

VERDAD RESOURCES

**WATTENBERG FIELD
1N-65W-31 COUNTY LINE 3107 PAD
COUNTY LINE 3107-11H**

Wellbore #1

Plan: Design #3

Standard Planning Report

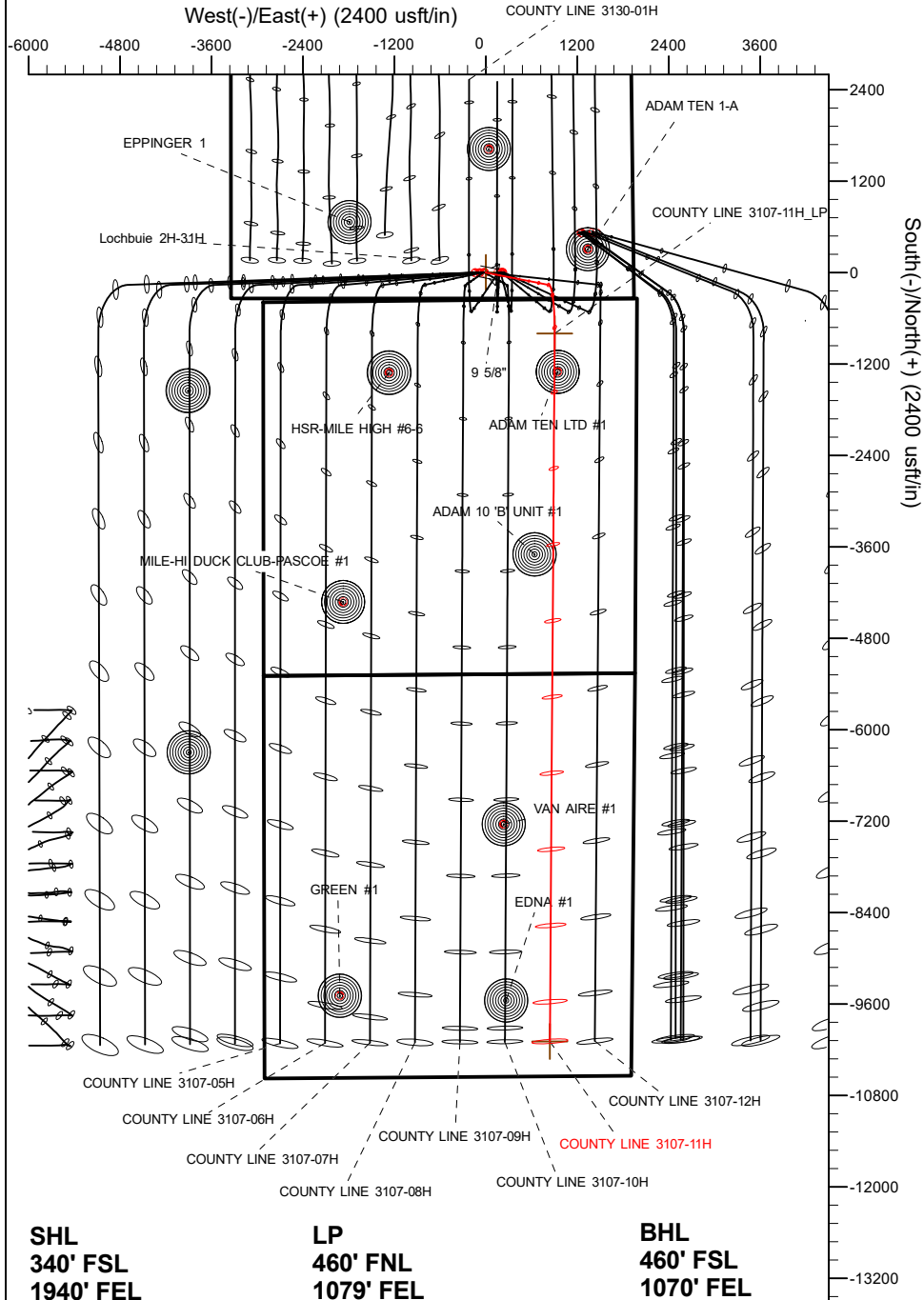
02 June, 2020

Project: WATTENBERG FIELD
Site: 1N-65W-31 COUNTY LINE 3107 PAD
Well: COUNTY LINE 3107-11H
Wellbore: Wellbore #1
Design: Design #3

