

VERDAD RESOURCES

WATTENBERG FIELD

1N-65W-31 COUNTY LINE 3130 PAD

COUNTY LINE 3130-05H

Wellbore #1

Plan: Design #3

Standard Planning Report

02 June, 2020

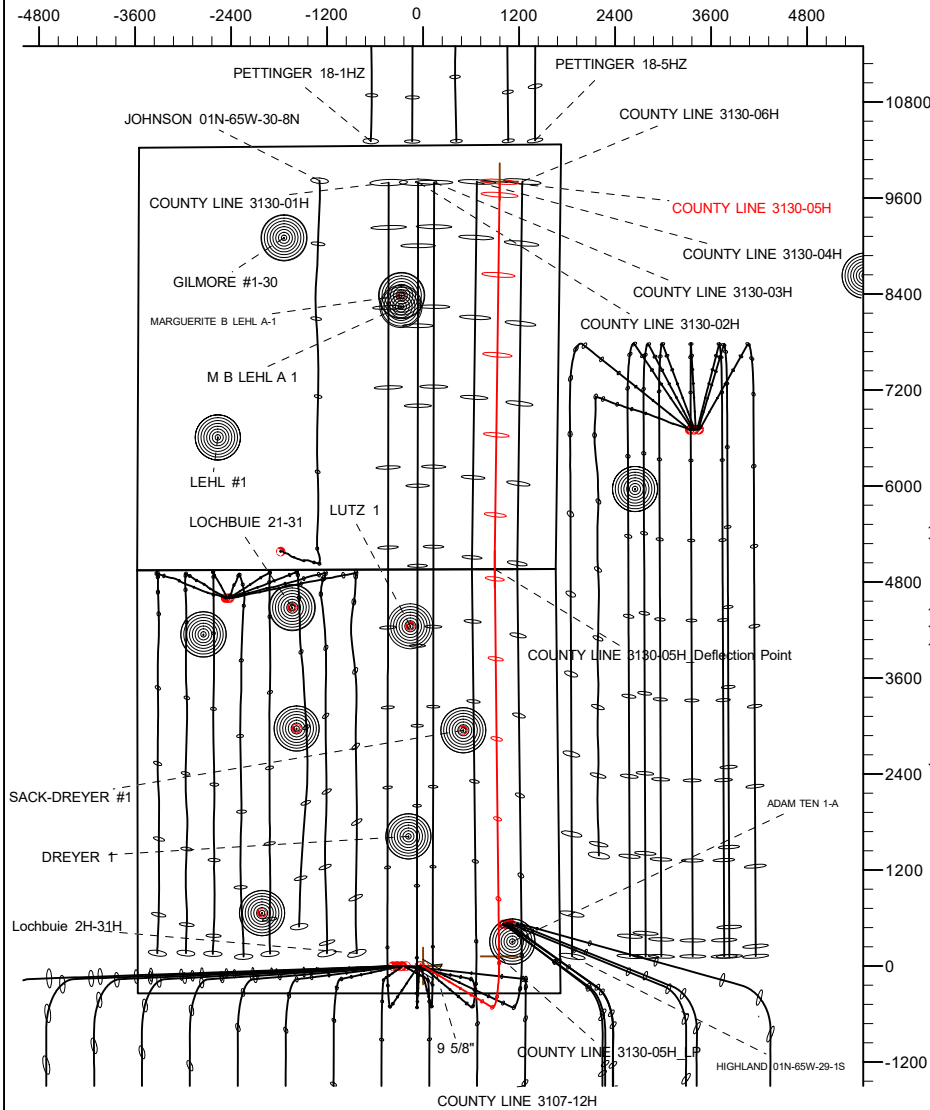
Project: WATTENBERG FIELD
Site: 1N-65W-31 COUNTY LINE 3130 PAD
Well: COUNTY LINE 3130-05H
Wellbore: Wellbore #1
Design: Design #3

