

VERDAD RESOURCES

WATTENBERG FIELD

1N-65W-31 COUNTY LINE 3229 PAD

COUNTY LINE 3229-19H

Plan A

Plan: Design #2

Standard Planning Report

24 May, 2022

Project: WATTENBERG FIELD
Site: 1N-65W-31 COUNTY LINE 3229 PAD
Well: COUNTY LINE 3229-19H
Wellbore: Plan A
Design: Design #2

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
2275.00	2390.39	9 5/8"	9-5/8

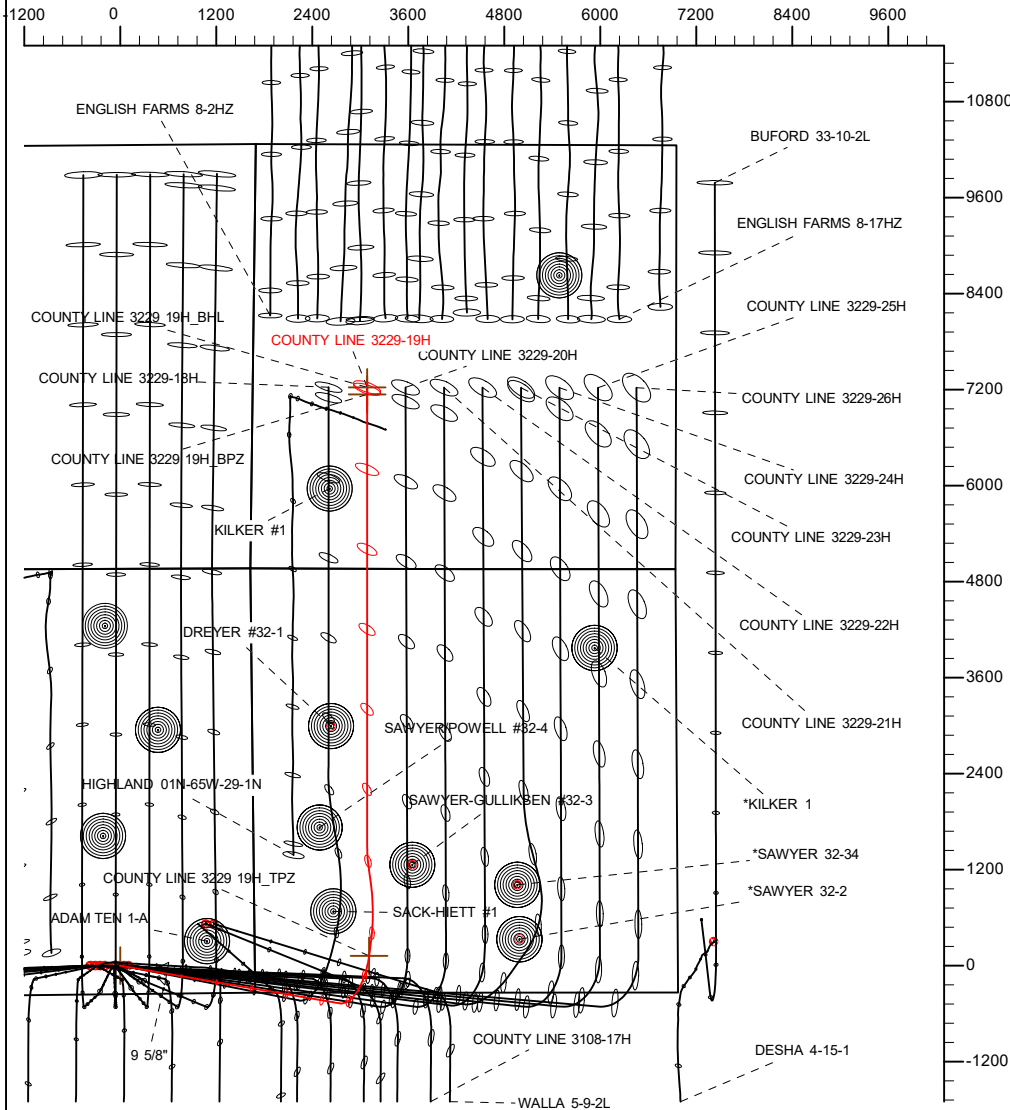
SECTION DETAILS

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	
410.00	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	
1733.00	26.46	99.73	1686.47	-50.72	295.78	2.00	99.73	-51.80	
7301.03	26.46	99.73	6671.23	-470.01	2741.06	0.00	0.00	-480.06	
8310.83	90.00	7.75	7250.00	121.89	3112.16	9.00	-91.77	110.49	
8460.83	90.00	7.75	7250.00	270.52	3132.38	0.00	0.00	259.04	
9298.33	90.00	351.00	7250.00	1104.99	3123.28	2.00	-90.00	1093.54	
9308.33	90.00	351.00	7250.00	1114.87	3121.72	0.00	0.00	1103.42	
9758.41	90.00	0.00	7250.00	1563.10	3086.45	2.00	90.00	1551.78	
15425.05	90.00	0.00	7250.00	7229.74	3086.61	0.00	0.00	7218.38	COUNTY LINE 3229 19H_BHL

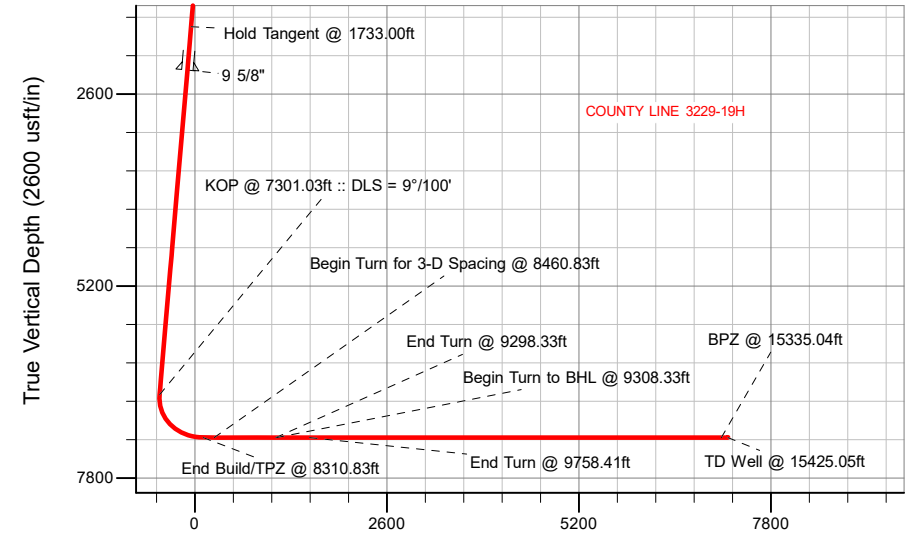