VERDAD RESOURCES

CASING DETAILS

TVD	MD	Name	Size
1700.00	1709.97	9 5/8"	9-5/8

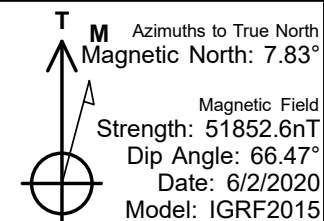
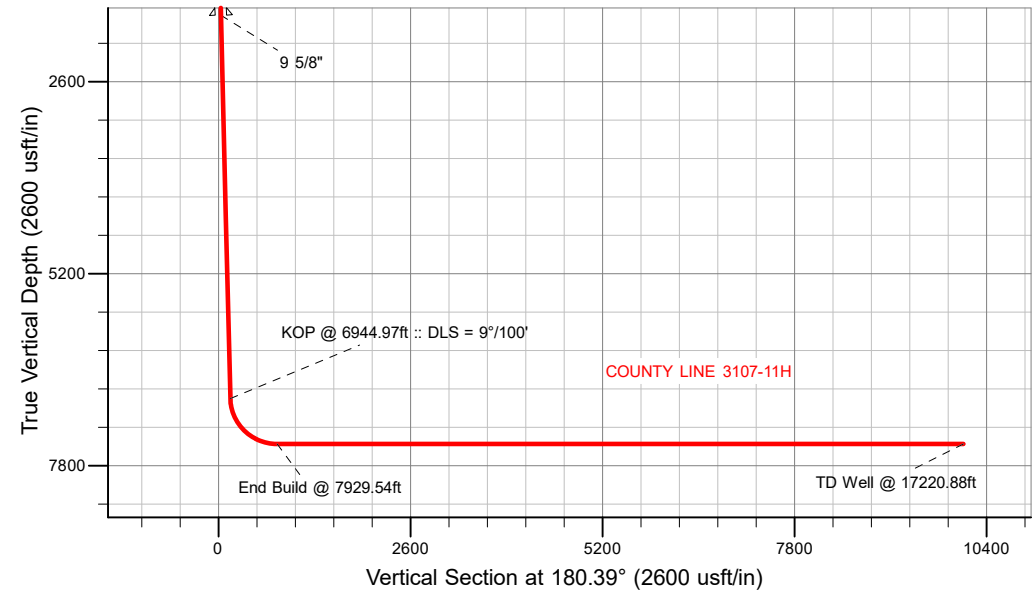


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	676.00	7.52	101.06	674.92	-4.73	24.18	2.00	101.06	4.56	
4	6944.97	7.52	101.06	6889.97	-162.12	829.38	0.00	0.00	156.47	
5	7929.54	90.00	180.39	7506.00	-799.08	904.98	9.00	79.42	792.90	
6	17220.88	90.00	180.39	7506.00	-10090.21	842.05	0.00	0.00	10084.24	COUNTY LINE 3107-11H_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
COUNTY LINE 3107-11H_SHL	0.00	0.00	0.00	40.001456	-104.704200
COUNTY LINE 3107-11H_BHL	7506.00	-10090.21	842.05	39.973757	-104.701196



WELL DETAILS: COUNTY LINE 3107-11H

GL = 5043'

RKB = 24' @ 5067.00usft (RIG)

Plan: Design #3 (COUNTY LINE 3107-11H/Wellbore #1)

