

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**1N-65W-31 COUNTY LINE 3112 PAD**

**COUNTY LINE 3112-01H**

**Wellbore #1**

**Plan: Design #3**

## **Standard Planning Report**

**02 June, 2020**

Project: WATTENBERG FIELD  
Site: 1N-65W-31 COUNTY LINE 3112 PAD  
Well: COUNTY LINE 3112-01H  
Wellbore: Wellbore #1  
Design: Design #3

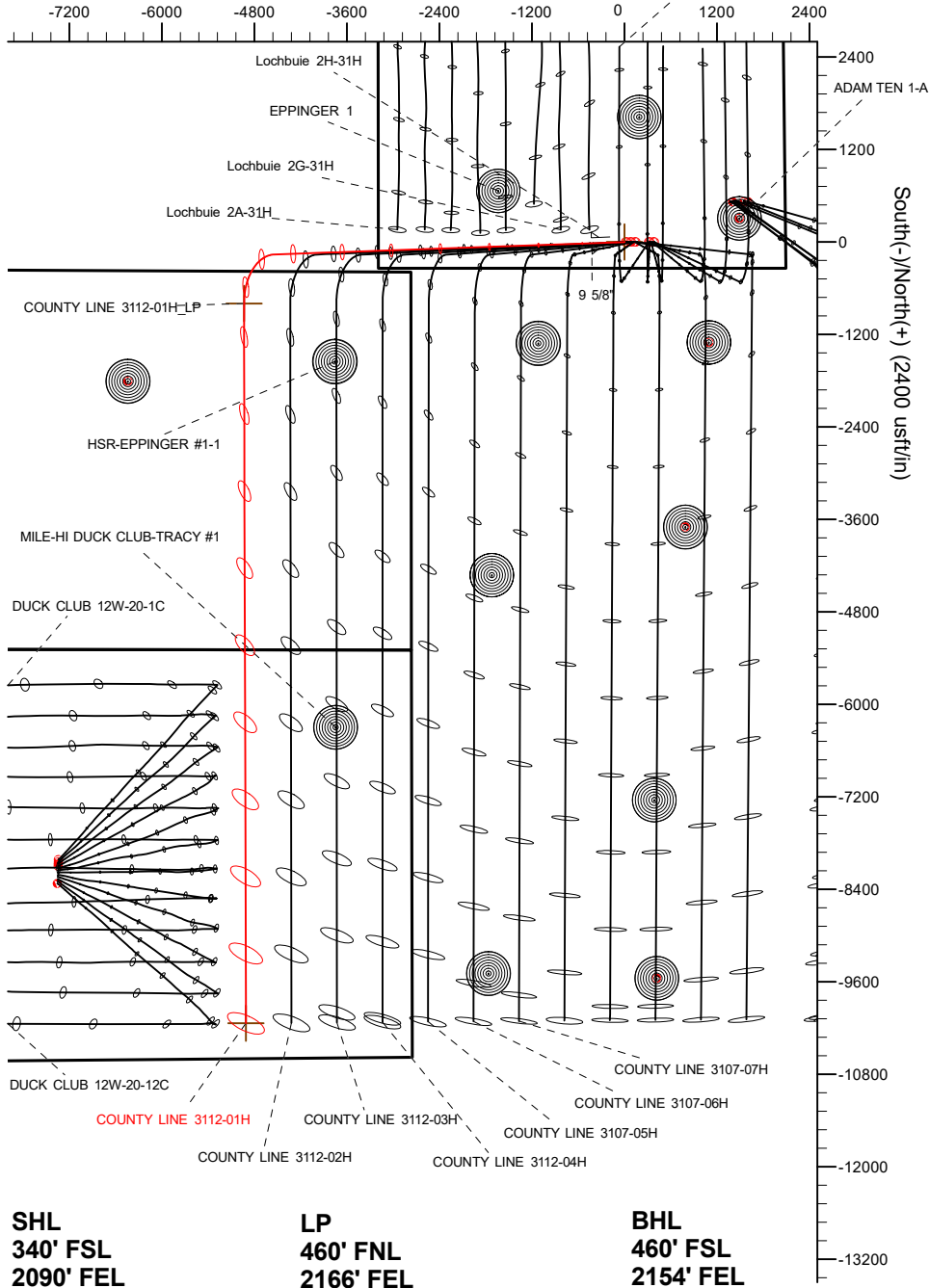
# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
1700.00	1778.70	9 5/8"	9-5/8

