @ 1880.20ft									
1,900.00	33.40	235.90	1,802.98	-302.32	-382.39	304.51	0.00	0.00	0.00
2,000.00	33.40	235.90	1,886.47	-333.18	-427.97	335.64	0.00	0.00	0.00
2,100.00	33.40	235.90	1,969.95	-364.04	-473.55	366.76	0.00	0.00	0.00
2,159.95	33.40	235.90	2,020.00	-382.54	-500.88	385.42	0.00	0.00	0.00
9 5/8"									
2,200.00	33.40	235.90	2,053.44	-394.90	-519.14	397.89	0.00	0.00	0.00
2,300.00	33.40	235.90	2,136.92	-425.76	-564.72	429.01	0.00	0.00	0.00
2,400.00	33.40	235.90	2,220.41	-456.63	-610.30	460.13	0.00	0.00	0.00
2,500.00	33.40	235.90	2,303.89	-487.49	-655.89	491.26	0.00	0.00	0.00
2,600.00	33.40	235.90	2,387.38	-518.35	-701.47	522.38	0.00	0.00	0.00
2,700.00	33.40	235.90	2,470.86	-549.21	-747.05	553.51	0.00	0.00	0.00
2,800.00	33.40	235.90	2,554.35	-580.07	-792.64	584.63	0.00	0.00	0.00
2,900.00	33.40	235.90	2,637.83	-610.94	-838.22	615.75	0.00	0.00	0.00
3,000.00	33.40	235.90	2,721.32	-641.80	-883.80	646.88	0.00	0.00	0.00
3,100.00	33.40	235.90	2,804.80	-672.66	-929.39	678.00	0.00	0.00	0.00
3,200.00	33.40	235.90	2,888.29	-703.52	-974.97	709.13	0.00	0.00	0.00
3,300.00	33.40	235.90	2,971.77	-734.39	-1,020.55	740.25	0.00	0.00	0.00
3,400.00	33.40	235.90	3,055.26	-765.25	-1,066.13	771.37	0.00	0.00	0.00
3,500.00	33.40	235.90	3,138.74	-796.11	-1,111.72	802.50	0.00	0.00	0.00
3,600.00	33.40	235.90	3,222.23	-826.97	-1,157.30	833.62	0.00	0.00	0.00
3,700.00	33.40	235.90	3,305.71	-857.83	-1,202.88	864.75	0.00	0.00	0.00
3,800.00	33.40	235.90	3,389.20	-888.70	-1,248.47	895.87	0.00	0.00	0.00
3,900.00	33.40	235.90	3,472.68	-919.56	-1,294.05	927.00	0.00	0.00	0.00
4,000.00	33.40	235.90	3,556.16	-950.42	-1,339.63	958.12	0.00	0.00	0.00
4,100.00	33.40	235.90	3,639.65	-981.28	-1,385.22	989.24	0.00	0.00	0.00
4,200.00	33.40	235.90	3,723.13	-1,012.14	-1,430.80	1,020.37	0.00	0.00	0.00
4,300.00	33.40	235.90	3,806.62	-1,043.01	-1,476.38	1,051.49	0.00	0.00	0.00
4,400.00	33.40	235.90	3,890.10	-1,073.87	-1,521.97	1,082.62	0.00	0.00	0.00
4,500.00	33.40	235.90	3,973.59	-1,104.73	-1,567.55	1,113.74	0.00	0.00	0.00
4,600.00	33.40	235.90	4,057.07	-1,135.59	-1,613.13	1,144.86	0.00	0.00	0.00

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 4995.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 4995.00usft (RIG)
Site:	1N-65W-12 RAMEN 1423 PAD	North Reference:	True
Well:	RAMEN 1423-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	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	33.40	235.90	4,140.56	-1,166.45	-1,658.72	1,175.99	0.00	0.00	0.00
4,800.00	33.40	235.90	4,224.04	-1,197.32	-1,704.30	1,207.11	0.00	0.00	0.00
4,900.00	33.40	235.90	4,307.53	-1,228.18	-1,749.88	1,238.24	0.00	0.00	0.00