Created By: Clinton Eshelman
Date: 6/03/2020

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3107-11H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5067.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5067.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3107 PAD	North Reference:	True
Well:	COUNTY LINE 3107-11H	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 3107 PAD				
Site Position:		Northing:	1,244,335.38	usft	Latitude:	40.001349
From:	Lat/Long	Easting:	3,222,602.81	usft	Longitude:	-104.705400
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well		COUNTY LINE 3107-11H				
Well Position	+N/-S	0.00 usft	Northing:	1,244,377.72 usft	Latitude:	40.001456
	+E/-W	0.00 usft	Easting:	3,222,938.36 usft	Longitude:	-104.704201
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	5,043.00 usft
Grid Convergence:		0.51 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/2/2020	7.83	66.47	51,852.58920786

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	180.39	

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	17,220.88	Design #3 (Wellbore #1)	ISCWSA REV 2 MWD Fixed:v2:standard declination	

HP
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Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5067.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3107 PAD	North Reference:	True
Well:	COUNTY LINE 3107-11H	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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
676.00	7.52	101.06	674.92	-4.73	24.18	2.00	2.00	0.00	101.06	
6,944.97	7.52	101.06	6,889.97	-162.12	829.38	0.00	0.00	0.00	0.00	
7,929.54	90.00	180.39	7,506.00	-799.08	904.98	9.00	8.38	8.06	79.42	
17,220.88	90.00	180.39	7,506.00	-10,090.21	842.05	0.00	0.00	0.00	0.00	COUNTY LINE 3107-