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1714.67	9 5/8"	9-5/8

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



SHL
340' FSL
1715' FEL

LP
460' FSL
763' FEL

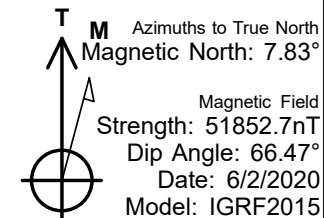
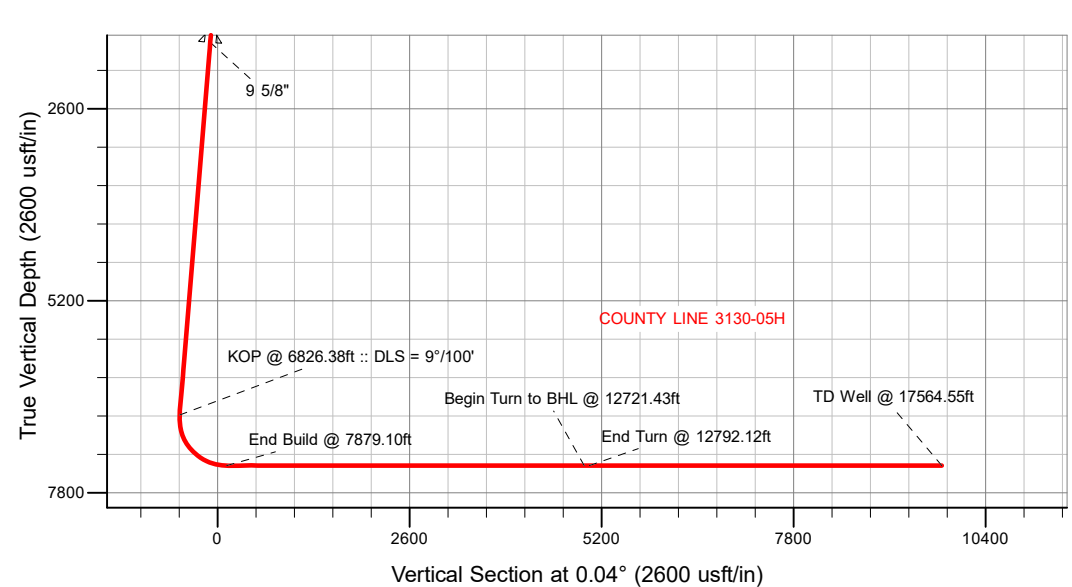
BHL
460' FNL
763' FEL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	706.00	9.12	120.80	704.08	-18.54	31.11	2.00	120.80	-18.52	
4	6826.38	9.12	120.80	6747.09	-515.27	864.38	0.00	0.00	-514.67	
5	7879.10	90.00	359.34	7430.00	120.20	950.57	9.00	-121.14	120.86	
6	12721.43	90.00	359.34	7430.00	4962.20	894.72	0.00	0.00	4962.83	COUNTY LINE 3130-05H_Deflection Point
7	12792.12	90.00	0.75	7430.00	5032.89	894.78	2.00	90.00	5033.52	COUNTY LINE 3130-05H_BHL
8	17564.55	90.00	0.75	7430.00	9804.91	957.50	0.00	0.00	9805.58	COUNTY LINE 3130-05H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
COUNTY LINE 3130-05H_SHL	0.00	0.00	0.00	40.001457	-104.703396
COUNTY LINE 3130-05H_BHL	7430.00	9804.91	957.50	40.028373	-104.699977



WELL DETAILS: COUNTY LINE 3130-05H

GL = 5045'
RKB = 24' @ 5069.00usft (RIG)
Plan: Design #3 (COUNTY LINE 3130-05H/Wellbore #1)
Created By: Clinton Eshelman Date: 6/02/2020

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3130-05H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3130 PAD	North Reference:	True
Well:	COUNTY LINE 3130-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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 3130 PAD			
Site Position:		Northing:	1,244,936.30 usft	Latitude: 40.002996
From:	Lat/Long	Easting:	3,222,683.37 usft	Longitude: -104.705093
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	

