

# **VERDAD RESOURCES**

**WATTENBERG FIELD**

**2N-64W-24 ARNOLD-BOYD PAD**

**BOYD 2413-06H**

**Plan A**

**Plan: Design #1**

## **Standard Planning Report**

**14 December, 2021**

Project: WATTENBERG FIELD  
Site: 2N-64W-24 ARNOLD-BOYD PAD  
Well: BOYD 2413-06H  
Wellbore: Plan A  
Design: Design #1

# VERDAD RESOURCES

## CASING DETAILS

TVD	MD	Name	Size
1934.00	1984.47	9 5/8"	9-5/8

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

-3600 -2400 -1200 0 1200 2400 3600 4800 6000

BOYD 2413-06H

BOYD 2413-06H\_BPZ

BOYD 2413-06H\_BHL

BOYD 2413-11H

BOYD 24-1H

BOYD 2413-10H

BOYD 24-4H

BOYD 2413-09H

BOYD 2413-05H

BOYD 2413-08H

DARYL L ARNOLD #1

ARNOLD #1

BOYD 2413-07H

MCCLINTOCK ET AL #1

HELEN 2536-07H

9 5/8"

HELEN 2536-08H

HELEN 2536-09H

HELEN 2536-10H

HELEN 2536-11H

HELEN 2536-12H

HELEN 24-3H

HELEN 24-4H

HELEN 2536-05H

HELEN 2536-06H

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

-9600

-8400

-7200

-6000

-4800

-3600

-2400

-1200

0

-1200

-2400

SHL  
1441' FSL  
2307' FWL

TPZ  
460' FSL  
2213' FWL

BPZ  
460' FNL  
2213' FWL

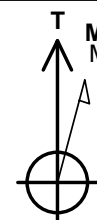
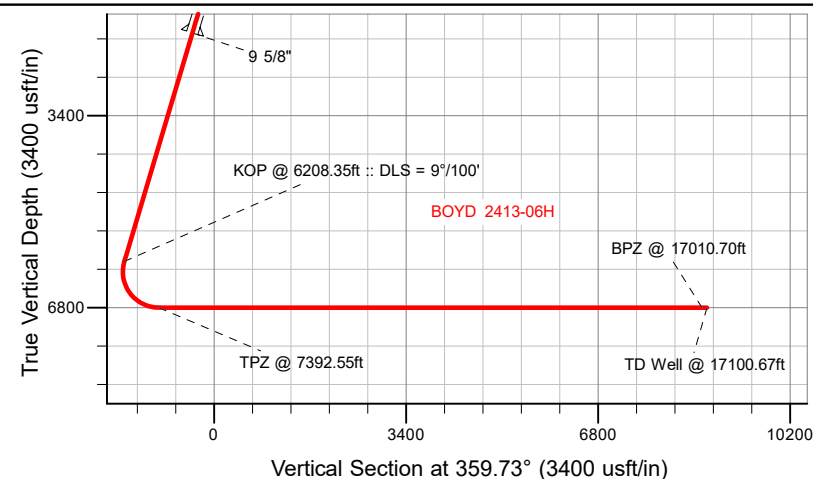
BHL  
370' FNL  
2213' FWL

## 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	221.00	0.00	0.00	221.00	0.00	0.00	0.00	0.00	0.00	
3	1051.00	16.60	182.67	1039.44	-119.27	-5.56	2.00	182.67	-119.24	
4	6208.35	16.60	182.67	5981.84	-1591.06	-74.20	0.00	0.00	-1590.70	
5	7392.55	90.00	359.73	6800.00	-980.97	-89.54	9.00	176.94	-980.54	
6	17100.67	90.00	359.73	6800.00	8727.05	-134.75	0.00	0.00	8727.59	BOYD 2413-06H_BHL

## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
BOYD 2413-06H_SHL	0.00	0.00	0.00	40.120602	-104.500884
BOYD 2413-06H_TPZ	6800.00	-980.97	-89.54	40.117909	-104.501204
BOYD 2413-06H_BPZ	6800.00	8637.08	-134.47	40.144312	-104.501365
BOYD 2413-06H_BHL	6800.00	8727.05	-134.75	40.144559	-104.501366