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

COUNTY LINE 3130-01H

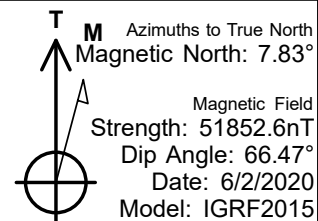
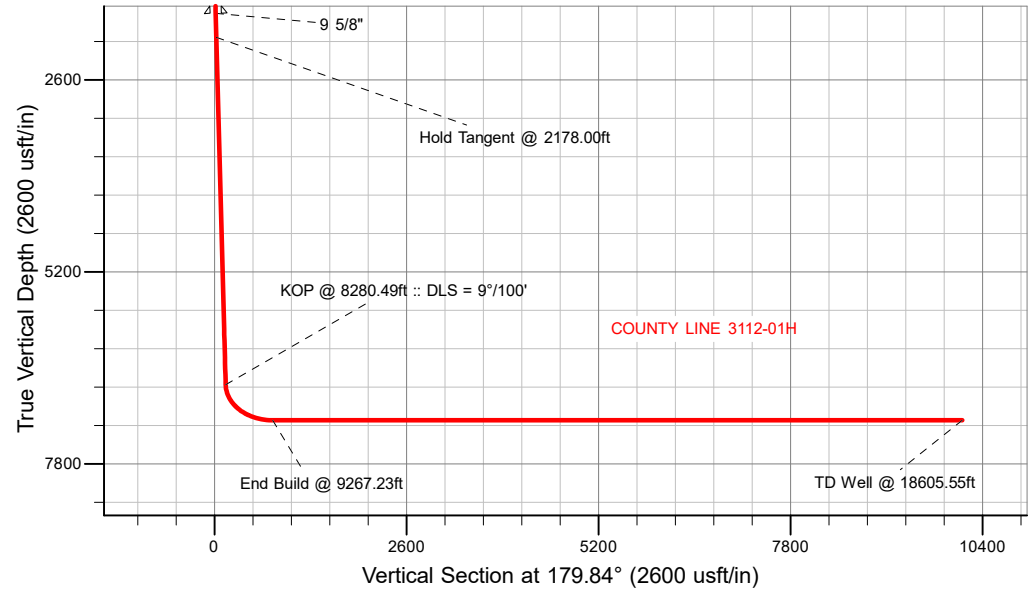


## SECTION DETAILS

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	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	2178.00	39.56	267.97	2024.54	-23.24	-655.75	0.00	267.97	21.41	
4	8280.49	39.56	267.97	6729.31	-160.92	-4539.90	0.00	0.00	148.24	
5	9267.23	90.00	179.84	7210.00	-798.48	-4935.04	9.00	-88.56	784.69	
6	18605.55	90.00	179.84	7210.00	-10136.76	-4909.57	0.00	0.00	10123.01	COUNTY LINE 3112-01H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
COUNTY LINE 3112-01H_SHL	0.00	0.00	0.00	40.001456	-104.704736
COUNTY LINE 3112-01H_BHL	7210.00	-10136.76	-4909.57	39.973627	-104.722254



## WELL DETAILS: COUNTY LINE 3112-01H

GL = 5037'
RKB = 24' @ 5061.00usft (RIG)
Plan: Design #3 (COUNTY LINE 3112-01H/Wellbore #1)
Created By: Clinton Eshelman Date: 6/02/2020

SHL  
340' FSL  
2090' FEL

LP  
460' FNL  
2166' FEL

BHL  
460' FSL  
2154' FEL

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well COUNTY LINE 3112-01H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Site:</b>	1N-65W-31 COUNTY LINE 3112 PAD	<b>North Reference:</b>	True
<b>Well:</b>	COUNTY LINE 3112-01H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

<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		

<b>Site</b>	1N-65W-31 COUNTY LINE 3112 PAD			
<b>Site Position:</b>		<b>Northing:</b>	1,244,334.02 usft	<b>Latitude:</b> 40.001348
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,222,467.81 usft	<b>Longitude:</b> -104.705882
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	

<b>Well</b>	COUNTY LINE 3112-01H			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,244,376.12 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	3,222,788.38 usft
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>	usft
<b>Grid Convergence:</b>		0.51 °	<b>Ground Level:</b>	5,037.00 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	6/2/2020	7.83	66.47	51,852.58089130

<b>Design</b>	Design #3				
<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	179.84	