Well	COUNTY LINE 3130-05H			
Well Position	+N/-S	0.00 usft	Northing:	1,244,379.96 usft
	+E/-W	0.00 usft	Easting:	3,223,163.62 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft
Grid Convergence:		0.51 °	Ground Level:	5,045.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/2/2020	7.83	66.47	51,852.65738754

Design	Design #3				
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	0.04	

Plan Survey Tool Program		Date	6/2/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,700.00	Design #3 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	
2	1,700.00	17,564.55	Design #3 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3130-05H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3130 PAD	North Reference:	True
Well:	COUNTY LINE 3130-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
706.00	9.12	120.80	704.08	-18.54	31.11	2.00	2.00	0.00	120.80	
6,826.38	9.12	120.80	6,747.09	-515.27	864.38	0.00	0.00	0.00	0.00	
7,879.10	90.00	359.34	7,430.00	120.20	950.57	9.00	7.68	-11.54	-121.14	
12,721.43	90.00	359.34	7,430.00	4,962.20	894.72	0.00	0.00	0.00	0.00	COUNTY LINE 3130-
12,792.12	90.00	0.75	7,430.00	5,032.89	894.78	2.00	0.00	2.00	90.00	
17,564.55	90.00	0.75	7,430.00	9,804.91	957.50	0.00	0.00	0.00	0.00	COUNTY LINE 3130-

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3130-05H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3130 PAD	North Reference:	True
Well:	COUNTY LINE 3130-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 250.00ft									
300.00	1.00	120.80	300.00	-0.22	0.37	-0.22	2.00	2.00	0.00
400.00	3.00	120.80	399.93	-2.01	3.37	-2.01	2.00	2.00	0.00
500.00	5.00	120.80	499.68	-5.58	9.36	-5.58	2.00	2.00	0.00
600.00	7.00	120.80	599.13	-10.93	18.34	-10.92	2.00	2.00	0.00
700.00	9.00	120.80	698.15	-18.06	30.30	-18.04	2.00	2.00	0.00
706.00	9.12	120.80	704.08	-18.54	31.11	-18.52	2.00	2.00	0.00
Hold Tangent @ 706.00ft									
800.00	9.12	120.80	796.89	-26.17	43.91	-26.14	0.00	0.00	0.00
900.00	9.12	120.80	895.62	-34.29	57.52	-34.25	0.00	0.00	0.00
1,000.00	9.12	120.80	994.36	-42.40	71.13	-42.36	0.00	0.00	0.00
1,100.00	9.12	120.80	1,093.10	-50.52	84.75	-50.46	0.00	0.00	0.00
1,200.00	9.12	120.80	1,191.83	-58.64	98.36	-58.57	0.00	0.00	0.00
1,300.00	9.12	120.80	1,290.57	-66.75	111.98	-66.67	0.00	0.00	0.00