Azimuths to True North  
Magnetic North: 7.63°  
Magnetic Field  
Strength: 51781.7nT  
Dip Angle: 66.45°  
Date: 12/13/2021  
Model: IGRF2020

WELL DETAILS: BOYD 2413-06H

GL = 4924'

RKB = 20' @ 4944.00usft (Drilling Rig)

Plan: Design #1 (BOYD 2413-06H/Plan A)

Date: 12/14/2021

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BOYD 2413-06H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Site:</b>	2N-64W-24 ARNOLD-BOYD PAD	<b>North Reference:</b>	True
<b>Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Design #1		

<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		

Site		2N-64W-24 ARNOLD-BOYD PAD				
Site Position:		Northing:	1,288,353.17	usft	Latitude:	40.120602
From:	Lat/Long	Easting:	3,279,389.09	usft	Longitude:	-104.500941
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well		BOYD 2413-06H				
Well Position	+N/-S	0.00 usft	Northing:	1,288,353.34 usft	Latitude:	40.120602
	+E/-W	0.00 usft	Easting:	3,279,405.03 usft	Longitude:	-104.500884
Position Uncertainty		3.28 usft	Wellhead Elevation:	usft	Ground Level:	4,924.00 usft
Grid Convergence:		0.65 °				

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF202013	12/13/2021	7.63	66.45	51,781.70774792

<b>Design</b>	Design #1				
<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	359.73

<b>Plan Survey Tool Program</b>		<b>Date</b>	12/14/2021		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	1,934.00	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	
2	1,934.00	17,100.67	Design #1 (Plan A)	ISCWSA MWD	
				Fixed:v2:standard declination	

Planning Report

Database:	EDM 5000.16 Single User Db	Local Co-ordinate Reference:	Well BOYD 2413-06H
Company:	VERDAD RESOURCES	TVD Reference:	RKB = 20' @ 4944.00usft (Drilling Rig)
Project:	WATTENBERG FIELD	MD Reference:	RKB = 20' @ 4944.00usft (Drilling Rig)
Site:	2N-64W-24 ARNOLD-BOYD PAD	North Reference:	True
Well:	BOYD 2413-06H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Design #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	
221.00	0.00	0.00	221.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,051.00	16.60	182.67	1,039.44	-119.27	-5.56	2.00	2.00	0.00	182.67	
6,208.35	16.60	182.67	5,981.84	-1,591.06	-74.20	0.00	0.00	0.00	0.00	
7,392.55	90.00	359.73	6,800.00	-980.97	-89.54	9.00	6.20	14.95	176.94	
17,100.67	90.00	359.73	6,800.00	8,727.05	-134.75	0.00	0.00	0.00	0.00	BOYD 2413-06H_BHI

# Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BOYD 2413-06H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Site:</b>	2N-64W-24 ARNOLD-BOYD PAD	<b>North Reference:</b>	True
<b>Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Design #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
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
221.00	0.00	0.00	221.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 221.00ft									
300.00	1.58	182.67	299.99	-1.09	-0.05	-1.09	2.00	2.00	0.00
400.00	3.58	182.67	399.88	-5.58	-0.26	-5.58	2.00	2.00	0.00
500.00	5.58	182.67	499.56	-13.56	-0.63	-13.56	2.00	2.00	0.00
600.00	7.58	182.67	598.90	-25.01	-1.17	-25.00	2.00	2.00	0.00
700.00	9.58	182.67	697.77	-39.91	-1.86	-39.90	2.00	2.00	0.00
800.00	11.58	182.67	796.07	-58.25	-2.72	-58.23	2.00	2.00	0.00
900.00	13.58	182.67	893.66	-80.00	-3.73	-79.99	2.00	2.00	0.00
1,000.00	15.58	182.67	990.44	-105.15	-4.90	-105.12	2.00	2.00	0.00
1,051.00	16.60	182.67	1,039.44	-119.27	-5.56	-119.24	2.00	2.00	0.00
Hold Tangent @ 1051.00ft									
1,100.00	16.60	182.67	1,086.39	-133.25	-6.21	-133.22	0.00	0.00	0.00
1,200.00	16.60	182.67	1,182.23	-161.79	-7.54	-161.75	0.00	0.00	0.00
1,300.00	16.60	182.67	1,278.06	-190.33	-8.88	-190.28	0.00	0.00	0.00
1,400.00	16.60	182.67	1,373.89	-218.86	-10.21	-218.81	0.00	0.00	0.00
1,500.00	16.60	182.67	1,469.72	-247.40	-11.54	-247.35	0.00	0.00	0.00
1,600.00	16.60	182.67	1,565.56	-275.94	-12.87	-275.88	0.00	0.00	0.00
1,700.00	16.60	182.67	1,661.39	-304.48	-14.20	-304.41	0.00	0.00	0.00
1,800.00	16.60	182.67	1,757.22	-333.02	-15.53	-332.94	0.00	0.00	0.00
1,900.00	16.60	182.67	1,853.05	-361.55	-16.86	-361.47	0.00	0.00	0.00
1,984.47	16.60	182.67	1,934.00	-385.66	-17.98	-385.57	0.00	0.00	0.00
9 5/8"									
2,000.00	16.60	182.67	1,948.89	-390.09	-18.19	-390.00	0.00	0.00	0.00
2,100.00	16.60	182.67	2,044.72	-418.63	-19.52	-418.53	0.00	0.00	0.00
2,200.00	16.60	182.67	2,140.55	-447.17	-20.85	-447.06	0.00	0.00	0.00
2,300.00	16.60	182.67	2,236.38	-475.70	-22.18	-475.60	0.00	0.00	0.00
2,400.00	16.60	182.67	2,332.21	-504.24	-23.51	-504.13	0.00	0.00	0.00
2,500.00	16.60	182.67	2,428.05	-532.78	-24.85	-532.66	0.00	0.00	0.00
2,600.00	16.60	182.67	2,523.88	-561.32	-26.18	-561.19	0.00	0.00	0.00
2,700.00	16.60	182.67	2,619.71	-589.86	-27.51	-589.72	0.00	0.00	0.00
2,800.00	16.60	182.67	2,715.54	-618.39	-28.84	-618.25	0.00	0.00	0.00