<b>Plan Survey Tool Program</b>		<b>Date</b>	6/2/2020		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	1,700.00	Design #3 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	
2	1,700.00	18,605.55	Design #3 (Wellbore #1)	ISCWSA REV 2 MWD	
				Fixed:v2:standard declination	

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well COUNTY LINE 3112-01H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Site:</b>	1N-65W-31 COUNTY LINE 3112 PAD	<b>North Reference:</b>	True
<b>Well:</b>	COUNTY LINE 3112-01H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,178.00	39.56	267.97	2,024.54	-23.24	-655.75	2.00	2.00	0.00	267.97	
8,280.49	39.56	267.97	6,729.31	-160.92	-4,539.90	0.00	0.00	0.00	0.00	
9,267.23	90.00	179.84	7,210.00	-798.48	-4,935.04	9.00	5.11	-8.93	-88.56	
18,605.55	90.00	179.84	7,210.00	-10,136.76	-4,909.57	0.00	0.00	0.00	0.00	COUNTY LINE 3112-I

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well COUNTY LINE 3112-01H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Site:</b>	1N-65W-31 COUNTY LINE 3112 PAD	<b>North Reference:</b>	True
<b>Well:</b>	COUNTY LINE 3112-01H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
Begin Nudge @ 200.00ft									
300.00	2.00	267.97	299.98	-0.06	-1.74	0.06	2.00	2.00	0.00
400.00	4.00	267.97	399.84	-0.25	-6.97	0.23	2.00	2.00	0.00
500.00	6.00	267.97	499.45	-0.56	-15.68	0.51	2.00	2.00	0.00
600.00	8.00	267.97	598.70	-0.99	-27.86	0.91	2.00	2.00	0.00
700.00	10.00	267.97	697.47	-1.54	-43.50	1.42	2.00	2.00	0.00
800.00	12.00	267.97	795.62	-2.22	-62.56	2.04	2.00	2.00	0.00
900.00	14.00	267.97	893.06	-3.01	-85.04	2.78	2.00	2.00	0.00
1,000.00	16.00	267.97	989.64	-3.93	-110.91	3.62	2.00	2.00	0.00
1,100.00	18.00	267.97	1,085.27	-4.97	-140.12	4.58	2.00	2.00	0.00
1,200.00	20.00	267.97	1,179.82	-6.12	-172.66	5.64	2.00	2.00	0.00
1,300.00	22.00	267.97	1,273.17	-7.39	-208.47	6.81	2.00	2.00	0.00
1,400.00	24.00	267.97	1,365.21	-8.77	-247.52	8.08	2.00	2.00	0.00
1,500.00	26.00	267.97	1,455.84	-10.27	-289.75	9.46	2.00	2.00	0.00
1,600.00	28.00	267.97	1,544.94	-11.88	-335.12	10.94	2.00	2.00	0.00
1,700.00	30.00	267.97	1,632.39	-13.60	-383.57	12.52	2.00	2.00	0.00
1,778.70	31.57	267.97	1,700.00	-15.02	-423.82	13.84	2.00	2.00	0.00