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
COUNTY LINE 3229 19H_SHL	0.00	0.00	0.00	40.001457	-104.703289
COUNTY LINE 3229 19H_TPZ	7250.00	121.90	3112.40	40.001791	-104.692179
COUNTY LINE 3229 19H_BPZ	7250.00	7139.73	3086.93	40.021056	-104.692267
COUNTY LINE 3229 19H_BHL	7250.00	7229.74	3086.61	40.021304	-104.692268

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

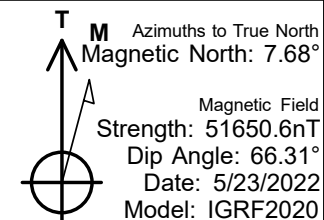


South(-)/North(+) (2400 usft/in)



Vertical Section at 359.79° (2600 usft/in)

SHL	TPZ	BPZ	BHL
340' FSL	460' FSL	2180' FSL	2270' FSL
1685' FEL	1429' FWL	1431' FWL	1429' FWL



WELL DETAILS: COUNTY LINE 3229-19H

GL = 5046'

RKB = 24' @ 5070.00usft (RIG)

Plan: Design #2 (COUNTY LINE 3229-19H/Plan A)

Date: 5/24/2022

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3229-19H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5070.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5070.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3229 PAD	North Reference:	True
Well:	COUNTY LINE 3229-19H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #2		