4,970.37	33.40	235.90	4,366.27	-1,249.90	-1,781.96	1,260.14	0.00	0.00	0.00
Change Tangent @ 4970.37ft									
5,000.00	33.37	236.98	4,391.02	-1,258.91	-1,795.54	1,269.23	2.00	-0.10	3.63
5,100.00	33.34	240.61	4,474.55	-1,287.39	-1,842.56	1,297.98	2.00	-0.03	3.64
5,182.19	33.40	243.60	4,543.20	-1,308.53	-1,882.50	1,319.35	2.00	0.07	3.63
Hold Tangent @ 5182.19ft									
5,200.00	33.40	243.60	4,558.06	-1,312.89	-1,891.28	1,323.76	0.00	0.00	0.00
5,300.00	33.40	243.60	4,641.55	-1,337.37	-1,940.59	1,348.52	0.00	0.00	0.00
5,400.00	33.40	243.60	4,725.03	-1,361.84	-1,989.90	1,373.28	0.00	0.00	0.00
5,500.00	33.40	243.60	4,808.52	-1,386.32	-2,039.21	1,398.04	0.00	0.00	0.00
5,600.00	33.40	243.60	4,892.00	-1,410.80	-2,088.51	1,422.80	0.00	0.00	0.00
5,700.00	33.40	243.60	4,975.49	-1,435.27	-2,137.82	1,447.56	0.00	0.00	0.00
5,800.00	33.40	243.60	5,058.97	-1,459.75	-2,187.13	1,472.32	0.00	0.00	0.00
5,900.00	33.40	243.60	5,142.46	-1,484.23	-2,236.43	1,497.08	0.00	0.00	0.00
6,000.00	33.40	243.60	5,225.94	-1,508.70	-2,285.74	1,521.84	0.00	0.00	0.00
6,100.00	33.40	243.60	5,309.43	-1,533.18	-2,335.05	1,546.60	0.00	0.00	0.00
6,200.00	33.40	243.60	5,392.91	-1,557.65	-2,384.36	1,571.36	0.00	0.00	0.00
6,300.00	33.40	243.60	5,476.40	-1,582.13	-2,433.66	1,596.12	0.00	0.00	0.00
6,400.00	33.40	243.60	5,559.88	-1,606.61	-2,482.97	1,620.88	0.00	0.00	0.00
6,500.00	33.40	243.60	5,643.37	-1,631.08	-2,532.28	1,645.64	0.00	0.00	0.00
6,600.00	33.40	243.60	5,726.85	-1,655.56	-2,581.59	1,670.40	0.00	0.00	0.00
6,700.00	33.40	243.60	5,810.33	-1,680.04	-2,630.89	1,695.16	0.00	0.00	0.00
6,800.00	33.40	243.60	5,893.82	-1,704.51	-2,680.20	1,719.92	0.00	0.00	0.00
6,900.00	33.40	243.60	5,977.30	-1,728.99	-2,729.51	1,744.68	0.00	0.00	0.00
7,000.00	33.40	243.60	6,060.79	-1,753.46	-2,778.81	1,769.44	0.00	0.00	0.00
7,100.00	33.40	243.60	6,144.27	-1,777.94	-2,828.12	1,794.20	0.00	0.00	0.00
7,200.00	33.40	243.60	6,227.76	-1,802.42	-2,877.43	1,818.96	0.00	0.00	0.00
7,300.00	33.40	243.60	6,311.24	-1,826.89	-2,926.74	1,843.72	0.00	0.00	0.00
7,400.00	33.40	243.60	6,394.73	-1,851.37	-2,976.04	1,868.48	0.00	0.00	0.00
7,500.00	33.40	243.60	6,478.21	-1,875.85	-3,025.35	1,893.24	0.00	0.00	0.00
7,600.00	33.40	243.60	6,561.70	-1,900.32	-3,074.66	1,918.00	0.00	0.00	0.00
7,700.00	33.40	243.60	6,645.18	-1,924.80	-3,123.96	1,942.76	0.00	0.00	0.00
7,800.00	33.40	243.60	6,728.67	-1,949.28	-3,173.27	1,967.52	0.00	0.00	0.00
7,886.22	33.40	243.60	6,800.65	-1,970.38	-3,215.78	1,988.87	0.00	0.00	0.00
KOP @ 7886.22ft :: DLS = 8°/100'									
7,900.00	33.84	241.77	6,812.12	-1,973.88	-3,222.56	1,992.41	8.00	3.20	-13.24
7,950.00	35.65	235.51	6,853.22	-1,988.72	-3,246.85	2,007.39	8.00	3.62	-12.52