2,900.00	16.60	182.67	2,811.38	-646.93	-30.17	-646.78	0.00	0.00	0.00
3,000.00	16.60	182.67	2,907.21	-675.47	-31.50	-675.31	0.00	0.00	0.00
3,100.00	16.60	182.67	3,003.04	-704.01	-32.83	-703.84	0.00	0.00	0.00
3,200.00	16.60	182.67	3,098.87	-732.55	-34.16	-732.38	0.00	0.00	0.00
3,300.00	16.60	182.67	3,194.70	-761.08	-35.49	-760.91	0.00	0.00	0.00
3,400.00	16.60	182.67	3,290.54	-789.62	-36.82	-789.44	0.00	0.00	0.00
3,500.00	16.60	182.67	3,386.37	-818.16	-38.15	-817.97	0.00	0.00	0.00
3,600.00	16.60	182.67	3,482.20	-846.70	-39.48	-846.50	0.00	0.00	0.00
3,700.00	16.60	182.67	3,578.03	-875.23	-40.82	-875.03	0.00	0.00	0.00
3,800.00	16.60	182.67	3,673.87	-903.77	-42.15	-903.56	0.00	0.00	0.00
3,900.00	16.60	182.67	3,769.70	-932.31	-43.48	-932.09	0.00	0.00	0.00
4,000.00	16.60	182.67	3,865.53	-960.85	-44.81	-960.63	0.00	0.00	0.00
4,100.00	16.60	182.67	3,961.36	-989.39	-46.14	-989.16	0.00	0.00	0.00
4,200.00	16.60	182.67	4,057.19	-1,017.92	-47.47	-1,017.69	0.00	0.00	0.00
4,300.00	16.60	182.67	4,153.03	-1,046.46	-48.80	-1,046.22	0.00	0.00	0.00
4,400.00	16.60	182.67	4,248.86	-1,075.00	-50.13	-1,074.75	0.00	0.00	0.00
4,500.00	16.60	182.67	4,344.69	-1,103.54	-51.46	-1,103.28	0.00	0.00	0.00
4,600.00	16.60	182.67	4,440.52	-1,132.07	-52.79	-1,131.81	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BOYD 2413-06H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Site:</b>	2N-64W-24 ARNOLD-BOYD PAD	<b>North Reference:</b>	True
<b>Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Design #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	16.60	182.67	4,536.36	-1,160.61	-54.12	-1,160.34	0.00	0.00	0.00
4,800.00	16.60	182.67	4,632.19	-1,189.15	-55.45	-1,188.88	0.00	0.00	0.00
4,900.00	16.60	182.67	4,728.02	-1,217.69	-56.79	-1,217.41	0.00	0.00	0.00
5,000.00	16.60	182.67	4,823.85	-1,246.23	-58.12	-1,245.94	0.00	0.00	0.00
5,100.00	16.60	182.67	4,919.69	-1,274.76	-59.45	-1,274.47	0.00	0.00	0.00
5,200.00	16.60	182.67	5,015.52	-1,303.30	-60.78	-1,303.00	0.00	0.00	0.00
5,300.00	16.60	182.67	5,111.35	-1,331.84	-62.11	-1,331.53	0.00	0.00	0.00
5,400.00	16.60	182.67	5,207.18	-1,360.38	-63.44	-1,360.06	0.00	0.00	0.00
5,500.00	16.60	182.67	5,303.01	-1,388.92	-64.77	-1,388.59	0.00	0.00	0.00
5,600.00	16.60	182.67	5,398.85	-1,417.45	-66.10	-1,417.13	0.00	0.00	0.00
5,700.00	16.60	182.67	5,494.68	-1,445.99	-67.43	-1,445.66	0.00	0.00	0.00
5,800.00	16.60	182.67	5,590.51	-1,474.53	-68.76	-1,474.19	0.00	0.00	0.00