9 5/8"									
1,800.00	32.00	267.97	1,718.11	-15.42	-435.04	14.20	2.00	2.00	0.00
1,900.00	34.00	267.97	1,801.97	-17.35	-489.46	15.98	2.00	2.00	0.00
2,000.00	36.00	267.97	1,883.88	-19.38	-546.78	17.85	2.00	2.00	0.00
2,100.00	38.00	267.97	1,963.74	-21.51	-606.92	19.82	2.00	2.00	0.00
2,178.00	39.56	267.97	2,024.54	-23.24	-655.75	21.41	2.00	2.00	0.00
Hold Tangent @ 2178.00ft									
2,200.00	39.56	267.97	2,041.50	-23.74	-669.75	21.87	0.00	0.00	0.00
2,300.00	39.56	267.97	2,118.60	-26.00	-733.40	23.95	0.00	0.00	0.00
2,400.00	39.56	267.97	2,195.70	-28.25	-797.04	26.03	0.00	0.00	0.00
2,500.00	39.56	267.97	2,272.79	-30.51	-860.69	28.10	0.00	0.00	0.00
2,600.00	39.56	267.97	2,349.89	-32.76	-924.34	30.18	0.00	0.00	0.00
2,700.00	39.56	267.97	2,426.98	-35.02	-987.99	32.26	0.00	0.00	0.00
2,800.00	39.56	267.97	2,504.08	-37.28	-1,051.64	34.34	0.00	0.00	0.00
2,900.00	39.56	267.97	2,581.18	-39.53	-1,115.29	36.42	0.00	0.00	0.00
3,000.00	39.56	267.97	2,658.27	-41.79	-1,178.94	38.50	0.00	0.00	0.00
3,100.00	39.56	267.97	2,735.37	-44.04	-1,242.59	40.57	0.00	0.00	0.00
3,200.00	39.56	267.97	2,812.46	-46.30	-1,306.23	42.65	0.00	0.00	0.00
3,300.00	39.56	267.97	2,889.56	-48.56	-1,369.88	44.73	0.00	0.00	0.00
3,400.00	39.56	267.97	2,966.65	-50.81	-1,433.53	46.81	0.00	0.00	0.00
3,500.00	39.56	267.97	3,043.75	-53.07	-1,497.18	48.89	0.00	0.00	0.00
3,600.00	39.56	267.97	3,120.85	-55.32	-1,560.83	50.96	0.00	0.00	0.00
3,700.00	39.56	267.97	3,197.94	-57.58	-1,624.48	53.04	0.00	0.00	0.00
3,800.00	39.56	267.97	3,275.04	-59.84	-1,688.13	55.12	0.00	0.00	0.00
3,900.00	39.56	267.97	3,352.13	-62.09	-1,751.77	57.20	0.00	0.00	0.00
4,000.00	39.56	267.97	3,429.23	-64.35	-1,815.42	59.28	0.00	0.00	0.00
4,100.00	39.56	267.97	3,506.33	-66.60	-1,879.07	61.36	0.00	0.00	0.00
4,200.00	39.56	267.97	3,583.42	-68.86	-1,942.72	63.43	0.00	0.00	0.00
4,300.00	39.56	267.97	3,660.52	-71.12	-2,006.37	65.51	0.00	0.00	0.00
4,400.00	39.56	267.97	3,737.61	-73.37	-2,070.02	67.59	0.00	0.00	0.00
4,500.00	39.56	267.97	3,814.71	-75.63	-2,133.67	69.67	0.00	0.00	0.00
4,600.00	39.56	267.97	3,891.80	-77.88	-2,197.31	71.75	0.00	0.00	0.00
4,700.00	39.56	267.97	3,968.90	-80.14	-2,260.96	73.83	0.00	0.00	0.00