1,400.00	9.12	120.80	1,389.30	-74.87	125.59	-74.78	0.00	0.00	0.00
1,500.00	9.12	120.80	1,488.04	-82.98	139.21	-82.89	0.00	0.00	0.00
1,600.00	9.12	120.80	1,586.78	-91.10	152.82	-90.99	0.00	0.00	0.00
1,700.00	9.12	120.80	1,685.51	-99.22	166.44	-99.10	0.00	0.00	0.00
1,714.67	9.12	120.80	1,700.00	-100.41	168.44	-100.29	0.00	0.00	0.00
9 5/8"									
1,800.00	9.12	120.80	1,784.25	-107.33	180.05	-107.21	0.00	0.00	0.00
1,900.00	9.12	120.80	1,882.98	-115.45	193.67	-115.31	0.00	0.00	0.00
2,000.00	9.12	120.80	1,981.72	-123.56	207.28	-123.42	0.00	0.00	0.00
2,100.00	9.12	120.80	2,080.45	-131.68	220.90	-131.53	0.00	0.00	0.00
2,200.00	9.12	120.80	2,179.19	-139.80	234.51	-139.63	0.00	0.00	0.00
2,300.00	9.12	120.80	2,277.93	-147.91	248.13	-147.74	0.00	0.00	0.00
2,400.00	9.12	120.80	2,376.66	-156.03	261.74	-155.85	0.00	0.00	0.00
2,500.00	9.12	120.80	2,475.40	-164.15	275.36	-163.95	0.00	0.00	0.00
2,600.00	9.12	120.80	2,574.13	-172.26	288.97	-172.06	0.00	0.00	0.00
2,700.00	9.12	120.80	2,672.87	-180.38	302.59	-180.17	0.00	0.00	0.00
2,800.00	9.12	120.80	2,771.61	-188.49	316.20	-188.27	0.00	0.00	0.00
2,900.00	9.12	120.80	2,870.34	-196.61	329.81	-196.38	0.00	0.00	0.00
3,000.00	9.12	120.80	2,969.08	-204.73	343.43	-204.49	0.00	0.00	0.00
3,100.00	9.12	120.80	3,067.81	-212.84	357.04	-212.59	0.00	0.00	0.00
3,200.00	9.12	120.80	3,166.55	-220.96	370.66	-220.70	0.00	0.00	0.00
3,300.00	9.12	120.80	3,265.28	-229.07	384.27	-228.80	0.00	0.00	0.00
3,400.00	9.12	120.80	3,364.02	-237.19	397.89	-236.91	0.00	0.00	0.00
3,500.00	9.12	120.80	3,462.76	-245.31	411.50	-245.02	0.00	0.00	0.00
3,600.00	9.12	120.80	3,561.49	-253.42	425.12	-253.12	0.00	0.00	0.00
3,700.00	9.12	120.80	3,660.23	-261.54	438.73	-261.23	0.00	0.00	0.00
3,800.00	9.12	120.80	3,758.96	-269.65	452.35	-269.34	0.00	0.00	0.00
3,900.00	9.12	120.80	3,857.70	-277.77	465.96	-277.44	0.00	0.00	0.00
4,000.00	9.12	120.80	3,956.44	-285.89	479.58	-285.55	0.00	0.00	0.00
4,100.00	9.12	120.80	4,055.17	-294.00	493.19	-293.66	0.00	0.00	0.00
4,200.00	9.12	120.80	4,153.91	-302.12	506.81	-301.76	0.00	0.00	0.00
4,300.00	9.12	120.80	4,252.64	-310.23	520.42	-309.87	0.00	0.00	0.00
4,400.00	9.12	120.80	4,351.38	-318.35	534.04	-317.98	0.00	0.00	0.00
4,500.00	9.12	120.80	4,450.12	-326.47	547.65	-326.08	0.00	0.00	0.00
4,600.00	9.12	120.80	4,548.85	-334.58	561.27	-334.19	0.00	0.00	0.00