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-31 COUNTY LINE 3229 PAD			
Site Position:		Northing:	1,244,380.12 usft	Latitude: 40.001457
From:	Map	Easting:	3,223,178.62 usft	Longitude: -104.703343
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	

Well	COUNTY LINE 3229-19H			
Well Position	+N/-S	0.00 usft	Northing:	1,244,380.27 usft
	+E/-W	0.00 usft	Easting:	3,223,193.62 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft
Grid Convergence:		0.51 °	Ground Level:	5,046.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF202013	5/23/2022	7.68	66.31	51,650.59872104

Design	Design #2			
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	359.79

Plan Survey Tool Program		Date	5/23/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	2,275.00	Design #2 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	
2	2,275.00	15,425.05	Design #2 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5070.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5070.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3229 PAD	North Reference:	True
Well:	COUNTY LINE 3229-19H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #2		

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	
410.00	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,733.00	26.46	99.73	1,686.47	-50.72	295.78	2.00	2.00	0.00	99.73	
7,301.03	26.46	99.73	6,671.23	-470.01	2,741.06	0.00	0.00	0.00	0.00	
8,310.83	90.00	7.75	7,250.00	121.89	3,112.16	9.00	6.29	-9.11	-91.77	
8,460.83	90.00	7.75	7,250.00	270.52	3,132.38	0.00	0.00	0.00	0.00	
9,298.33	90.00	351.00	7,250.00	1,104.99	3,123.28	2.00	0.00	-2.00	-90.00	
9,308.33	90.00	351.00	7,250.00	1,114.87	3,121.72	0.00	0.00	0.00	0.00	
9,758.41	90.00	0.00	7,250.00	1,563.10	3,086.45	2.00	0.00	2.00	90.00	
15,425.05	90.00	0.00	7,250.00	7,229.74	3,086.61	0.00	0.00	0.00	0.00	COUNTY LINE 3229

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3229-19H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5070.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5070.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3229 PAD	North Reference:	True
Well:	COUNTY LINE 3229-19H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #2		