8,000.00	37.76	229.82	6,893.31	-2,006.86	-3,270.57	2,025.66	8.00	4.21	-11.38
8,050.00	40.11	224.67	6,932.21	-2,028.20	-3,293.60	2,047.13	8.00	4.71	-10.30
8,100.00	42.68	220.03	6,969.73	-2,052.64	-3,315.83	2,071.70	8.00	5.12	-9.30
8,150.00	45.41	215.82	7,005.67	-2,080.06	-3,337.16	2,099.25	8.00	5.46	-8.41
8,200.00	48.28	212.00	7,039.88	-2,110.33	-3,357.47	2,129.64	8.00	5.74	-7.64
8,250.00	51.27	208.52	7,072.17	-2,143.31	-3,376.68	2,162.72	8.00	5.97	-6.97
8,300.00	54.35	205.31	7,102.40	-2,178.82	-3,394.68	2,198.34	8.00	6.16	-6.40
8,350.00	57.51	202.35	7,130.41	-2,216.70	-3,411.39	2,236.31	8.00	6.32	-5.92
8,400.00	60.73	199.60	7,156.07	-2,256.77	-3,426.73	2,276.47	8.00	6.45	-5.51
8,450.00	64.01	197.01	7,179.25	-2,298.82	-3,440.63	2,318.60	8.00	6.56	-5.17
8,500.00	67.33	194.56	7,199.85	-2,342.65	-3,453.01	2,362.50	8.00	6.64	-4.89
8,550.00	70.69	192.23	7,217.76	-2,388.06	-3,463.81	2,407.97	8.00	6.71	-4.66
8,600.00	74.08	190.00	7,232.89	-2,434.81	-3,472.99	2,454.78	8.00	6.77	-4.47

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RAMEN 1423-08H
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 1423-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	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)
8,650.00	77.49	187.84	7,245.17	-2,482.69	-3,480.49	2,502.69	8.00	6.82	-4.32
8,700.00	80.91	185.73	7,254.54	-2,531.45	-3,486.29	2,551.48	8.00	6.85	-4.21
8,750.00	84.35	183.67	7,260.95	-2,580.86	-3,490.34	2,600.92	8.00	6.87	-4.13
8,800.00	87.79	181.63	7,264.38	-2,630.68	-3,492.65	2,650.75	8.00	6.89	-4.08
8,832.06	90.00	180.33	7,265.00	-2,662.72	-3,493.19	2,682.80	8.00	6.89	-4.06
End Build/TPZ @ 8832.06ft									
8,900.00	90.00	180.33	7,265.00	-2,730.66	-3,493.58	2,750.74	0.00	0.00	0.00
9,000.00	90.00	180.33	7,265.00	-2,830.66	-3,494.14	2,850.74	0.00	0.00	0.00
9,100.00	90.00	180.33	7,265.00	-2,930.66	-3,494.71	2,950.74	0.00	0.00	0.00
9,200.00	90.00	180.33	7,265.00	-3,030.66	-3,495.28	3,050.74	0.00	0.00	0.00
9,300.00	90.00	180.33	7,265.00	-3,130.66	-3,495.85	3,150.74	0.00	0.00	0.00
9,400.00	90.00	180.33	7,265.00	-3,230.65	-3,496.41	3,250.74	0.00	0.00	0.00
9,500.00	90.00	180.33	7,265.00	-3,330.65	-3,496.98	3,350.74	0.00	0.00	0.00
9,600.00	90.00	180.33	7,265.00	-3,430.65	-3,497.55	3,450.74	0.00	0.00	0.00
9,700.00	90.00	180.33	7,265.00	-3,530.65	-3,498.12	3,550.74	0.00	0.00	0.00
9,800.00	90.00	180.33	7,265.00	-3,630.65	-3,498.68	3,650.74	0.00	0.00	0.00
9,900.00	90.00	180.33	7,265.00	-3,730.65	-3,499.25	3,750.74	0.00	0.00	0.00
10,000.00	90.00	180.33	7,265.00	-3,830.64	-3,499.82	3,850.74	0.00	0.00	0.00
10,100.00	90.00	180.33	7,265.00	-3,930.64	-3,500.38	3,950.74	0.00	0.00	0.00
10,200.00	90.00	180.33	7,265.00	-4,030.64	-3,500.95	4,050.74	0.00	0.00	0.00