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well COUNTY LINE 3112-01H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Site:</b>	1N-65W-31 COUNTY LINE 3112 PAD	<b>North Reference:</b>	True
<b>Well:</b>	COUNTY LINE 3112-01H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
4,800.00	39.56	267.97	4,046.00	-82.40	-2,324.61	75.90	0.00	0.00	0.00
4,900.00	39.56	267.97	4,123.09	-84.65	-2,388.26	77.98	0.00	0.00	0.00
5,000.00	39.56	267.97	4,200.19	-86.91	-2,451.91	80.06	0.00	0.00	0.00
5,100.00	39.56	267.97	4,277.28	-89.16	-2,515.56	82.14	0.00	0.00	0.00
5,200.00	39.56	267.97	4,354.38	-91.42	-2,579.21	84.22	0.00	0.00	0.00
5,300.00	39.56	267.97	4,431.47	-93.68	-2,642.86	86.30	0.00	0.00	0.00
5,400.00	39.56	267.97	4,508.57	-95.93	-2,706.50	88.37	0.00	0.00	0.00
5,500.00	39.56	267.97	4,585.67	-98.19	-2,770.15	90.45	0.00	0.00	0.00
5,600.00	39.56	267.97	4,662.76	-100.44	-2,833.80	92.53	0.00	0.00	0.00
5,700.00	39.56	267.97	4,739.86	-102.70	-2,897.45	94.61	0.00	0.00	0.00
5,800.00	39.56	267.97	4,816.95	-104.96	-2,961.10	96.69	0.00	0.00	0.00
5,900.00	39.56	267.97	4,894.05	-107.21	-3,024.75	98.77	0.00	0.00	0.00
6,000.00	39.56	267.97	4,971.15	-109.47	-3,088.40	100.84	0.00	0.00	0.00
6,100.00	39.56	267.97	5,048.24	-111.72	-3,152.04	102.92	0.00	0.00	0.00
6,200.00	39.56	267.97	5,125.34	-113.98	-3,215.69	105.00	0.00	0.00	0.00
6,300.00	39.56	267.97	5,202.43	-116.24	-3,279.34	107.08	0.00	0.00	0.00
6,400.00	39.56	267.97	5,279.53	-118.49	-3,342.99	109.16	0.00	0.00	0.00
6,500.00	39.56	267.97	5,356.62	-120.75	-3,406.64	111.23	0.00	0.00	0.00
6,600.00	39.56	267.97	5,433.72	-123.00	-3,470.29	113.31	0.00	0.00	0.00
6,700.00	39.56	267.97	5,510.82	-125.26	-3,533.94	115.39	0.00	0.00	0.00
6,800.00	39.56	267.97	5,587.91	-127.52	-3,597.58	117.47	0.00	0.00	0.00
6,900.00	39.56	267.97	5,665.01	-129.77	-3,661.23	119.55	0.00	0.00	0.00
7,000.00	39.56	267.97	5,742.10	-132.03	-3,724.88	121.63	0.00	0.00	0.00
7,100.00	39.56	267.97	5,819.20	-134.28	-3,788.53	123.70	0.00	0.00	0.00
7,200.00	39.56	267.97	5,896.30	-136.54	-3,852.18	125.78	0.00	0.00	0.00
7,300.00	39.56	267.97	5,973.39	-138.80	-3,915.83	127.86	0.00	0.00	0.00
7,400.00	39.56	267.97	6,050.49	-141.05	-3,979.48	129.94	0.00	0.00	0.00
7,500.00	39.56	267.97	6,127.58	-143.31	-4,043.12	132.02	0.00	0.00	0.00
7,600.00	39.56	267.97	6,204.68	-145.56	-4,106.77	134.10	0.00	0.00	0.00
7,700.00	39.56	267.97	6,281.77	-147.82	-4,170.42	136.17	0.00	0.00	0.00
7,800.00	39.56	267.97	6,358.87	-150.08	-4,234.07	138.25	0.00	0.00	0.00
7,900.00	39.56	267.97	6,435.97	-152.33	-4,297.72	140.33	0.00	0.00	0.00
8,000.00	39.56	267.97	6,513.06	-154.59	-4,361.37	142.41	0.00	0.00	0.00
8,100.00	39.56	267.97	6,590.16	-156.84	-4,425.02	144.49	0.00	0.00	0.00
8,200.00	39.56	267.97	6,667.25	-159.10	-4,488.67	146.57	0.00	0.00	0.00
8,280.49	39.56	267.97	6,729.31	-160.92	-4,539.90	148.24	0.00	0.00	0.00
KOP @ 8280.49ft :: DLS = 9°/100'									
8,300.00	39.64	265.22	6,744.34	-161.66	-4,552.31	148.94	9.00	0.39	-14.11
8,400.00	41.03	251.46	6,820.73	-174.78	-4,615.34	161.89	9.00	1.39	-13.76
8,500.00	43.93	238.82	6,894.61	-203.23	-4,676.26	190.17	9.00	2.91	-12.63
8,600.00	48.08	227.70	6,964.16	-246.32	-4,733.57	233.10	9.00	4.14	-11.12
8,700.00	53.15	218.07	7,027.69	-302.97	-4,785.87	289.60	9.00	5.08	-9.63
8,800.00	58.90	209.71	7,083.61	-371.79	-4,831.86	358.30	9.00	5.75	-8.36
8,900.00	65.13	202.35	7,130.56	-451.10	-4,870.40	437.50	9.00	6.23	-7.37
9,000.00	71.68	195.71	7,167.38	-538.93	-4,900.56	525.24	9.00	6.55	-6.64
9,100.00	78.45	189.56	7,193.16	-633.13	-4,921.59	619.38	9.00	6.77	-6.15
9,200.00	85.34	183.70	7,207.26	-731.37	-4,932.97	717.59	9.00	6.89	-5.85
9,267.23	90.00	179.84	7,210.00	-798.48	-4,935.04	784.69	9.00	6.93	-5.74
End Build @ 9267.23ft									
9,300.00	90.00	179.84	7,210.00	-831.25	-4,934.95	817.46	0.00	0.00	0.00
9,400.00	90.00	179.84	7,210.00	-931.25	-4,934.68	917.46	0.00	0.00	0.00
9,500.00	90.00	179.84	7,210.00	-1,031.25	-4,934.41	1,017.46	0.00	0.00	0.00
9,600.00	90.00	179.84	7,210.00	-1,131.25	-4,934.14	1,117.46	0.00	0.00	0.00
9,700.00	90.00	179.84	7,210.00	-1,231.24	-4,933.86	1,217.46	0.00	0.00	0.00