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
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
410.00	0.00	0.00	410.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 410.00ft									
500.00	1.80	99.73	499.99	-0.24	1.39	-0.24	2.00	2.00	0.00
600.00	3.80	99.73	599.86	-1.06	6.21	-1.09	2.00	2.00	0.00
700.00	5.80	99.73	699.50	-2.48	14.45	-2.53	2.00	2.00	0.00
800.00	7.80	99.73	798.80	-4.48	26.12	-4.58	2.00	2.00	0.00
900.00	9.80	99.73	897.61	-7.06	41.20	-7.22	2.00	2.00	0.00
1,000.00	11.80	99.73	995.84	-10.23	59.67	-10.45	2.00	2.00	0.00
1,100.00	13.80	99.73	1,093.35	-13.98	81.50	-14.27	2.00	2.00	0.00
1,200.00	15.80	99.73	1,190.03	-18.29	106.68	-18.68	2.00	2.00	0.00
1,300.00	17.80	99.73	1,285.75	-23.18	135.17	-23.67	2.00	2.00	0.00
1,400.00	19.80	99.73	1,380.41	-28.62	166.93	-29.24	2.00	2.00	0.00
1,500.00	21.80	99.73	1,473.89	-34.62	201.93	-35.36	2.00	2.00	0.00
1,600.00	23.80	99.73	1,566.07	-41.17	240.12	-42.05	2.00	2.00	0.00
1,700.00	25.80	99.73	1,656.85	-48.26	281.46	-49.29	2.00	2.00	0.00
1,733.00	26.46	99.73	1,686.47	-50.72	295.78	-51.80	2.00	2.00	0.00
Hold Tangent @ 1733.00ft									
1,800.00	26.46	99.73	1,746.45	-55.76	325.21	-56.96	0.00	0.00	0.00
1,900.00	26.46	99.73	1,835.98	-63.29	369.12	-64.65	0.00	0.00	0.00
2,000.00	26.46	99.73	1,925.50	-70.82	413.04	-72.34	0.00	0.00	0.00
2,100.00	26.46	99.73	2,015.03	-78.36	456.96	-80.03	0.00	0.00	0.00
2,200.00	26.46	99.73	2,104.55	-85.89	500.87	-87.72	0.00	0.00	0.00
2,300.00	26.46	99.73	2,194.08	-93.42	544.79	-95.41	0.00	0.00	0.00
2,390.39	26.46	99.73	2,275.00	-100.22	584.48	-102.36	0.00	0.00	0.00
9 5/8"									
2,400.00	26.46	99.73	2,283.60	-100.95	588.70	-103.10	0.00	0.00	0.00
2,500.00	26.46	99.73	2,373.13	-108.48	632.62	-110.79	0.00	0.00	0.00
2,600.00	26.46	99.73	2,462.65	-116.01	676.54	-118.49	0.00	0.00	0.00
2,700.00	26.46	99.73	2,552.17	-123.54	720.45	-126.18	0.00	0.00	0.00
2,800.00	26.46	99.73	2,641.70	-131.07	764.37	-133.87	0.00	0.00	0.00
2,900.00	26.46	99.73	2,731.22	-138.60	808.29	-141.56	0.00	0.00	0.00
3,000.00	26.46	99.73	2,820.75	-146.13	852.20	-149.25	0.00	0.00	0.00
3,100.00	26.46	99.73	2,910.27	-153.66	896.12	-156.94	0.00	0.00	0.00
3,200.00	26.46	99.73	2,999.80	-161.19	940.03	-164.63	0.00	0.00	0.00
3,300.00	26.46	99.73	3,089.32	-168.72	983.95	-172.33	0.00	0.00	0.00
3,400.00	26.46	99.73	3,178.85	-176.25	1,027.87	-180.02	0.00	0.00	0.00