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3130-05H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3130 PAD	North Reference:	True
Well:	COUNTY LINE 3130-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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	9.12	120.80	4,647.59	-342.70	574.88	-342.30	0.00	0.00	0.00
4,800.00	9.12	120.80	4,746.32	-350.81	588.50	-350.40	0.00	0.00	0.00
4,900.00	9.12	120.80	4,845.06	-358.93	602.11	-358.51	0.00	0.00	0.00
5,000.00	9.12	120.80	4,943.79	-367.05	615.72	-366.62	0.00	0.00	0.00
5,100.00	9.12	120.80	5,042.53	-375.16	629.34	-374.72	0.00	0.00	0.00
5,200.00	9.12	120.80	5,141.27	-383.28	642.95	-382.83	0.00	0.00	0.00
5,300.00	9.12	120.80	5,240.00	-391.39	656.57	-390.94	0.00	0.00	0.00
5,400.00	9.12	120.80	5,338.74	-399.51	670.18	-399.04	0.00	0.00	0.00
5,500.00	9.12	120.80	5,437.47	-407.63	683.80	-407.15	0.00	0.00	0.00
5,600.00	9.12	120.80	5,536.21	-415.74	697.41	-415.25	0.00	0.00	0.00
5,700.00	9.12	120.80	5,634.95	-423.86	711.03	-423.36	0.00	0.00	0.00
5,800.00	9.12	120.80	5,733.68	-431.97	724.64	-431.47	0.00	0.00	0.00
5,900.00	9.12	120.80	5,832.42	-440.09	738.26	-439.57	0.00	0.00	0.00
6,000.00	9.12	120.80	5,931.15	-448.21	751.87	-447.68	0.00	0.00	0.00
6,100.00	9.12	120.80	6,029.89	-456.32	765.49	-455.79	0.00	0.00	0.00
6,200.00	9.12	120.80	6,128.62	-464.44	779.10	-463.89	0.00	0.00	0.00
6,300.00	9.12	120.80	6,227.36	-472.55	792.72	-472.00	0.00	0.00	0.00
6,400.00	9.12	120.80	6,326.10	-480.67	806.33	-480.11	0.00	0.00	0.00
6,500.00	9.12	120.80	6,424.83	-488.79	819.95	-488.21	0.00	0.00	0.00
6,600.00	9.12	120.80	6,523.57	-496.90	833.56	-496.32	0.00	0.00	0.00
6,700.00	9.12	120.80	6,622.30	-505.02	847.18	-504.43	0.00	0.00	0.00
6,800.00	9.12	120.80	6,721.04	-513.13	860.79	-512.53	0.00	0.00	0.00
6,826.38	9.12	120.80	6,747.09	-515.27	864.38	-514.67	0.00	0.00	0.00
KOP @ 6826.38ft :: DLS = 9°/100'									
6,900.00	8.02	75.73	6,819.96	-517.00	874.38	-516.39	9.00	-1.49	-61.21
7,000.00	13.36	34.55	6,918.32	-505.74	887.72	-505.12	9.00	5.34	-41.18
7,100.00	21.30	19.90	7,013.75	-479.10	900.48	-478.47	9.00	7.94	-14.65
7,200.00	29.83	13.16	7,103.90	-437.72	912.35	-437.08	9.00	8.53	-6.75
7,300.00	38.56	9.23	7,186.55	-382.63	923.03	-381.99	9.00	8.73	-3.93
7,400.00	47.37	6.58	7,259.66	-315.18	932.27	-314.53	9.00	8.82	-2.65
7,500.00	56.24	4.59	7,321.43	-237.04	939.82	-236.38	9.00	8.86	-1.99
7,600.00	65.13	2.98	7,370.35	-150.13	945.52	-149.47	9.00	8.89	-1.61
7,700.00	74.03	1.58	7,405.20	-56.58	949.21	-55.92	9.00	8.90	-1.39
7,800.00	82.95	0.31	7,425.13	41.30	950.82	41.96	9.00	8.91	-1.27
7,879.10	90.00	359.34	7,430.00	120.20	950.57	120.86	9.00	8.92	-1.23
End Build @ 7879.10ft									
7,900.00	90.00	359.34	7,430.00	141.09	950.33	141.76	0.00	0.00	0.00
8,000.00	90.00	359.34	7,430.00	241.09	949.18	241.75	0.00	0.00	0.00
8,100.00	90.00	359.34	7,430.00	341.08	948.02	341.74	0.00	0.00	0.00
8,200.00	90.00	359.34	7,430.00	441.07	946.87	441.73	0.00	0.00	0.00
8,300.00	90.00	359.34	7,430.00	541.07	945.72	541.73	0.00	0.00	0.00
8,400.00	90.00	359.34	7,430.00	641.06	944.56	641.72	0.00	0.00	0.00
8,500.00	90.00	359.34	7,430.00	741.05	943.41	741.71	0.00	0.00	0.00
8,600.00	90.00	359.34	7,430.00	841.05	942.26	841.70	0.00	0.00	0.00
8,700.00	90.00	359.34	7,430.00	941.04	941.10	941.70	0.00	0.00	0.00
8,800.00	90.00	359.34	7,430.00	1,041.03	939.95	1,041.69	0.00	0.00	0.00
8,900.00	90.00	359.34	7,430.00	1,141.03	938.80	1,141.68	0.00	0.00	0.00
9,000.00	90.00	359.34	7,430.00	1,241.02	937.64	1,241.67	0.00	0.00	0.00
9,100.00	90.00	359.34	7,430.00	1,341.01	936.49	1,341.67	0.00	0.00	0.00
9,200.00	90.00	359.34	7,430.00	1,441.01	935.34	1,441.66	0.00	0.00	0.00
9,300.00	90.00	359.34	7,430.00	1,541.00	934.18	1,541.65	0.00	0.00	0.00
9,400.00	90.00	359.34	7,430.00	1,640.99	933.03	1,641.64	0.00	0.00	0.00
9,500.00	90.00	359.34	7,430.00	1,740.99	931.88	1,741.64	0.00	0.00	0.00
9,600.00	90.00	359.34	7,430.00	1,840.98	930.72	1,841.63	0.00	0.00	0.00