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well COUNTY LINE 3112-01H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Site:</b>	1N-65W-31 COUNTY LINE 3112 PAD	<b>North Reference:</b>	True
<b>Well:</b>	COUNTY LINE 3112-01H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)
9,800.00	90.00	179.84	7,210.00	-1,331.24	-4,933.59	1,317.46	0.00	0.00	0.00
9,900.00	90.00	179.84	7,210.00	-1,431.24	-4,933.32	1,417.46	0.00	0.00	0.00
10,000.00	90.00	179.84	7,210.00	-1,531.24	-4,933.04	1,517.46	0.00	0.00	0.00
10,100.00	90.00	179.84	7,210.00	-1,631.24	-4,932.77	1,617.46	0.00	0.00	0.00
10,200.00	90.00	179.84	7,210.00	-1,731.24	-4,932.50	1,717.46	0.00	0.00	0.00
10,300.00	90.00	179.84	7,210.00	-1,831.24	-4,932.23	1,817.46	0.00	0.00	0.00
10,400.00	90.00	179.84	7,210.00	-1,931.24	-4,931.95	1,917.46	0.00	0.00	0.00
10,500.00	90.00	179.84	7,210.00	-2,031.24	-4,931.68	2,017.46	0.00	0.00	0.00
10,600.00	90.00	179.84	7,210.00	-2,131.24	-4,931.41	2,117.46	0.00	0.00	0.00
10,700.00	90.00	179.84	7,210.00	-2,231.24	-4,931.14	2,217.46	0.00	0.00	0.00
10,800.00	90.00	179.84	7,210.00	-2,331.24	-4,930.86	2,317.46	0.00	0.00	0.00
10,900.00	90.00	179.84	7,210.00	-2,431.24	-4,930.59	2,417.46	0.00	0.00	0.00
11,000.00	90.00	179.84	7,210.00	-2,531.24	-4,930.32	2,517.46	0.00	0.00	0.00
11,100.00	90.00	179.84	7,210.00	-2,631.24	-4,930.04	2,617.46	0.00	0.00	0.00
11,200.00	90.00	179.84	7,210.00	-2,731.24	-4,929.77	2,717.46	0.00	0.00	0.00
11,300.00	90.00	179.84	7,210.00	-2,831.24	-4,929.50	2,817.46	0.00	0.00	0.00
11,400.00	90.00	179.84	7,210.00	-2,931.24	-4,929.23	2,917.46	0.00	0.00	0.00
11,500.00	90.00	179.84	7,210.00	-3,031.24	-4,928.95	3,017.46	0.00	0.00	0.00
11,600.00	90.00	179.84	7,210.00	-3,131.24	-4,928.68	3,117.46	0.00	0.00	0.00
11,700.00	90.00	179.84	7,210.00	-3,231.24	-4,928.41	3,217.46	0.00	0.00	0.00
11,800.00	90.00	179.84	7,210.00	-3,331.24	-4,928.13	3,317.46	0.00	0.00	0.00
11,900.00	90.00	179.84	7,210.00	-3,431.24	-4,927.86	3,417.46	0.00	0.00	0.00
12,000.00	90.00	179.84	7,210.00	-3,531.24	-4,927.59	3,517.46	0.00	0.00	0.00
12,100.00	90.00	179.84	7,210.00	-3,631.24	-4,927.32	3,617.46	0.00	0.00	0.00
12,200.00	90.00	179.84	7,210.00	-3,731.24	-4,927.04	3,717.46	0.00	0.00	0.00