HP

Planning Report

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Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5067.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5067.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3107 PAD	North Reference:	True
Well:	COUNTY LINE 3107-11H	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 300.00ft									
400.00	2.00	101.06	399.98	-0.33	1.71	0.32	2.00	2.00	0.00
500.00	4.00	101.06	499.84	-1.34	6.85	1.29	2.00	2.00	0.00
600.00	6.00	101.06	599.45	-3.01	15.40	2.91	2.00	2.00	0.00
676.00	7.52	101.06	674.92	-4.73	24.18	4.56	2.00	2.00	0.00
Hold Tangent @ 676.00ft									
700.00	7.52	101.06	698.72	-5.33	27.26	5.14	0.00	0.00	0.00
800.00	7.52	101.06	797.85	-7.84	40.11	7.57	0.00	0.00	0.00
900.00	7.52	101.06	896.99	-10.35	52.95	9.99	0.00	0.00	0.00
1,000.00	7.52	101.06	996.13	-12.86	65.80	12.41	0.00	0.00	0.00
1,100.00	7.52	101.06	1,095.27	-15.37	78.64	14.84	0.00	0.00	0.00
1,200.00	7.52	101.06	1,194.41	-17.88	91.49	17.26	0.00	0.00	0.00
1,300.00	7.52	101.06	1,293.55	-20.39	104.33	19.68	0.00	0.00	0.00
1,400.00	7.52	101.06	1,392.69	-22.90	117.17	22.11	0.00	0.00	0.00
1,500.00	7.52	101.06	1,491.83	-25.41	130.02	24.53	0.00	0.00	0.00
1,600.00	7.52	101.06	1,590.97	-27.92	142.86	26.95	0.00	0.00	0.00
1,700.00	7.52	101.06	1,690.11	-30.44	155.71	29.37	0.00	0.00	0.00
1,709.97	7.52	101.06	1,700.00	-30.69	156.99	29.62	0.00	0.00	0.00
9 5/8"									
1,800.00	7.52	101.06	1,789.25	-32.95	168.55	31.80	0.00	0.00	0.00
1,900.00	7.52	101.06	1,888.39	-35.46	181.39	34.22	0.00	0.00	0.00
2,000.00	7.52	101.06	1,987.53	-37.97	194.24	36.64	0.00	0.00	0.00
2,100.00	7.52	101.06	2,086.67	-40.48	207.08	39.07	0.00	0.00	0.00
2,200.00	7.52	101.06	2,185.81	-42.99	219.93	41.49	0.00	0.00	0.00
2,300.00	7.52	101.06	2,284.95	-45.50	232.77	43.91	0.00	0.00	0.00
2,400.00	7.52	101.06	2,384.09	-48.01	245.61	46.34	0.00	0.00	0.00
2,500.00	7.52	101.06	2,483.23	-50.52	258.46	48.76	0.00	0.00	0.00
2,600.00	7.52	101.06	2,582.37	-53.03	271.30	51.18	0.00	0.00	0.00
2,700.00	7.52	101.06	2,681.51	-55.54	284.15	53.61	0.00	0.00	0.00
2,800.00	7.52	101.06	2,780.65	-58.05	296.99	56.03	0.00	0.00	0.00
2,900.00	7.52	101.06	2,879.79	-60.56	309.84	58.45	0.00	0.00	0.00
3,000.00	7.52	101.06	2,978.93	-63.07	322.68	60.88	0.00	0.00	0.00
3,100.00	7.52	101.06	3,078.07	-65.58	335.52	63.30	0.00	0.00	0.00
3,200.00	7.52	101.06	3,177.21	-68.09	348.37	65.72	0.00	0.00	0.00
3,300.00	7.52	101.06	3,276.35	-70.61	361.21	68.14	0.00	0.00	0.00
3,400.00	7.52	101.06	3,375.49	-73.12	374.06	70.57	0.00	0.00	0.00
3,500.00	7.52	101.06	3,474.63	-75.63	386.90	72.99	0.00	0.00	0.00
3,600.00	7.52	101.06	3,573.77	-78.14	399.74	75.41	0.00	0.00	0.00
3,700.00	7.52	101.06	3,672.91	-80.65	412.59	77.84	0.00	0.00	0.00
3,800.00	7.52	101.06	3,772.05	-83.16	425.43	80.26	0.00	0.00	0.00
3,900.00	7.52	101.06	3,871.19	-85.67	438.28	82.68	0.00	0.00	0.00
4,000.00	7.52	101.06	3,970.33	-88.18	451.12	85.11	0.00	0.00	0.00
4,100.00	7.52	101.06	4,069.47	-90.69	463.97	87.53	0.00	0.00	0.00
4,200.00	7.52	101.06	4,168.61	-93.20	476.81	89.95	0.00	0.00	0.00
4,300.00	7.52	101.06	4,267.75	-95.71	489.65	92.38	0.00	0.00	0.00
4,400.00	7.52	101.06	4,366.89	-98.22	502.50	94.80	0.00	0.00	0.00
4,500.00	7.52	101.06	4,466.03	-100.73	515.34	97.22	0.00	0.00	0.00
4,600.00	7.52	101.06	4,565.17	-103.24	528.19	99.65	0.00	0.00	0.00
4,700.00	7.52	101.06	4,664.31	-105.75	541.03	102.07	0.00	0.00	0.00