3,500.00	26.46	99.73	3,268.37	-183.78	1,071.78	-187.71	0.00	0.00	0.00
3,600.00	26.46	99.73	3,357.90	-191.31	1,115.70	-195.40	0.00	0.00	0.00
3,700.00	26.46	99.73	3,447.42	-198.84	1,159.62	-203.09	0.00	0.00	0.00
3,800.00	26.46	99.73	3,536.95	-206.37	1,203.53	-210.78	0.00	0.00	0.00
3,900.00	26.46	99.73	3,626.47	-213.90	1,247.45	-218.47	0.00	0.00	0.00
4,000.00	26.46	99.73	3,715.99	-221.43	1,291.37	-226.16	0.00	0.00	0.00
4,100.00	26.46	99.73	3,805.52	-228.96	1,335.28	-233.86	0.00	0.00	0.00
4,200.00	26.46	99.73	3,895.04	-236.49	1,379.20	-241.55	0.00	0.00	0.00
4,300.00	26.46	99.73	3,984.57	-244.02	1,423.11	-249.24	0.00	0.00	0.00
4,400.00	26.46	99.73	4,074.09	-251.55	1,467.03	-256.93	0.00	0.00	0.00
4,500.00	26.46	99.73	4,163.62	-259.09	1,510.95	-264.62	0.00	0.00	0.00
4,600.00	26.46	99.73	4,253.14	-266.62	1,554.86	-272.31	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-65W-31 COUNTY LINE 3229 PAD COUNTY LINE 3229-19H Plan A Design #2	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well COUNTY LINE 3229-19H RKB = 24' @ 5070.00usft (RIG) RKB = 24' @ 5070.00usft (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)
4,700.00	26.46	99.73	4,342.67	-274.15	1,598.78	-280.00	0.00	0.00	0.00
4,800.00	26.46	99.73	4,432.19	-281.68	1,642.70	-287.70	0.00	0.00	0.00
4,900.00	26.46	99.73	4,521.72	-289.21	1,686.61	-295.39	0.00	0.00	0.00
5,000.00	26.46	99.73	4,611.24	-296.74	1,730.53	-303.08	0.00	0.00	0.00
5,100.00	26.46	99.73	4,700.76	-304.27	1,774.45	-310.77	0.00	0.00	0.00
5,200.00	26.46	99.73	4,790.29	-311.80	1,818.36	-318.46	0.00	0.00	0.00
5,300.00	26.46	99.73	4,879.81	-319.33	1,862.28	-326.15	0.00	0.00	0.00
5,400.00	26.46	99.73	4,969.34	-326.86	1,906.19	-333.84	0.00	0.00	0.00
5,500.00	26.46	99.73	5,058.86	-334.39	1,950.11	-341.53	0.00	0.00	0.00
5,600.00	26.46	99.73	5,148.39	-341.92	1,994.03	-349.23	0.00	0.00	0.00
5,700.00	26.46	99.73	5,237.91	-349.45	2,037.94	-356.92	0.00	0.00	0.00
5,800.00	26.46	99.73	5,327.44	-356.98	2,081.86	-364.61	0.00	0.00	0.00
5,900.00	26.46	99.73	5,416.96	-364.51	2,125.78	-372.30	0.00	0.00	0.00
6,000.00	26.46	99.73	5,506.49	-372.04	2,169.69	-379.99	0.00	0.00	0.00
6,100.00	26.46	99.73	5,596.01	-379.57	2,213.61	-387.68	0.00	0.00	0.00
6,200.00	26.46	99.73	5,685.53	-387.10	2,257.53	-395.37	0.00	0.00	0.00
6,300.00	26.46	99.73	5,775.06	-394.63	2,301.44	-403.07	0.00	0.00	0.00
6,400.00	26.46	99.73	5,864.58	-402.16	2,345.36	-410.76	0.00	0.00	0.00