12,300.00	90.00	179.84	7,210.00	-3,831.24	-4,926.77	3,817.46	0.00	0.00	0.00
12,400.00	90.00	179.84	7,210.00	-3,931.23	-4,926.50	3,917.46	0.00	0.00	0.00
12,500.00	90.00	179.84	7,210.00	-4,031.23	-4,926.23	4,017.46	0.00	0.00	0.00
12,600.00	90.00	179.84	7,210.00	-4,131.23	-4,925.95	4,117.46	0.00	0.00	0.00
12,700.00	90.00	179.84	7,210.00	-4,231.23	-4,925.68	4,217.46	0.00	0.00	0.00
12,800.00	90.00	179.84	7,210.00	-4,331.23	-4,925.41	4,317.46	0.00	0.00	0.00
12,900.00	90.00	179.84	7,210.00	-4,431.23	-4,925.13	4,417.46	0.00	0.00	0.00
13,000.00	90.00	179.84	7,210.00	-4,531.23	-4,924.86	4,517.46	0.00	0.00	0.00
13,100.00	90.00	179.84	7,210.00	-4,631.23	-4,924.59	4,617.46	0.00	0.00	0.00
13,200.00	90.00	179.84	7,210.00	-4,731.23	-4,924.32	4,717.46	0.00	0.00	0.00
13,300.00	90.00	179.84	7,210.00	-4,831.23	-4,924.04	4,817.46	0.00	0.00	0.00
13,400.00	90.00	179.84	7,210.00	-4,931.23	-4,923.77	4,917.46	0.00	0.00	0.00
13,500.00	90.00	179.84	7,210.00	-5,031.23	-4,923.50	5,017.46	0.00	0.00	0.00
13,600.00	90.00	179.84	7,210.00	-5,131.23	-4,923.23	5,117.46	0.00	0.00	0.00
13,700.00	90.00	179.84	7,210.00	-5,231.23	-4,922.95	5,217.46	0.00	0.00	0.00
13,800.00	90.00	179.84	7,210.00	-5,331.23	-4,922.68	5,317.46	0.00	0.00	0.00
13,900.00	90.00	179.84	7,210.00	-5,431.23	-4,922.41	5,417.46	0.00	0.00	0.00
14,000.00	90.00	179.84	7,210.00	-5,531.23	-4,922.13	5,517.46	0.00	0.00	0.00
14,100.00	90.00	179.84	7,210.00	-5,631.23	-4,921.86	5,617.46	0.00	0.00	0.00
14,200.00	90.00	179.84	7,210.00	-5,731.23	-4,921.59	5,717.46	0.00	0.00	0.00
14,300.00	90.00	179.84	7,210.00	-5,831.23	-4,921.32	5,817.46	0.00	0.00	0.00
14,400.00	90.00	179.84	7,210.00	-5,931.23	-4,921.04	5,917.46	0.00	0.00	0.00
14,500.00	90.00	179.84	7,210.00	-6,031.23	-4,920.77	6,017.46	0.00	0.00	0.00
14,600.00	90.00	179.84	7,210.00	-6,131.23	-4,920.50	6,117.46	0.00	0.00	0.00
14,700.00	90.00	179.84	7,210.00	-6,231.23	-4,920.23	6,217.46	0.00	0.00	0.00
14,800.00	90.00	179.84	7,210.00	-6,331.23	-4,919.95	6,317.46	0.00	0.00	0.00
14,900.00	90.00	179.84	7,210.00	-6,431.23	-4,919.68	6,417.46	0.00	0.00	0.00
15,000.00	90.00	179.84	7,210.00	-6,531.23	-4,919.41	6,517.46	0.00	0.00	0.00
15,100.00	90.00	179.84	7,210.00	-6,631.22	-4,919.13	6,617.46	0.00	0.00	0.00