10,300.00	90.00	180.33	7,265.00	-4,130.64	-3,501.52	4,150.74	0.00	0.00	0.00
10,400.00	90.00	180.33	7,265.00	-4,230.64	-3,502.09	4,250.74	0.00	0.00	0.00
10,500.00	90.00	180.33	7,265.00	-4,330.64	-3,502.65	4,350.74	0.00	0.00	0.00
10,600.00	90.00	180.33	7,265.00	-4,430.63	-3,503.22	4,450.74	0.00	0.00	0.00
10,700.00	90.00	180.33	7,265.00	-4,530.63	-3,503.79	4,550.74	0.00	0.00	0.00
10,800.00	90.00	180.33	7,265.00	-4,630.63	-3,504.36	4,650.74	0.00	0.00	0.00
10,900.00	90.00	180.33	7,265.00	-4,730.63	-3,504.92	4,750.74	0.00	0.00	0.00
11,000.00	90.00	180.33	7,265.00	-4,830.63	-3,505.49	4,850.74	0.00	0.00	0.00
11,100.00	90.00	180.33	7,265.00	-4,930.63	-3,506.06	4,950.74	0.00	0.00	0.00
11,200.00	90.00	180.33	7,265.00	-5,030.62	-3,506.62	5,050.74	0.00	0.00	0.00
11,300.00	90.00	180.33	7,265.00	-5,130.62	-3,507.19	5,150.74	0.00	0.00	0.00
11,400.00	90.00	180.33	7,265.00	-5,230.62	-3,507.76	5,250.74	0.00	0.00	0.00
11,500.00	90.00	180.33	7,265.00	-5,330.62	-3,508.33	5,350.74	0.00	0.00	0.00
11,600.00	90.00	180.33	7,265.00	-5,430.62	-3,508.89	5,450.74	0.00	0.00	0.00
11,700.00	90.00	180.33	7,265.00	-5,530.62	-3,509.46	5,550.74	0.00	0.00	0.00
11,800.00	90.00	180.33	7,265.00	-5,630.61	-3,510.03	5,650.74	0.00	0.00	0.00
11,900.00	90.00	180.33	7,265.00	-5,730.61	-3,510.59	5,750.74	0.00	0.00	0.00
12,000.00	90.00	180.33	7,265.00	-5,830.61	-3,511.16	5,850.74	0.00	0.00	0.00
12,100.00	90.00	180.33	7,265.00	-5,930.61	-3,511.73	5,950.74	0.00	0.00	0.00
12,200.00	90.00	180.33	7,265.00	-6,030.61	-3,512.30	6,050.74	0.00	0.00	0.00
12,300.00	90.00	180.33	7,265.00	-6,130.61	-3,512.86	6,150.74	0.00	0.00	0.00
12,400.00	90.00	180.33	7,265.00	-6,230.61	-3,513.43	6,250.74	0.00	0.00	0.00
12,500.00	90.00	180.33	7,265.00	-6,330.60	-3,514.00	6,350.74	0.00	0.00	0.00
12,600.00	90.00	180.33	7,265.00	-6,430.60	-3,514.57	6,450.74	0.00	0.00	0.00
12,700.00	90.00	180.33	7,265.00	-6,530.60	-3,515.13	6,550.74	0.00	0.00	0.00
12,800.00	90.00	180.33	7,265.00	-6,630.60	-3,515.70	6,650.74	0.00	0.00	0.00
12,900.00	90.00	180.33	7,265.00	-6,730.60	-3,516.27	6,750.74	0.00	0.00	0.00
13,000.00	90.00	180.33	7,265.00	-6,830.60	-3,516.83	6,850.74	0.00	0.00	0.00
13,100.00	90.00	180.33	7,265.00	-6,930.59	-3,517.40	6,950.74	0.00	0.00	0.00
13,200.00	90.00	180.33	7,265.00	-7,030.59	-3,517.97	7,050.74	0.00	0.00	0.00
13,300.00	90.00	180.33	7,265.00	-7,130.59	-3,518.54	7,150.74	0.00	0.00	0.00
13,400.00	90.00	180.33	7,265.00	-7,230.59	-3,519.10	7,250.74	0.00	0.00	0.00
13,500.00	90.00	180.33	7,265.00	-7,330.59	-3,519.67	7,350.74	0.00	0.00	0.00
13,600.00	90.00	180.33	7,265.00	-7,430.59	-3,520.24	7,450.74	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RAMEN 1423-08H