6,500.00	26.46	99.73	5,954.11	-409.69	2,389.27	-418.45	0.00	0.00	0.00
6,600.00	26.46	99.73	6,043.63	-417.22	2,433.19	-426.14	0.00	0.00	0.00
6,700.00	26.46	99.73	6,133.16	-424.75	2,477.11	-433.83	0.00	0.00	0.00
6,800.00	26.46	99.73	6,222.68	-432.29	2,521.02	-441.52	0.00	0.00	0.00
6,900.00	26.46	99.73	6,312.21	-439.82	2,564.94	-449.21	0.00	0.00	0.00
7,000.00	26.46	99.73	6,401.73	-447.35	2,608.86	-456.90	0.00	0.00	0.00
7,100.00	26.46	99.73	6,491.26	-454.88	2,652.77	-464.60	0.00	0.00	0.00
7,200.00	26.46	99.73	6,580.78	-462.41	2,696.69	-472.29	0.00	0.00	0.00
7,301.03	26.46	99.73	6,671.23	-470.01	2,741.06	-480.06	0.00	0.00	0.00
KOP @ 7301.03ft :: DLS = 9°/100'									
7,350.00	26.66	89.87	6,715.05	-471.84	2,762.81	-481.96	9.00	0.42	-20.13
7,400.00	27.55	80.18	6,759.58	-469.84	2,785.43	-480.04	9.00	1.78	-19.38
7,450.00	29.07	71.24	6,803.62	-463.96	2,808.34	-474.25	9.00	3.03	-17.89
7,500.00	31.12	63.24	6,846.89	-454.23	2,831.39	-464.60	9.00	4.10	-16.00
7,550.00	33.60	56.22	6,889.14	-440.71	2,854.44	-451.17	9.00	4.97	-14.04
7,600.00	36.43	50.12	6,930.10	-423.49	2,877.34	-434.03	9.00	5.66	-12.21
7,650.00	39.53	44.81	6,969.51	-402.67	2,899.96	-413.30	9.00	6.20	-10.61
7,700.00	42.84	40.18	7,007.15	-378.38	2,922.16	-389.09	9.00	6.62	-9.26
7,750.00	46.32	36.11	7,042.76	-350.77	2,943.79	-361.56	9.00	6.95	-8.15
7,800.00	49.93	32.49	7,076.14	-320.01	2,964.74	-330.88	9.00	7.21	-7.24
7,850.00	53.63	29.24	7,107.07	-286.30	2,984.85	-297.23	9.00	7.41	-6.50
7,900.00	57.42	26.29	7,135.37	-249.82	3,004.02	-260.83	9.00	7.57	-5.90
7,950.00	61.27	23.58	7,160.87	-210.83	3,022.13	-221.90	9.00	7.70	-5.42
8,000.00	65.17	21.06	7,183.40	-169.54	3,039.06	-180.68	9.00	7.80	-5.03
8,050.00	69.10	18.70	7,202.83	-126.22	3,054.71	-137.42	9.00	7.88	-4.72
8,100.00	73.07	16.46	7,219.03	-81.14	3,068.98	-92.38	9.00	7.94	-4.48
8,150.00	77.07	14.31	7,231.91	-34.57	3,081.78	-45.86	9.00	7.99	-4.30
8,200.00	81.08	12.23	7,241.38	13.21	3,093.04	1.87	9.00	8.02	-4.16
8,250.00	85.10	10.19	7,247.40	61.88	3,102.68	50.51	9.00	8.04	-4.07
8,300.00	89.13	8.18	7,249.92	111.17	3,110.65	99.77	9.00	8.06	-4.02
8,310.83	90.00	7.75	7,250.00	121.89	3,112.16	110.49	9.00	8.06	-4.01
End Build/TPZ @ 8310.83ft									
8,400.00	90.00	7.75	7,250.00	210.25	3,124.18	198.80	0.00	0.00	0.00
8,460.83	90.00	7.75	7,250.00	270.52	3,132.38	259.04	0.00	0.00	0.00
Begin Turn for 3-D Spacing @ 8460.83ft									