HP

Planning Report

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Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5067.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3107 PAD	North Reference:	True
Well:	COUNTY LINE 3107-11H	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)
4,800.00	7.52	101.06	4,763.45	-108.26	553.87	104.49	0.00	0.00	0.00
4,900.00	7.52	101.06	4,862.59	-110.78	566.72	106.91	0.00	0.00	0.00
5,000.00	7.52	101.06	4,961.73	-113.29	579.56	109.34	0.00	0.00	0.00
5,100.00	7.52	101.06	5,060.87	-115.80	592.41	111.76	0.00	0.00	0.00
5,200.00	7.52	101.06	5,160.01	-118.31	605.25	114.18	0.00	0.00	0.00
5,300.00	7.52	101.06	5,259.15	-120.82	618.10	116.61	0.00	0.00	0.00
5,400.00	7.52	101.06	5,358.29	-123.33	630.94	119.03	0.00	0.00	0.00
5,500.00	7.52	101.06	5,457.43	-125.84	643.78	121.45	0.00	0.00	0.00
5,600.00	7.52	101.06	5,556.57	-128.35	656.63	123.88	0.00	0.00	0.00
5,700.00	7.52	101.06	5,655.71	-130.86	669.47	126.30	0.00	0.00	0.00
5,800.00	7.52	101.06	5,754.85	-133.37	682.32	128.72	0.00	0.00	0.00
5,900.00	7.52	101.06	5,853.99	-135.88	695.16	131.15	0.00	0.00	0.00
6,000.00	7.52	101.06	5,953.13	-138.39	708.00	133.57	0.00	0.00	0.00
6,100.00	7.52	101.06	6,052.27	-140.90	720.85	135.99	0.00	0.00	0.00
6,200.00	7.52	101.06	6,151.41	-143.41	733.69	138.42	0.00	0.00	0.00
6,300.00	7.52	101.06	6,250.55	-145.92	746.54	140.84	0.00	0.00	0.00
6,400.00	7.52	101.06	6,349.69	-148.43	759.38	143.26	0.00	0.00	0.00
6,500.00	7.52	101.06	6,448.83	-150.94	772.23	145.68	0.00	0.00	0.00
6,600.00	7.52	101.06	6,547.97	-153.46	785.07	148.11	0.00	0.00	0.00
6,700.00	7.52	101.06	6,647.11	-155.97	797.91	150.53	0.00	0.00	0.00
6,800.00	7.52	101.06	6,746.25	-158.48	810.76	152.95	0.00	0.00	0.00
6,900.00	7.52	101.06	6,845.39	-160.99	823.60	155.38	0.00	0.00	0.00
6,944.97	7.52	101.06	6,889.97	-162.12	829.38	156.47	0.00	0.00	0.00
KOP @ 6944.97ft :: DLS = 9°/100'									
7,000.00	9.73	131.21	6,944.41	-165.87	836.41	160.18	9.00	4.01	54.79
7,100.00	16.99	155.27	7,041.70	-184.75	848.91	178.96	9.00	7.26	24.05
7,200.00	25.37	164.51	7,134.89	-218.74	860.77	212.87	9.00	8.38	9.25
7,300.00	34.06	169.32	7,221.67	-267.00	871.70	261.06	9.00	8.68	4.81
7,400.00	42.86	172.35	7,299.90	-328.35	881.43	322.34	9.00	8.80	3.03
7,500.00	51.72	174.51	7,367.67	-401.28	889.73	395.22	9.00	8.86	2.16
7,600.00	60.61	176.20	7,423.29	-483.99	896.38	477.88	9.00	8.89	1.69
7,700.00	69.52	177.61	7,465.41	-574.45	901.23	568.30	9.00	8.91	1.41
7,800.00	78.44	178.87	7,492.98	-670.42	904.16	664.25	9.00	8.92	1.26
7,900.00	87.36	180.05	7,505.32	-769.55	905.09	763.37	9.00	8.92	1.18
7,929.54	90.00	180.39	7,506.00	-799.08	904.98	792.90	9.00	8.93	1.16
End Build @ 7929.54ft									
8,000.00	90.00	180.39	7,506.00	-869.53	904.50	863.36	0.00	0.00	0.00
8,100.00	90.00	180.39	7,506.00	-969.53	903.82	963.36	0.00	0.00	0.00
8,200.00	90.00	180.39	7,506.00	-1,069.53	903.15	1,063.36	0.00	0.00	0.00
8,300.00	90.00	180.39	7,506.00	-1,169.53	902.47	1,163.36	0.00	0.00	0.00
8,400.00	90.00	180.39	7,506.00	-1,269.53	901.79	1,263.36	0.00	0.00	0.00
8,500.00	90.00	180.39	7,506.00	-1,369.52	901.12	1,363.36	0.00	0.00	0.00
8,600.00	90.00	180.39	7,506.00	-1,469.52	900.44	1,463.36	0.00	0.00	0.00
8,700.00	90.00	180.39	7,506.00	-1,569.52	899.76	1,563.36	0.00	0.00	0.00
8,800.00	90.00	180.39	7,506.00	-1,669.52	899.08	1,663.36	0.00	0.00	0.00
8,900.00	90.00	180.39	7,506.00	-1,769.51	898.41	1,763.36	0.00	0.00	0.00
9,000.00	90.00	180.39	7,506.00	-1,869.51	897.73	1,863.36	0.00	0.00	0.00
9,100.00	90.00	180.39	7,506.00	-1,969.51	897.05	1,963.36	0.00	0.00	0.00
9,200.00	90.00	180.39	7,506.00	-2,069.51	896.37	2,063.36	0.00	0.00	0.00
9,300.00	90.00	180.39	7,506.00	-2,169.50	895.70	2,163.36	0.00	0.00	0.00
9,400.00	90.00	180.39	7,506.00	-2,269.50	895.02	2,263.36	0.00	0.00	0.00
9,500.00	90.00	180.39	7,506.00	-2,369.50	894.34	2,363.36	0.00	0.00	0.00
9,600.00	90.00	180.39	7,506.00	-2,469.50	893.66	2,463.36	0.00	0.00	0.00
9,700.00	90.00	180.39	7,506.00	-2,569.50	892.99	2,563.36	0.00	0.00	0.00