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 1423-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	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)	
13,700.00	90.00	180.33	7,265.00	-7,530.58	-3,520.81	7,550.74	0.00	0.00	0.00	
13,800.00	90.00	180.33	7,265.00	-7,630.58	-3,521.37	7,650.74	0.00	0.00	0.00	
13,900.00	90.00	180.33	7,265.00	-7,730.58	-3,521.94	7,750.74	0.00	0.00	0.00	
14,000.00	90.00	180.33	7,265.00	-7,830.58	-3,522.51	7,850.74	0.00	0.00	0.00	
14,100.00	90.00	180.33	7,265.00	-7,930.58	-3,523.07	7,950.74	0.00	0.00	0.00	
14,200.00	90.00	180.33	7,265.00	-8,030.58	-3,523.64	8,050.74	0.00	0.00	0.00	
14,300.00	90.00	180.33	7,265.00	-8,130.57	-3,524.21	8,150.74	0.00	0.00	0.00	
14,400.00	90.00	180.33	7,265.00	-8,230.57	-3,524.78	8,250.74	0.00	0.00	0.00	
14,500.00	90.00	180.33	7,265.00	-8,330.57	-3,525.34	8,350.74	0.00	0.00	0.00	
14,600.00	90.00	180.33	7,265.00	-8,430.57	-3,525.91	8,450.74	0.00	0.00	0.00	
14,700.00	90.00	180.33	7,265.00	-8,530.57	-3,526.48	8,550.74	0.00	0.00	0.00	
14,800.00	90.00	180.33	7,265.00	-8,630.57	-3,527.05	8,650.74	0.00	0.00	0.00	
14,900.00	90.00	180.33	7,265.00	-8,730.57	-3,527.61	8,750.74	0.00	0.00	0.00	
15,000.00	90.00	180.33	7,265.00	-8,830.56	-3,528.18	8,850.74	0.00	0.00	0.00	
15,100.00	90.00	180.33	7,265.00	-8,930.56	-3,528.75	8,950.74	0.00	0.00	0.00	
15,200.00	90.00	180.33	7,265.00	-9,030.56	-3,529.31	9,050.74	0.00	0.00	0.00	
15,300.00	90.00	180.33	7,265.00	-9,130.56	-3,529.88	9,150.74	0.00	0.00	0.00	
15,400.00	90.00	180.33	7,265.00	-9,230.56	-3,530.45	9,250.74	0.00	0.00	0.00	
15,500.00	90.00	180.33	7,265.00	-9,330.56	-3,531.02	9,350.74	0.00	0.00	0.00	
15,600.00	90.00	180.33	7,265.00	-9,430.55	-3,531.58	9,450.74	0.00	0.00	0.00	
15,700.00	90.00	180.33	7,265.00	-9,530.55	-3,532.15	9,550.74	0.00	0.00	0.00	
15,800.00	90.00	180.33	7,265.00	-9,630.55	-3,532.72	9,650.74	0.00	0.00	0.00	
15,900.00	90.00	180.33	7,265.00	-9,730.55	-3,533.29	9,750.74	0.00	0.00	0.00	
16,000.00	90.00	180.33	7,265.00	-9,830.55	-3,533.85	9,850.74	0.00	0.00	0.00	
16,100.00	90.00	180.33	7,265.00	-9,930.55	-3,534.42	9,950.74	0.00	0.00	0.00	
16,200.00	90.00	180.33	7,265.00	-10,030.54	-3,534.99	10,050.74	0.00	0.00	0.00	
16,300.00	90.00	180.33	7,265.00	-10,130.54	-3,535.55	10,150.74	0.00	0.00	0.00	
16,400.00	90.00	180.33	7,265.00	-10,230.54	-3,536.12	10,250.74	0.00	0.00	0.00	
16,500.00	90.00	180.33	7,265.00	-10,330.54	-3,536.69	10,350.74	0.00	0.00	0.00	
16,600.00	90.00	180.33	7,265.00	-10,430.54	-3,537.26	10,450.74	0.00	0.00	0.00	
16,700.00	90.00	180.33	7,265.00	-10,530.54	-3,537.82	10,550.74	0.00	0.00	0.00	
16,800.00	90.00	180.33	7,265.00	-10,630.53	-3,538.39	10,650.74	0.00	0.00	0.00	