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3229-19H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5070.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5070.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3229 PAD	North Reference:	True
Well:	COUNTY LINE 3229-19H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #2		

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)	
8,500.00	90.00	6.97	7,250.00	309.37	3,137.40	297.87	2.00	0.00	-2.00	
8,600.00	90.00	4.97	7,250.00	408.82	3,147.79	397.28	2.00	0.00	-2.00	
8,700.00	90.00	2.97	7,250.00	508.58	3,154.71	497.01	2.00	0.00	-2.00	
8,800.00	90.00	0.97	7,250.00	608.51	3,158.14	596.93	2.00	0.00	-2.00	
8,900.00	90.00	358.97	7,250.00	708.51	3,158.08	696.93	2.00	0.00	-2.00	
9,000.00	90.00	356.97	7,250.00	808.44	3,154.54	796.87	2.00	0.00	-2.00	
9,100.00	90.00	354.97	7,250.00	908.19	3,147.50	896.65	2.00	0.00	-2.00	
9,200.00	90.00	352.97	7,250.00	1,007.63	3,136.99	996.12	2.00	0.00	-2.00	
9,298.33	90.00	351.00	7,250.00	1,104.99	3,123.28	1,093.54	2.00	0.00	-2.00	
End Turn @ 9298.33ft										
9,308.33	90.00	351.00	7,250.00	1,114.87	3,121.72	1,103.42	0.00	0.00	0.00	
Begin Turn to BHL @ 9308.33ft										
9,400.00	90.00	352.83	7,250.00	1,205.63	3,108.83	1,194.22	2.00	0.00	2.00	
9,500.00	90.00	354.83	7,250.00	1,305.04	3,098.09	1,293.68	2.00	0.00	2.00	
9,600.00	90.00	356.83	7,250.00	1,404.77	3,090.82	1,393.43	2.00	0.00	2.00	
9,700.00	90.00	358.83	7,250.00	1,504.70	3,087.04	1,493.37	2.00	0.00	2.00	
9,758.41	90.00	0.00	7,250.00	1,563.10	3,086.45	1,551.78	2.00	0.00	2.00	
End Turn @ 9758.41ft										
9,800.00	90.00	0.00	7,250.00	1,604.69	3,086.45	1,593.37	0.00	0.00	0.00	
9,900.00	90.00	0.00	7,250.00	1,704.69	3,086.45	1,693.37	0.00	0.00	0.00	
10,000.00	90.00	0.00	7,250.00	1,804.69	3,086.45	1,793.37	0.00	0.00	0.00	
10,100.00	90.00	0.00	7,250.00	1,904.69	3,086.46	1,893.37	0.00	0.00	0.00	
10,200.00	90.00	0.00	7,250.00	2,004.69	3,086.46	1,993.37	0.00	0.00	0.00	
10,300.00	90.00	0.00	7,250.00	2,104.69	3,086.46	2,093.37	0.00	0.00	0.00	
10,400.00	90.00	0.00	7,250.00	2,204.69	3,086.46	2,193.36	0.00	0.00	0.00	
10,500.00	90.00	0.00	7,250.00	2,304.69	3,086.47	2,293.36	0.00	0.00	0.00	
10,600.00	90.00	0.00	7,250.00	2,404.69	3,086.47	2,393.36	0.00	0.00	0.00	
10,700.00	90.00	0.00	7,250.00	2,504.69	3,086.47	2,493.36	0.00	0.00	0.00	
10,800.00	90.00	0.00	7,250.00	2,604.69	3,086.48	2,593.36	0.00	0.00	0.00	
10,900.00	90.00	0.00	7,250.00	2,704.69	3,086.48	2,693.36	0.00	0.00	0.00	
11,000.00	90.00	0.00	7,250.00	2,804.69	3,086.48	2,793.36	0.00	0.00	0.00	
11,100.00	90.00	0.00	7,250.00	2,904.69	3,086.48	2,893.36	0.00	0.00	0.00	
11,200.00	90.00	0.00	7,250.00	3,004.69	3,086.49	2,993.36	0.00	0.00	0.00	
11,300.00	90.00	0.00	7,250.00	3,104.69	3,086.49	3,093.36	0.00	0.00	0.00	
11,400.00	90.00	0.00	7,250.00	3,204.69	3,086.49	3,193.36	0.00	0.00	0.00	
11,500.00	90.00	0.00	7,250.00	3,304.69	3,086.50	3,293.36	0.00	0.00	0.00	
11,600.00	90.00	0.00	7,250.00	3,404.69	3,086.50	3,393.36	0.00	0.00	0.00	
11,700.00	90.00	0.00	7,250.00	3,504.69	3,086.50	3,493.36	0.00	0.00	0.00	
11,800.00	90.00	0.00	7,250.00	3,604.69	3,086.51	3,593.36	0.00	0.00	0.00	
11,900.00	90.00	0.00	7,250.00	3,704.69	3,086.51	3,693.35	0.00	0.00	0.00	
12,000.00	90.00	0.00	7,250.00	3,804.69	3,086.51	3,793.35	0.00	0.00	0.00	
12,100.00	90.00	0.00	7,250.00	3,904.69	3,086.51	3,893.35	0.00	0.00	0.00	
12,200.00	90.00	0.00	7,250.00	4,004.69	3,086.52	3,993.35	0.00	0.00	0.00	
12,300.00	90.00	0.00	7,250.00	4,104.69	3,086.52	4,093.35	0.00	0.00	0.00	
12,400.00	90.00	0.00	7,250.00	4,204.69	3,086.52	4,193.35	0.00	0.00	0.00	
12,500.00	90.00	0.00	7,250.00	4,304.69	3,086.53	4,293.35	0.00	0.00	0.00	
12,600.00	90.00	0.00	7,250.00	4,404.69	3,086.53	4,393.35	0.00	0.00	0.00	
12,700.00	90.00	0.00	7,250.00	4,504.69	3,086.53	4,493.35	0.00	0.00	0.00	
12,800.00	90.00	0.00	7,250.00	4,604.69	3,086.53	4,593.35	0.00	0.00	0.00	
12,900.00	90.00	0.00	7,250.00	4,704.69	3,086.54	4,693.35	0.00	0.00	0.00	
13,000.00	90.00	0.00	7,250.00	4,804.69	3,086.54	4,793.35	0.00	0.00	0.00	
13,100.00	90.00	0.00	7,250.00	4,904.69	3,086.54	4,893.35	0.00	0.00	0.00	
13,200.00	90.00	0.00	7,250.00	5,004.69	3,086.55	4,993.35	0.00	0.00	0.00	