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3107-11H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5067.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5067.00usft (RIG)
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Well:	COUNTY LINE 3107-11H	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)
9,800.00	90.00	180.39	7,506.00	-2,669.49	892.31	2,663.36	0.00	0.00	0.00
9,900.00	90.00	180.39	7,506.00	-2,769.49	891.63	2,763.36	0.00	0.00	0.00
10,000.00	90.00	180.39	7,506.00	-2,869.49	890.96	2,863.36	0.00	0.00	0.00
10,100.00	90.00	180.39	7,506.00	-2,969.49	890.28	2,963.36	0.00	0.00	0.00
10,200.00	90.00	180.39	7,506.00	-3,069.48	889.60	3,063.36	0.00	0.00	0.00
10,300.00	90.00	180.39	7,506.00	-3,169.48	888.92	3,163.36	0.00	0.00	0.00
10,400.00	90.00	180.39	7,506.00	-3,269.48	888.25	3,263.36	0.00	0.00	0.00
10,500.00	90.00	180.39	7,506.00	-3,369.48	887.57	3,363.36	0.00	0.00	0.00
10,600.00	90.00	180.39	7,506.00	-3,469.47	886.89	3,463.36	0.00	0.00	0.00
10,700.00	90.00	180.39	7,506.00	-3,569.47	886.21	3,563.36	0.00	0.00	0.00
10,800.00	90.00	180.39	7,506.00	-3,669.47	885.54	3,663.36	0.00	0.00	0.00
10,900.00	90.00	180.39	7,506.00	-3,769.47	884.86	3,763.36	0.00	0.00	0.00
11,000.00	90.00	180.39	7,506.00	-3,869.47	884.18	3,863.36	0.00	0.00	0.00
11,100.00	90.00	180.39	7,506.00	-3,969.46	883.50	3,963.36	0.00	0.00	0.00
11,200.00	90.00	180.39	7,506.00	-4,069.46	882.83	4,063.36	0.00	0.00	0.00
11,300.00	90.00	180.39	7,506.00	-4,169.46	882.15	4,163.36	0.00	0.00	0.00
11,400.00	90.00	180.39	7,506.00	-4,269.46	881.47	4,263.36	0.00	0.00	0.00
11,500.00	90.00	180.39	7,506.00	-4,369.45	880.80	4,363.36	0.00	0.00	0.00
11,600.00	90.00	180.39	7,506.00	-4,469.45	880.12	4,463.36	0.00	0.00	0.00
11,700.00	90.00	180.39	7,506.00	-4,569.45	879.44	4,563.36	0.00	0.00	0.00
11,800.00	90.00	180.39	7,506.00	-4,669.45	878.76	4,663.36	0.00	0.00	0.00
11,900.00	90.00	180.39	7,506.00	-4,769.45	878.09	4,763.36	0.00	0.00	0.00
12,000.00	90.00	180.39	7,506.00	-4,869.44	877.41	4,863.36	0.00	0.00	0.00
12,100.00	90.00	180.39	7,506.00	-4,969.44	876.73	4,963.36	0.00	0.00	0.00
12,200.00	90.00	180.39	7,506.00	-5,069.44	876.05	5,063.36	0.00	0.00	0.00