16,900.00	90.00	180.33	7,265.00	-10,730.53	-3,538.96	10,750.74	0.00	0.00	0.00	
17,000.00	90.00	180.33	7,265.00	-10,830.53	-3,539.52	10,850.74	0.00	0.00	0.00	
17,100.00	90.00	180.33	7,265.00	-10,930.53	-3,540.09	10,950.74	0.00	0.00	0.00	
17,200.00	90.00	180.33	7,265.00	-11,030.53	-3,540.66	11,050.74	0.00	0.00	0.00	
17,300.00	90.00	180.33	7,265.00	-11,130.53	-3,541.23	11,150.74	0.00	0.00	0.00	
17,400.00	90.00	180.33	7,265.00	-11,230.52	-3,541.79	11,250.74	0.00	0.00	0.00	
17,500.00	90.00	180.33	7,265.00	-11,330.52	-3,542.36	11,350.74	0.00	0.00	0.00	
17,600.00	90.00	180.33	7,265.00	-11,430.52	-3,542.93	11,450.74	0.00	0.00	0.00	
17,700.00	90.00	180.33	7,265.00	-11,530.52	-3,543.50	11,550.74	0.00	0.00	0.00	
17,800.00	90.00	180.33	7,265.00	-11,630.52	-3,544.06	11,650.74	0.00	0.00	0.00	
17,900.00	90.00	180.33	7,265.00	-11,730.52	-3,544.63	11,750.74	0.00	0.00	0.00	
18,000.00	90.00	180.33	7,265.00	-11,830.52	-3,545.20	11,850.74	0.00	0.00	0.00	
18,100.00	90.00	180.33	7,265.00	-11,930.51	-3,545.76	11,950.74	0.00	0.00	0.00	
18,200.00	90.00	180.33	7,265.00	-12,030.51	-3,546.33	12,050.74	0.00	0.00	0.00	
18,300.00	90.00	180.33	7,265.00	-12,130.51	-3,546.90	12,150.74	0.00	0.00	0.00	
18,400.00	90.00	180.33	7,265.00	-12,230.51	-3,547.47	12,250.74	0.00	0.00	0.00	
18,500.00	90.00	180.33	7,265.00	-12,330.51	-3,548.03	12,350.74	0.00	0.00	0.00	
18,547.75	90.00	180.33	7,265.00	-12,378.26	-3,548.30	12,398.49	0.00	0.00	0.00	
BPZ @ 18547.75ft										
18,600.00	90.00	180.33	7,265.00	-12,430.51	-3,548.60	12,450.74	0.00	0.00	0.00	
18,637.76	90.00	180.33	7,265.00	-12,468.26	-3,548.82	12,488.49	0.00	0.00	0.00	
TD Well @ 18637.76ft										

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well RAMEN 1423-08H
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 1423-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan B		
Design:	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)

Casing Points								
Measured Depth (usft)	Vertical Depth (usft)	Name			Casing Diameter (")	Hole Diameter (")		
2,159.95	2,020.00	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	
151.00	151.00	0.00	0.00	Begin Nudge @ 151.00ft	
301.00	300.93	-3.91	-0.34	Change Tangent @ 301.00ft	
1,880.20	1,786.45	-296.20	-373.36	Hold Tangent @ 1880.20ft	
4,970.37	4,366.27	-1,249.90	-1,781.96	Change Tangent @ 4970.37ft	
5,182.19	4,543.20	-1,308.53	-1,882.50	Hold Tangent @ 5182.19ft	
7,886.22	6,800.65	-1,970.38	-3,215.78	KOP @ 7886.22ft :: DLS = 8°/100'	
8,832.06	7,265.00	-2,662.72	-3,493.19	End Build/TPZ @ 8832.06ft	
18,547.75	7,265.00	-12,378.26	-3,548.30	BPZ @ 18547.75ft	
18,637.76	7,265.00	-12,468.26	-3,548.82	TD Well @ 18637.76ft	