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3130-05H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3130 PAD	North Reference:	True
Well:	COUNTY LINE 3130-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)
9,700.00	90.00	359.34	7,430.00	1,940.97	929.57	1,941.62	0.00	0.00	0.00
9,800.00	90.00	359.34	7,430.00	2,040.97	928.42	2,041.61	0.00	0.00	0.00
9,900.00	90.00	359.34	7,430.00	2,140.96	927.26	2,141.61	0.00	0.00	0.00
10,000.00	90.00	359.34	7,430.00	2,240.95	926.11	2,241.60	0.00	0.00	0.00
10,100.00	90.00	359.34	7,430.00	2,340.95	924.96	2,341.59	0.00	0.00	0.00
10,200.00	90.00	359.34	7,430.00	2,440.94	923.80	2,441.58	0.00	0.00	0.00
10,300.00	90.00	359.34	7,430.00	2,540.93	922.65	2,541.58	0.00	0.00	0.00
10,400.00	90.00	359.34	7,430.00	2,640.93	921.50	2,641.57	0.00	0.00	0.00
10,500.00	90.00	359.34	7,430.00	2,740.92	920.34	2,741.56	0.00	0.00	0.00
10,600.00	90.00	359.34	7,430.00	2,840.91	919.19	2,841.55	0.00	0.00	0.00
10,700.00	90.00	359.34	7,430.00	2,940.91	918.04	2,941.55	0.00	0.00	0.00
10,800.00	90.00	359.34	7,430.00	3,040.90	916.88	3,041.54	0.00	0.00	0.00
10,900.00	90.00	359.34	7,430.00	3,140.89	915.73	3,141.53	0.00	0.00	0.00
11,000.00	90.00	359.34	7,430.00	3,240.89	914.58	3,241.52	0.00	0.00	0.00
11,100.00	90.00	359.34	7,430.00	3,340.88	913.42	3,341.52	0.00	0.00	0.00
11,200.00	90.00	359.34	7,430.00	3,440.87	912.27	3,441.51	0.00	0.00	0.00
11,300.00	90.00	359.34	7,430.00	3,540.87	911.12	3,541.50	0.00	0.00	0.00
11,400.00	90.00	359.34	7,430.00	3,640.86	909.96	3,641.49	0.00	0.00	0.00
11,500.00	90.00	359.34	7,430.00	3,740.85	908.81	3,741.49	0.00	0.00	0.00
11,600.00	90.00	359.34	7,430.00	3,840.85	907.66	3,841.48	0.00	0.00	0.00
11,700.00	90.00	359.34	7,430.00	3,940.84	906.51	3,941.47	0.00	0.00	0.00
11,800.00	90.00	359.34	7,430.00	4,040.83	905.35	4,041.46	0.00	0.00	0.00
11,900.00	90.00	359.34	7,430.00	4,140.83	904.20	4,141.46	0.00	0.00	0.00
12,000.00	90.00	359.34	7,430.00	4,240.82	903.05	4,241.45	0.00	0.00	0.00
12,100.00	90.00	359.34	7,430.00	4,340.81	901.89	4,341.44	0.00	0.00	0.00