5,900.00	16.60	182.67	5,686.34	-1,503.07	-70.09	-1,502.72	0.00	0.00	0.00
6,000.00	16.60	182.67	5,782.18	-1,531.60	-71.42	-1,531.25	0.00	0.00	0.00
6,100.00	16.60	182.67	5,878.01	-1,560.14	-72.76	-1,559.78	0.00	0.00	0.00
6,208.35	16.60	182.67	5,981.84	-1,591.06	-74.20	-1,590.70	0.00	0.00	0.00
<b>KOP @ 6208.35ft :: DLS = 9°/100'</b>									
6,250.00	12.86	183.57	6,022.12	-1,601.64	-74.76	-1,601.26	9.00	-8.98	2.16
6,300.00	8.37	185.69	6,071.25	-1,610.82	-75.47	-1,610.44	9.00	-8.97	4.24
6,350.00	3.93	192.59	6,120.95	-1,616.11	-76.21	-1,615.74	9.00	-8.89	13.80
6,400.00	1.10	307.21	6,170.91	-1,617.49	-76.96	-1,617.11	9.00	-5.65	229.25
6,450.00	5.24	350.15	6,220.83	-1,614.95	-77.74	-1,614.57	9.00	8.28	85.88
6,500.00	9.71	354.61	6,270.39	-1,608.50	-78.52	-1,608.11	9.00	8.93	8.92
6,550.00	14.20	356.27	6,319.29	-1,598.18	-79.32	-1,597.78	9.00	8.97	3.32
6,600.00	18.69	357.15	6,367.24	-1,584.05	-80.12	-1,583.65	9.00	8.99	1.75
6,650.00	23.19	357.69	6,413.92	-1,566.20	-80.91	-1,565.80	9.00	8.99	1.09
6,700.00	27.68	358.06	6,459.06	-1,544.75	-81.70	-1,544.35	9.00	8.99	0.75
6,750.00	32.18	358.34	6,502.38	-1,519.82	-82.48	-1,519.41	9.00	9.00	0.55
6,800.00	36.68	358.56	6,543.61	-1,491.56	-83.24	-1,491.16	9.00	9.00	0.43
6,850.00	41.18	358.73	6,582.50	-1,460.16	-83.98	-1,459.75	9.00	9.00	0.35
6,900.00	45.68	358.88	6,618.80	-1,425.81	-84.70	-1,425.39	9.00	9.00	0.29
6,950.00	50.18	359.00	6,652.30	-1,388.71	-85.38	-1,388.29	9.00	9.00	0.25
7,000.00	54.68	359.11	6,682.78	-1,349.10	-86.03	-1,348.68	9.00	9.00	0.22
7,050.00	59.17	359.21	6,710.06	-1,307.21	-86.64	-1,306.79	9.00	9.00	0.20
7,100.00	63.67	359.30	6,733.97	-1,263.32	-87.21	-1,262.89	9.00	9.00	0.18
7,150.00	68.17	359.38	6,754.36	-1,217.68	-87.74	-1,217.26	9.00	9.00	0.17
7,200.00	72.67	359.46	6,771.11	-1,170.59	-88.21	-1,170.16	9.00	9.00	0.15
7,250.00	77.17	359.53	6,784.11	-1,122.32	-88.63	-1,121.89	9.00	9.00	0.15
7,300.00	81.67	359.61	6,793.29	-1,073.19	-89.00	-1,072.76	9.00	9.00	0.14
7,350.00	86.17	359.67	6,798.58	-1,023.48	-89.32	-1,023.05	9.00	9.00	0.14
7,392.55	90.00	359.73	6,800.00	-980.97	-89.54	-980.54	9.00	9.00	0.14
<b>TPZ @ 7392.55ft</b>									
7,400.00	90.00	359.73	6,800.00	-973.51	-89.57	-973.08	0.00	0.00	0.00
7,500.00	90.00	359.73	6,800.00	-873.52	-90.04	-873.08	0.00	0.00	0.00
7,600.00	90.00	359.73	6,800.00	-773.52	-90.50	-773.08	0.00	0.00	0.00
7,700.00	90.00	359.73	6,800.00	-673.52	-90.97	-673.08	0.00	0.00	0.00