# HP

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well COUNTY LINE 3112-01H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Site:</b>	1N-65W-31 COUNTY LINE 3112 PAD	<b>North Reference:</b>	True
<b>Well:</b>	COUNTY LINE 3112-01H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)	
15,200.00	90.00	179.84	7,210.00	-6,731.22	-4,918.86	6,717.46	0.00	0.00	0.00	
15,300.00	90.00	179.84	7,210.00	-6,831.22	-4,918.59	6,817.46	0.00	0.00	0.00	
15,400.00	90.00	179.84	7,210.00	-6,931.22	-4,918.32	6,917.46	0.00	0.00	0.00	
15,500.00	90.00	179.84	7,210.00	-7,031.22	-4,918.04	7,017.46	0.00	0.00	0.00	
15,600.00	90.00	179.84	7,210.00	-7,131.22	-4,917.77	7,117.46	0.00	0.00	0.00	
15,700.00	90.00	179.84	7,210.00	-7,231.22	-4,917.50	7,217.46	0.00	0.00	0.00	
15,800.00	90.00	179.84	7,210.00	-7,331.22	-4,917.22	7,317.46	0.00	0.00	0.00	
15,900.00	90.00	179.84	7,210.00	-7,431.22	-4,916.95	7,417.46	0.00	0.00	0.00	
16,000.00	90.00	179.84	7,210.00	-7,531.22	-4,916.68	7,517.46	0.00	0.00	0.00	
16,100.00	90.00	179.84	7,210.00	-7,631.22	-4,916.41	7,617.46	0.00	0.00	0.00	
16,200.00	90.00	179.84	7,210.00	-7,731.22	-4,916.13	7,717.46	0.00	0.00	0.00	
16,300.00	90.00	179.84	7,210.00	-7,831.22	-4,915.86	7,817.46	0.00	0.00	0.00	
16,400.00	90.00	179.84	7,210.00	-7,931.22	-4,915.59	7,917.46	0.00	0.00	0.00	
16,500.00	90.00	179.84	7,210.00	-8,031.22	-4,915.32	8,017.46	0.00	0.00	0.00	
16,600.00	90.00	179.84	7,210.00	-8,131.22	-4,915.04	8,117.46	0.00	0.00	0.00	
16,700.00	90.00	179.84	7,210.00	-8,231.22	-4,914.77	8,217.46	0.00	0.00	0.00	
16,800.00	90.00	179.84	7,210.00	-8,331.22	-4,914.50	8,317.46	0.00	0.00	0.00	
16,900.00	90.00	179.84	7,210.00	-8,431.22	-4,914.22	8,417.46	0.00	0.00	0.00	
17,000.00	90.00	179.84	7,210.00	-8,531.22	-4,913.95	8,517.46	0.00	0.00	0.00	
17,100.00	90.00	179.84	7,210.00	-8,631.22	-4,913.68	8,617.46	0.00	0.00	0.00	
17,200.00	90.00	179.84	7,210.00	-8,731.22	-4,913.41	8,717.46	0.00	0.00	0.00	
17,300.00	90.00	179.84	7,210.00	-8,831.22	-4,913.13	8,817.46	0.00	0.00	0.00	
17,400.00	90.00	179.84	7,210.00	-8,931.22	-4,912.86	8,917.46	0.00	0.00	0.00	
17,500.00	90.00	179.84	7,210.00	-9,031.22	-4,912.59	9,017.46	0.00	0.00	0.00	
17,600.00	90.00	179.84	7,210.00	-9,131.22	-4,912.32	9,117.46	0.00	0.00	0.00	
17,700.00	90.00	179.84	7,210.00	-9,231.22	-4,912.04	9,217.46	0.00	0.00	0.00	
17,800.00	90.00	179.84	7,210.00	-9,331.21	-4,911.77	9,317.46	0.00	0.00	0.00	
17,900.00	90.00	179.84	7,210.00	-9,431.21	-4,911.50	9,417.46	0.00	0.00	0.00	
18,000.00	90.00	179.84	7,210.00	-9,531.21	-4,911.22	9,517.46	0.00	0.00	0.00	
18,100.00	90.00	179.84	7,210.00	-9,631.21	-4,910.95	9,617.46	0.00	0.00	0.00	
18,200.00	90.00	179.84	7,210.00	-9,731.21	-4,910.68	9,717.46	0.00	0.00	0.00	
18,300.00	90.00	179.84	7,210.00	-9,831.21	-4,910.41	9,817.46	0.00	0.00	0.00	
18,400.00	90.00	179.84	7,210.00	-9,931.21	-4,910.13	9,917.46	0.00	0.00	0.00	
18,500.00	90.00	179.84	7,210.00	-10,031.21	-4,909.86	10,017.46	0.00	0.00	0.00	
18,600.00	90.00	179.84	7,210.00	-10,131.21	-4,909.59	10,117.46	0.00	0.00	0.00	
18,605.55	90.00	179.84	7,210.00	-10,136.76	-4,909.57	10,123.01	0.00	0.00	0.00	
TD Well @ 18605.55ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,778.70	1,700.00	9 5/8"		9-5/8	13-1/2



**HP**  
Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well COUNTY LINE 3112-01H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 24' @ 5061.00usft (RIG)
<b>Site:</b>	1N-65W-31 COUNTY LINE 3112 PAD	<b>North Reference:</b>	True
<b>Well:</b>	COUNTY LINE 3112-01H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Begin Nudge @ 200.00ft
2,178.00	2,024.54	-23.24	-655.75	Hold Tangent @ 2178.00ft
8,280.49	6,729.31	-160.92	-4,539.90	KOP @ 8280.49ft :: DLS = 9°/100'
9,267.23	7,210.00	-798.48	-4,935.04	End Build @ 9267.23ft
18,605.55	7,210.00	-10,136.76	-4,909.57	TD Well @ 18605.55ft