12,300.00	90.00	180.39	7,506.00	-5,169.44	875.38	5,163.36	0.00	0.00	0.00
12,400.00	90.00	180.39	7,506.00	-5,269.43	874.70	5,263.36	0.00	0.00	0.00
12,500.00	90.00	180.39	7,506.00	-5,369.43	874.02	5,363.36	0.00	0.00	0.00
12,600.00	90.00	180.39	7,506.00	-5,469.43	873.34	5,463.36	0.00	0.00	0.00
12,700.00	90.00	180.39	7,506.00	-5,569.43	872.67	5,563.36	0.00	0.00	0.00
12,800.00	90.00	180.39	7,506.00	-5,669.42	871.99	5,663.36	0.00	0.00	0.00
12,900.00	90.00	180.39	7,506.00	-5,769.42	871.31	5,763.36	0.00	0.00	0.00
13,000.00	90.00	180.39	7,506.00	-5,869.42	870.64	5,863.36	0.00	0.00	0.00
13,100.00	90.00	180.39	7,506.00	-5,969.42	869.96	5,963.36	0.00	0.00	0.00
13,200.00	90.00	180.39	7,506.00	-6,069.42	869.28	6,063.36	0.00	0.00	0.00
13,300.00	90.00	180.39	7,506.00	-6,169.41	868.60	6,163.36	0.00	0.00	0.00
13,400.00	90.00	180.39	7,506.00	-6,269.41	867.93	6,263.36	0.00	0.00	0.00
13,500.00	90.00	180.39	7,506.00	-6,369.41	867.25	6,363.36	0.00	0.00	0.00
13,600.00	90.00	180.39	7,506.00	-6,469.41	866.57	6,463.36	0.00	0.00	0.00
13,700.00	90.00	180.39	7,506.00	-6,569.40	865.89	6,563.36	0.00	0.00	0.00
13,800.00	90.00	180.39	7,506.00	-6,669.40	865.22	6,663.36	0.00	0.00	0.00
13,900.00	90.00	180.39	7,506.00	-6,769.40	864.54	6,763.36	0.00	0.00	0.00
14,000.00	90.00	180.39	7,506.00	-6,869.40	863.86	6,863.36	0.00	0.00	0.00
14,100.00	90.00	180.39	7,506.00	-6,969.39	863.18	6,963.36	0.00	0.00	0.00
14,200.00	90.00	180.39	7,506.00	-7,069.39	862.51	7,063.36	0.00	0.00	0.00
14,300.00	90.00	180.39	7,506.00	-7,169.39	861.83	7,163.36	0.00	0.00	0.00
14,400.00	90.00	180.39	7,506.00	-7,269.39	861.15	7,263.36	0.00	0.00	0.00
14,500.00	90.00	180.39	7,506.00	-7,369.39	860.48	7,363.36	0.00	0.00	0.00
14,600.00	90.00	180.39	7,506.00	-7,469.38	859.80	7,463.36	0.00	0.00	0.00
14,700.00	90.00	180.39	7,506.00	-7,569.38	859.12	7,563.36	0.00	0.00	0.00
14,800.00	90.00	180.39	7,506.00	-7,669.38	858.44	7,663.36	0.00	0.00	0.00
14,900.00	90.00	180.39	7,506.00	-7,769.38	857.77	7,763.36	0.00	0.00	0.00
15,000.00	90.00	180.39	7,506.00	-7,869.37	857.09	7,863.36	0.00	0.00	0.00
15,100.00	90.00	180.39	7,506.00	-7,969.37	856.41	7,963.36	0.00	0.00	0.00