7,800.00	90.00	359.73	6,800.00	-573.52	-91.43	-573.08	0.00	0.00	0.00
7,900.00	90.00	359.73	6,800.00	-473.52	-91.90	-473.08	0.00	0.00	0.00
8,000.00	90.00	359.73	6,800.00	-373.52	-92.36	-373.08	0.00	0.00	0.00
8,100.00	90.00	359.73	6,800.00	-273.52	-92.83	-273.08	0.00	0.00	0.00
8,200.00	90.00	359.73	6,800.00	-173.52	-93.30	-173.08	0.00	0.00	0.00
8,300.00	90.00	359.73	6,800.00	-73.52	-93.76	-73.08	0.00	0.00	0.00
8,400.00	90.00	359.73	6,800.00	26.47	-94.23	26.92	0.00	0.00	0.00
8,500.00	90.00	359.73	6,800.00	126.47	-94.69	126.92	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BOYD 2413-06H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Site:</b>	2N-64W-24 ARNOLD-BOYD PAD	<b>North Reference:</b>	True
<b>Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Design #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)	
8,600.00	90.00	359.73	6,800.00	226.47	-95.16	226.92	0.00	0.00	0.00	
8,700.00	90.00	359.73	6,800.00	326.47	-95.62	326.92	0.00	0.00	0.00	
8,800.00	90.00	359.73	6,800.00	426.47	-96.09	426.92	0.00	0.00	0.00	
8,900.00	90.00	359.73	6,800.00	526.47	-96.56	526.92	0.00	0.00	0.00	
9,000.00	90.00	359.73	6,800.00	626.47	-97.02	626.92	0.00	0.00	0.00	
9,100.00	90.00	359.73	6,800.00	726.47	-97.49	726.92	0.00	0.00	0.00	
9,200.00	90.00	359.73	6,800.00	826.47	-97.95	826.92	0.00	0.00	0.00	
9,300.00	90.00	359.73	6,800.00	926.46	-98.42	926.92	0.00	0.00	0.00	
9,400.00	90.00	359.73	6,800.00	1,026.46	-98.88	1,026.92	0.00	0.00	0.00	
9,500.00	90.00	359.73	6,800.00	1,126.46	-99.35	1,126.92	0.00	0.00	0.00	
9,600.00	90.00	359.73	6,800.00	1,226.46	-99.82	1,226.92	0.00	0.00	0.00	
9,700.00	90.00	359.73	6,800.00	1,326.46	-100.28	1,326.92	0.00	0.00	0.00	
9,800.00	90.00	359.73	6,800.00	1,426.46	-100.75	1,426.92	0.00	0.00	0.00	
9,900.00	90.00	359.73	6,800.00	1,526.46	-101.21	1,526.92	0.00	0.00	0.00	
10,000.00	90.00	359.73	6,800.00	1,626.46	-101.68	1,626.92	0.00	0.00	0.00	
10,100.00	90.00	359.73	6,800.00	1,726.46	-102.14	1,726.92	0.00	0.00	0.00	
10,200.00	90.00	359.73	6,800.00	1,826.46	-102.61	1,826.92	0.00	0.00	0.00	
10,300.00	90.00	359.73	6,800.00	1,926.45	-103.08	1,926.92	0.00	0.00	0.00	
10,400.00	90.00	359.73	6,800.00	2,026.45	-103.54	2,026.92	0.00	0.00	0.00	
10,500.00	90.00	359.73	6,800.00	2,126.45	-104.01	2,126.92	0.00	0.00	0.00	
10,600.00	90.00	359.73	6,800.00	2,226.45	-104.47	2,226.92	0.00	0.00	0.00	
10,700.00	90.00	359.73	6,800.00	2,326.45	-104.94	2,326.92	0.00	0.00	0.00	