Planning Report

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5070.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3229 PAD	North Reference:	True
Well:	COUNTY LINE 3229-19H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #2		

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)
13,300.00	90.00	0.00	7,250.00	5,104.69	3,086.55	5,093.34	0.00	0.00	0.00
13,400.00	90.00	0.00	7,250.00	5,204.69	3,086.55	5,193.34	0.00	0.00	0.00
13,500.00	90.00	0.00	7,250.00	5,304.69	3,086.55	5,293.34	0.00	0.00	0.00
13,600.00	90.00	0.00	7,250.00	5,404.69	3,086.56	5,393.34	0.00	0.00	0.00
13,700.00	90.00	0.00	7,250.00	5,504.69	3,086.56	5,493.34	0.00	0.00	0.00
13,800.00	90.00	0.00	7,250.00	5,604.69	3,086.56	5,593.34	0.00	0.00	0.00
13,900.00	90.00	0.00	7,250.00	5,704.69	3,086.57	5,693.34	0.00	0.00	0.00
14,000.00	90.00	0.00	7,250.00	5,804.69	3,086.57	5,793.34	0.00	0.00	0.00
14,100.00	90.00	0.00	7,250.00	5,904.69	3,086.57	5,893.34	0.00	0.00	0.00
14,200.00	90.00	0.00	7,250.00	6,004.69	3,086.57	5,993.34	0.00	0.00	0.00
14,300.00	90.00	0.00	7,250.00	6,104.69	3,086.58	6,093.34	0.00	0.00	0.00
14,400.00	90.00	0.00	7,250.00	6,204.69	3,086.58	6,193.34	0.00	0.00	0.00
14,500.00	90.00	0.00	7,250.00	6,304.69	3,086.58	6,293.34	0.00	0.00	0.00
14,600.00	90.00	0.00	7,250.00	6,404.69	3,086.59	6,393.34	0.00	0.00	0.00
14,700.00	90.00	0.00	7,250.00	6,504.69	3,086.59	6,493.34	0.00	0.00	0.00
14,800.00	90.00	0.00	7,250.00	6,604.69	3,086.59	6,593.33	0.00	0.00	0.00
14,900.00	90.00	0.00	7,250.00	6,704.69	3,086.60	6,693.33	0.00	0.00	0.00
15,000.00	90.00	0.00	7,250.00	6,804.69	3,086.60	6,793.33	0.00	0.00	0.00
15,100.00	90.00	0.00	7,250.00	6,904.69	3,086.60	6,893.33	0.00	0.00	0.00
15,200.00	90.00	0.00	7,250.00	7,004.69	3,086.60	6,993.33	0.00	0.00	0.00
15,300.00	90.00	0.00	7,250.00	7,104.69	3,086.61	7,093.33	0.00	0.00	0.00
15,335.04	90.00	0.00	7,250.00	7,139.73	3,086.61	7,128.37	0.00	0.00	0.00
BPZ @ 15335.04ft									
15,400.00	90.00	0.00	7,250.00	7,204.69	3,086.61	7,193.33	0.00	0.00	0.00
15,425.05	90.00	0.00	7,250.00	7,229.74	3,086.61	7,218.38	0.00	0.00	0.00
TD Well @ 15425.05ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
2,390.39	2,275.00	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)	
410.00	410.00	0.00	0.00	Begin Nudge @ 410.00ft
1,733.00	1,686.47	-50.72	295.78	Hold Tangent @ 1733.00ft
7,301.03	6,671.23	-470.01	2,741.06	KOP @ 7301.03ft :: DLS = 9°/100'
8,310.83	7,250.00	121.89	3,112.16	End Build/TPZ @ 8310.83ft
8,460.83	7,250.00	270.52	3,132.38	Begin Turn for 3-D Spacing @ 8460.83ft
9,298.33	7,250.00	1,104.99	3,123.28	End Turn @ 9298.33ft
9,308.33	7,250.00	1,114.87	3,121.72	Begin Turn to BHL @ 9308.33ft
9,758.41	7,250.00	1,563.10	3,086.45	End Turn @ 9758.41ft
15,335.04	7,250.00	7,139.73	3,086.61	BPZ @ 15335.04ft
15,425.05	7,250.00	7,229.74	3,086.61	TD Well @ 15425.05ft