HP

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well COUNTY LINE 3107-11H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 24' @ 5067.00usft (RIG)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 24' @ 5067.00usft (RIG)
Site:	1N-65W-31 COUNTY LINE 3107 PAD	North Reference:	True
Well:	COUNTY LINE 3107-11H	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)	
15,200.00	90.00	180.39	7,506.00	-8,069.37	855.73	8,063.36	0.00	0.00	0.00	
15,300.00	90.00	180.39	7,506.00	-8,169.37	855.06	8,163.36	0.00	0.00	0.00	
15,400.00	90.00	180.39	7,506.00	-8,269.36	854.38	8,263.36	0.00	0.00	0.00	
15,500.00	90.00	180.39	7,506.00	-8,369.36	853.70	8,363.36	0.00	0.00	0.00	
15,600.00	90.00	180.39	7,506.00	-8,469.36	853.02	8,463.36	0.00	0.00	0.00	
15,700.00	90.00	180.39	7,506.00	-8,569.36	852.35	8,563.36	0.00	0.00	0.00	
15,800.00	90.00	180.39	7,506.00	-8,669.36	851.67	8,663.36	0.00	0.00	0.00	
15,900.00	90.00	180.39	7,506.00	-8,769.35	850.99	8,763.36	0.00	0.00	0.00	
16,000.00	90.00	180.39	7,506.00	-8,869.35	850.31	8,863.36	0.00	0.00	0.00	
16,100.00	90.00	180.39	7,506.00	-8,969.35	849.64	8,963.36	0.00	0.00	0.00	
16,200.00	90.00	180.39	7,506.00	-9,069.35	848.96	9,063.36	0.00	0.00	0.00	
16,300.00	90.00	180.39	7,506.00	-9,169.34	848.28	9,163.36	0.00	0.00	0.00	
16,400.00	90.00	180.39	7,506.00	-9,269.34	847.61	9,263.36	0.00	0.00	0.00	
16,500.00	90.00	180.39	7,506.00	-9,369.34	846.93	9,363.36	0.00	0.00	0.00	
16,600.00	90.00	180.39	7,506.00	-9,469.34	846.25	9,463.36	0.00	0.00	0.00	
16,700.00	90.00	180.39	7,506.00	-9,569.34	845.57	9,563.36	0.00	0.00	0.00	
16,800.00	90.00	180.39	7,506.00	-9,669.33	844.90	9,663.36	0.00	0.00	0.00	
16,900.00	90.00	180.39	7,506.00	-9,769.33	844.22	9,763.36	0.00	0.00	0.00	
17,000.00	90.00	180.39	7,506.00	-9,869.33	843.54	9,863.36	0.00	0.00	0.00	
17,100.00	90.00	180.39	7,506.00	-9,969.33	842.86	9,963.36	0.00	0.00	0.00	
17,200.00	90.00	180.39	7,506.00	-10,069.32	842.19	10,063.36	0.00	0.00	0.00	
17,220.88	90.00	180.39	7,506.00	-10,090.21	842.05	10,084.24	0.00	0.00	0.00	
TD Well @ 17220.88ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,709.97	1,700.00	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)		
300.00	300.00	0.00	0.00	Begin Nudge @ 300.00ft	
676.00	674.92	-4.73	24.18	Hold Tangent @ 676.00ft	
6,944.97	6,889.97	-162.12	829.38	KOP @ 6944.97ft :: DLS = 9°/100'	
7,929.54	7,506.00	-799.08	904.98	End Build @ 7929.54ft	
17,220.88	7,506.00	-10,090.21	842.05	TD Well @ 17220.88ft	