10,800.00	90.00	359.73	6,800.00	2,426.45	-105.40	2,426.92	0.00	0.00	0.00	
10,900.00	90.00	359.73	6,800.00	2,526.45	-105.87	2,526.92	0.00	0.00	0.00	
11,000.00	90.00	359.73	6,800.00	2,626.45	-106.34	2,626.92	0.00	0.00	0.00	
11,100.00	90.00	359.73	6,800.00	2,726.45	-106.80	2,726.92	0.00	0.00	0.00	
11,200.00	90.00	359.73	6,800.00	2,826.44	-107.27	2,826.92	0.00	0.00	0.00	
11,300.00	90.00	359.73	6,800.00	2,926.44	-107.73	2,926.92	0.00	0.00	0.00	
11,400.00	90.00	359.73	6,800.00	3,026.44	-108.20	3,026.92	0.00	0.00	0.00	
11,500.00	90.00	359.73	6,800.00	3,126.44	-108.66	3,126.92	0.00	0.00	0.00	
11,600.00	90.00	359.73	6,800.00	3,226.44	-109.13	3,226.92	0.00	0.00	0.00	
11,700.00	90.00	359.73	6,800.00	3,326.44	-109.60	3,326.92	0.00	0.00	0.00	
11,800.00	90.00	359.73	6,800.00	3,426.44	-110.06	3,426.92	0.00	0.00	0.00	
11,900.00	90.00	359.73	6,800.00	3,526.44	-110.53	3,526.92	0.00	0.00	0.00	
12,000.00	90.00	359.73	6,800.00	3,626.44	-110.99	3,626.92	0.00	0.00	0.00	
12,100.00	90.00	359.73	6,800.00	3,726.43	-111.46	3,726.92	0.00	0.00	0.00	
12,200.00	90.00	359.73	6,800.00	3,826.43	-111.92	3,826.92	0.00	0.00	0.00	
12,300.00	90.00	359.73	6,800.00	3,926.43	-112.39	3,926.92	0.00	0.00	0.00	
12,400.00	90.00	359.73	6,800.00	4,026.43	-112.86	4,026.92	0.00	0.00	0.00	
12,500.00	90.00	359.73	6,800.00	4,126.43	-113.32	4,126.92	0.00	0.00	0.00	
12,600.00	90.00	359.73	6,800.00	4,226.43	-113.79	4,226.92	0.00	0.00	0.00	
12,700.00	90.00	359.73	6,800.00	4,326.43	-114.25	4,326.92	0.00	0.00	0.00	
12,800.00	90.00	359.73	6,800.00	4,426.43	-114.72	4,426.92	0.00	0.00	0.00	
12,900.00	90.00	359.73	6,800.00	4,526.43	-115.18	4,526.92	0.00	0.00	0.00	
13,000.00	90.00	359.73	6,800.00	4,626.42	-115.65	4,626.92	0.00	0.00	0.00	
13,100.00	90.00	359.73	6,800.00	4,726.42	-116.12	4,726.92	0.00	0.00	0.00	
13,200.00	90.00	359.73	6,800.00	4,826.42	-116.58	4,826.92	0.00	0.00	0.00	
13,300.00	90.00	359.73	6,800.00	4,926.42	-117.05	4,926.92	0.00	0.00	0.00	
13,400.00	90.00	359.73	6,800.00	5,026.42	-117.51	5,026.92	0.00	0.00	0.00	
13,500.00	90.00	359.73	6,800.00	5,126.42	-117.98	5,126.92	0.00	0.00	0.00	
13,600.00	90.00	359.73	6,800.00	5,226.42	-118.44	5,226.92	0.00	0.00	0.00	
13,700.00	90.00	359.73	6,800.00	5,326.42	-118.91	5,326.92	0.00	0.00	0.00	
13,800.00	90.00	359.73	6,800.00	5,426.42	-119.38	5,426.92	0.00	0.00	0.00	
13,900.00	90.00	359.73	6,800.00	5,526.41	-119.84	5,526.92	0.00	0.00	0.00	

## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BOYD 2413-06H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Site:</b>	2N-64W-24 ARNOLD-BOYD PAD	<b>North Reference:</b>	True
<b>Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Design #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)	
14,000.00	90.00	359.73	6,800.00	5,626.41	-120.31	5,626.92	0.00	0.00	0.00	
14,100.00	90.00	359.73	6,800.00	5,726.41	-120.77	5,726.92	0.00	0.00	0.00	
14,200.00	90.00	359.73	6,800.00	5,826.41	-121.24	5,826.92	0.00	0.00	0.00	
14,300.00	90.00	359.73	6,800.00	5,926.41	-121.70	5,926.92	0.00	0.00	0.00	
14,400.00	90.00	359.73	6,800.00	6,026.41	-122.17	6,026.92	0.00	0.00	0.00	
14,500.00	90.00	359.73	6,800.00	6,126.41	-122.64	6,126.92	0.00	0.00	0.00	
14,600.00	90.00	359.73	6,800.00	6,226.41	-123.10	6,226.92	0.00	0.00	0.00	
14,700.00	90.00	359.73	6,800.00	6,326.41	-123.57	6,326.92	0.00	0.00	0.00	
14,800.00	90.00	359.73	6,800.00	6,426.41	-124.03	6,426.92	0.00	0.00	0.00	
14,900.00	90.00	359.73	6,800.00	6,526.40	-124.50	6,526.92	0.00	0.00	0.00	
15,000.00	90.00	359.73	6,800.00	6,626.40	-124.96	6,626.92	0.00	0.00	0.00	
15,100.00	90.00	359.73	6,800.00	6,726.40	-125.43	6,726.92	0.00	0.00	0.00	
15,200.00	90.00	359.73	6,800.00	6,826.40	-125.90	6,826.92	0.00	0.00	0.00	
15,300.00	90.00	359.73	6,800.00	6,926.40	-126.36	6,926.92	0.00	0.00	0.00	
15,400.00	90.00	359.73	6,800.00	7,026.40	-126.83	7,026.92	0.00	0.00	0.00	
15,500.00	90.00	359.73	6,800.00	7,126.40	-127.29	7,126.92	0.00	0.00	0.00	
15,600.00	90.00	359.73	6,800.00	7,226.40	-127.76	7,226.92	0.00	0.00	0.00	
15,700.00	90.00	359.73	6,800.00	7,326.40	-128.22	7,326.92	0.00	0.00	0.00	
15,800.00	90.00	359.73	6,800.00	7,426.39	-128.69	7,426.92	0.00	0.00	0.00	
15,900.00	90.00	359.73	6,800.00	7,526.39	-129.16	7,526.92	0.00	0.00	0.00	
16,000.00	90.00	359.73	6,800.00	7,626.39	-129.62	7,626.92	0.00	0.00	0.00	
16,100.00	90.00	359.73	6,800.00	7,726.39	-130.09	7,726.92	0.00	0.00	0.00	
16,200.00	90.00	359.73	6,800.00	7,826.39	-130.55	7,826.92	0.00	0.00	0.00	
16,300.00	90.00	359.73	6,800.00	7,926.39	-131.02	7,926.92	0.00	0.00	0.00	
16,400.00	90.00	359.73	6,800.00	8,026.39	-131.48	8,026.92	0.00	0.00	0.00	
16,500.00	90.00	359.73	6,800.00	8,126.39	-131.95	8,126.92	0.00	0.00	0.00	
16,600.00	90.00	359.73	6,800.00	8,226.39	-132.42	8,226.92	0.00	0.00	0.00	
16,700.00	90.00	359.73	6,800.00	8,326.38	-132.88	8,326.92	0.00	0.00	0.00	
16,800.00	90.00	359.73	6,800.00	8,426.38	-133.35	8,426.92	0.00	0.00	0.00	
16,900.00	90.00	359.73	6,800.00	8,526.38	-133.81	8,526.92	0.00	0.00	0.00	
17,000.00	90.00	359.73	6,800.00	8,626.38	-134.28	8,626.92	0.00	0.00	0.00	
17,010.70	90.00	359.73	6,800.00	8,637.08	-134.33	8,637.62	0.00	0.00	0.00	
BPZ @ 17010.70ft										
17,100.67	90.00	359.73	6,800.00	8,727.05	-134.75	8,727.59	0.00	0.00	0.00	
TD Well @ 17100.67ft										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,984.47	1,934.00	9 5/8"		9-5/8	13-1/2



## Planning Report

<b>Database:</b>	EDM 5000.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BOYD 2413-06H
<b>Company:</b>	VERDAD RESOURCES	<b>TVD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Project:</b>	WATTENBERG FIELD	<b>MD Reference:</b>	RKB = 20' @ 4944.00usft (Drilling Rig)
<b>Site:</b>	2N-64W-24 ARNOLD-BOYD PAD	<b>North Reference:</b>	True
<b>Well:</b>	BOYD 2413-06H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
221.00	221.00	0.00	0.00	Begin Nudge @ 221.00ft
1,051.00	1,039.44	-119.27	-5.56	Hold Tangent @ 1051.00ft
6,208.35	5,981.84	-1,591.06	-74.20	KOP @ 6208.35ft :: DLS = 9°/100'
7,392.55	6,800.00	-980.97	-89.54	TPZ @ 7392.55ft
17,010.70	6,800.00	8,637.08	-134.33	BPZ @ 17010.70ft
17,100.67	6,800.00	8,727.05	-134.75	TD Well @ 17100.67ft