12,200.00	90.00	359.34	7,430.00	4,440.81	900.74	4,441.43	0.00	0.00	0.00
12,300.00	90.00	359.34	7,430.00	4,540.80	899.59	4,541.43	0.00	0.00	0.00
12,400.00	90.00	359.34	7,430.00	4,640.79	898.43	4,641.42	0.00	0.00	0.00
12,500.00	90.00	359.34	7,430.00	4,740.79	897.28	4,741.41	0.00	0.00	0.00
12,600.00	90.00	359.34	7,430.00	4,840.78	896.13	4,841.41	0.00	0.00	0.00
12,700.00	90.00	359.34	7,430.00	4,940.77	894.97	4,941.40	0.00	0.00	0.00
12,721.43	90.00	359.34	7,430.00	4,962.20	894.72	4,962.83	0.00	0.00	0.00
Begin Turn to BHL @ 12721.43ft									
12,792.12	90.00	0.75	7,430.00	5,032.89	894.78	5,033.52	2.00	0.00	2.00
End Turn @ 12792.12ft									
12,800.00	90.00	0.75	7,430.00	5,040.77	894.89	5,041.39	0.00	0.00	0.00
12,900.00	90.00	0.75	7,430.00	5,140.76	896.20	5,141.39	0.00	0.00	0.00
13,000.00	90.00	0.75	7,430.00	5,240.75	897.51	5,241.38	0.00	0.00	0.00
13,100.00	90.00	0.75	7,430.00	5,340.74	898.83	5,341.37	0.00	0.00	0.00
13,200.00	90.00	0.75	7,430.00	5,440.74	900.14	5,441.36	0.00	0.00	0.00
13,300.00	90.00	0.75	7,430.00	5,540.73	901.46	5,541.35	0.00	0.00	0.00
13,400.00	90.00	0.75	7,430.00	5,640.72	902.77	5,641.35	0.00	0.00	0.00
13,500.00	90.00	0.75	7,430.00	5,740.71	904.08	5,741.34	0.00	0.00	0.00
13,600.00	90.00	0.75	7,430.00	5,840.70	905.40	5,841.33	0.00	0.00	0.00
13,700.00	90.00	0.75	7,430.00	5,940.69	906.71	5,941.32	0.00	0.00	0.00
13,800.00	90.00	0.75	7,430.00	6,040.68	908.03	6,041.32	0.00	0.00	0.00
13,900.00	90.00	0.75	7,430.00	6,140.68	909.34	6,141.31	0.00	0.00	0.00
14,000.00	90.00	0.75	7,430.00	6,240.67	910.66	6,241.30	0.00	0.00	0.00
14,100.00	90.00	0.75	7,430.00	6,340.66	911.97	6,341.29	0.00	0.00	0.00
14,200.00	90.00	0.75	7,430.00	6,440.65	913.28	6,441.29	0.00	0.00	0.00
14,300.00	90.00	0.75	7,430.00	6,540.64	914.60	6,541.28	0.00	0.00	0.00
14,400.00	90.00	0.75	7,430.00	6,640.63	915.91	6,641.27	0.00	0.00	0.00
14,500.00	90.00	0.75	7,430.00	6,740.62	917.23	6,741.26	0.00	0.00	0.00
14,600.00	90.00	0.75	7,430.00	6,840.61	918.54	6,841.25	0.00	0.00	0.00

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3130-05H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5069.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5069.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3130 PAD	North Reference:	True
Well:	COUNTY LINE 3130-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #3		

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)	
14,700.00	90.00	0.75	7,430.00	6,940.61	919.86	6,941.25	0.00	0.00	0.00	
14,800.00	90.00	0.75	7,430.00	7,040.60	921.17	7,041.24	0.00	0.00	0.00	
14,900.00	90.00	0.75	7,430.00	7,140.59	922.48	7,141.23	0.00	0.00	0.00	
15,000.00	90.00	0.75	7,430.00	7,240.58	923.80	7,241.22	0.00	0.00	0.00	
15,100.00	90.00	0.75	7,430.00	7,340.57	925.11	7,341.22	0.00	0.00	0.00	
15,200.00	90.00	0.75	7,430.00	7,440.56	926.43	7,441.21	0.00	0.00	0.00	
15,300.00	90.00	0.75	7,430.00	7,540.55	927.74	7,541.20	0.00	0.00	0.00	
15,400.00	90.00	0.75	7,430.00	7,640.55	929.06	7,641.19	0.00	0.00	0.00	
15,500.00	90.00	0.75	7,430.00	7,740.54	930.37	7,741.18	0.00	0.00	0.00	
15,600.00	90.00	0.75	7,430.00	7,840.53	931.68	7,841.18	0.00	0.00	0.00	
15,700.00	90.00	0.75	7,430.00	7,940.52	933.00	7,941.17	0.00	0.00	0.00	
15,800.00	90.00	0.75	7,430.00	8,040.51	934.31	8,041.16	0.00	0.00	0.00	
15,900.00	90.00	0.75	7,430.00	8,140.50	935.63	8,141.15	0.00	0.00	0.00	
16,000.00	90.00	0.75	7,430.00	8,240.49	936.94	8,241.15	0.00	0.00	0.00	
16,100.00	90.00	0.75	7,430.00	8,340.49	938.25	8,341.14	0.00	0.00	0.00	
16,200.00	90.00	0.75	7,430.00	8,440.48	939.57	8,441.13	0.00	0.00	0.00	
16,300.00	90.00	0.75	7,430.00	8,540.47	940.88	8,541.12	0.00	0.00	0.00	
16,400.00	90.00	0.75	7,430.00	8,640.46	942.20	8,641.11	0.00	0.00	0.00	
16,500.00	90.00	0.75	7,430.00	8,740.45	943.51	8,741.11	0.00	0.00	0.00	
16,600.00	90.00	0.75	7,430.00	8,840.44	944.83	8,841.10	0.00	0.00	0.00	
16,700.00	90.00	0.75	7,430.00	8,940.43	946.14	8,941.09	0.00	0.00	0.00	
16,800.00	90.00	0.75	7,430.00	9,040.42	947.45	9,041.08	0.00	0.00	0.00	
16,900.00	90.00	0.75	7,430.00	9,140.42	948.77	9,141.08	0.00	0.00	0.00	
17,000.00	90.00	0.75	7,430.00	9,240.41	950.08	9,241.07	0.00	0.00	0.00	
17,100.00	90.00	0.75	7,430.00	9,340.40	951.40	9,341.06	0.00	0.00	0.00	
17,200.00	90.00	0.75	7,430.00	9,440.39	952.71	9,441.05	0.00	0.00	0.00	
17,300.00	90.00	0.75	7,430.00	9,540.38	954.03	9,541.05	0.00	0.00	0.00	
17,400.00	90.00	0.75	7,430.00	9,640.37	955.34	9,641.04	0.00	0.00	0.00	
17,500.00	90.00	0.75	7,430.00	9,740.36	956.65	9,741.03	0.00	0.00	0.00	
17,564.55	90.00	0.75	7,430.00	9,804.91	957.50	9,805.58	0.00	0.00	0.00	
TD Well @ 17564.55ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,714.67	1,700.00	9 5/8"		9-5/8	13-1/2

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
250.00	250.00	+N/-S (usft)	+E/-W (usft)	Begin Nudge @ 250.00ft	
706.00	704.08	-18.54	31.11	Hold Tangent @ 706.00ft	
6,826.38	6,747.09	-515.27	864.38	KOP @ 6826.38ft :: DLS = 9°/100'	
7,879.10	7,430.00	120.20	950.57	End Build @ 7879.10ft	
12,721.43	7,430.00	4,962.20	894.72	Begin Turn to BHL @ 12721.43ft	
12,792.12	7,430.00	5,032.89	894.78	End Turn @ 12792.12ft	
17,564.55	7,430.00	9,804.91	957.50	TD Well @ 17564.55ft	