



# **Ursa Operating Company, LLC**

**Rockies Region**

**B&V**

**B&V 33B-07-07-95**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**05 March, 2015**



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well B&V 33B-07-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	B&V 33B-07-07-95 @ 5101.0usft (Capstar 321)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	B&V 33B-07-07-95 @ 5101.0usft (Capstar 321)
<b>Site:</b>	B&V	<b>North Reference:</b>	True
<b>Well:</b>	B&V 33B-07-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

<b>Project</b>	Rockies Region		
<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 Central Zone		

<b>Site</b>	B&V				
<b>Site Position:</b>	<b>Northing:</b>	1,598,935.06 usft	<b>Latitude:</b>	39° 27' 0.591 N	
<b>From:</b> Lat/Long	<b>Easting:</b>	2,280,801.73 usft	<b>Longitude:</b>	108° 2' 49.963 W	
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-1.61 °

<b>Well</b>	B&V 33B-07-07-95, SHL: 39.450408459 -108.046818115					
<b>Well Position</b>	<b>+N/-S</b>	89.0 usft	<b>Northing:</b>	1,599,020.89 usft	<b>Latitude:</b>	39° 27' 1.470 N
	<b>+E/-W</b>	111.2 usft	<b>Easting:</b>	2,280,915.39 usft	<b>Longitude:</b>	108° 2' 48.545 W
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	5,101.0 usft	<b>Ground Level:</b>	5,084.0 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>
	IGRF2010	3/5/2015	9.89	65.59	51,851

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	84.20

<b>Plan Sections</b>										
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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,253.8	36.88	84.20	1,182.5	33.1	326.0	3.50	3.50	0.00	84.20	
4,484.3	36.88	84.20	3,766.5	229.2	2,254.9	0.00	0.00	0.00	0.00	
5,538.1	0.00	0.00	4,749.0	262.4	2,580.9	3.50	-3.50	0.00	180.00	B&V 33B-07-07-95
7,192.1	0.00	0.00	6,403.0	262.4	2,580.9	0.00	0.00	0.00	0.00	

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well B&V 33B-07-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	B&V 33B-07-07-95 @ 5101.0usft (Capstar 321)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	B&V 33B-07-07-95 @ 5101.0usft (Capstar 321)
<b>Site:</b>	B&V	<b>North Reference:</b>	True
<b>Well:</b>	B&V 33B-07-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
<b>Start Build 3.50</b>										
300.0	3.50	84.20	299.9	0.3	3.0	3.1	3.50	3.50	0.00	0.00
400.0	7.00	84.20	399.5	1.2	12.1	12.2	3.50	3.50	0.00	0.00
500.0	10.50	84.20	498.3	2.8	27.3	27.4	3.50	3.50	0.00	0.00
600.0	14.00	84.20	596.0	4.9	48.4	48.6	3.50	3.50	0.00	0.00
700.0	17.50	84.20	692.3	7.7	75.4	75.8	3.50	3.50	0.00	0.00
800.0	21.00	84.20	786.7	11.0	108.2	108.7	3.50	3.50	0.00	0.00
900.0	24.50	84.20	878.9	14.9	146.6	147.4	3.50	3.50	0.00	0.00
1,000.0	28.00	84.20	968.5	19.4	190.6	191.6	3.50	3.50	0.00	0.00
1,100.0	31.50	84.20	1,055.3	24.4	240.0	241.2	3.50	3.50	0.00	0.00
1,200.0	35.00	84.20	1,139.0	29.9	294.5	296.1	3.50	3.50	0.00	0.00
1,253.8	36.88	84.20	1,182.5	33.1	326.0	327.6	3.50	3.50	0.00	0.00
<b>Start 3230.5 hold at 1253.8 MD</b>										
1,300.0	36.88	84.20	1,219.5	35.9	353.5	355.4	0.00	0.00	0.00	0.00
1,400.0	36.88	84.20	1,299.5	42.0	413.2	415.4	0.00	0.00	0.00	0.00
1,500.0	36.88	84.20	1,379.4	48.1	473.0	475.4	0.00	0.00	0.00	0.00
1,600.0	36.88	84.20	1,459.4	54.1	532.7	535.4	0.00	0.00	0.00	0.00
1,700.0	36.88	84.20	1,539.4	60.2	592.4	595.4	0.00	0.00	0.00	0.00
1,800.0	36.88	84.20	1,619.4	66.3	652.1	655.5	0.00	0.00	0.00	0.00
1,900.0	36.88	84.20	1,699.4	72.4	711.8	715.5	0.00	0.00	0.00	0.00
1,900.8	36.88	84.20	1,700.0	72.4	712.3	715.9	0.00	0.00	0.00	0.00
<b>Surface Casing</b>										
2,000.0	36.88	84.20	1,779.4	78.4	771.5	775.5	0.00	0.00	0.00	0.00
2,100.0	36.88	84.20	1,859.4	84.5	831.2	835.5	0.00	0.00	0.00	0.00
2,200.0	36.88	84.20	1,939.3	90.6	890.9	895.5	0.00	0.00	0.00	0.00
2,300.0	36.88	84.20	2,019.3	96.6	950.7	955.5	0.00	0.00	0.00	0.00
2,400.0	36.88	84.20	2,099.3	102.7	1,010.4	1,015.6	0.00	0.00	0.00	0.00
2,500.0	36.88	84.20	2,179.3	108.8	1,070.1	1,075.6	0.00	0.00	0.00	0.00
2,600.0	36.88	84.20	2,259.3	114.9	1,129.8	1,135.6	0.00	0.00	0.00	0.00
2,700.0	36.88	84.20	2,339.3	120.9	1,189.5	1,195.6	0.00	0.00	0.00	0.00
2,800.0	36.88	84.20	2,419.3	127.0	1,249.2	1,255.6	0.00	0.00	0.00	0.00
2,900.0	36.88	84.20	2,499.2	133.1	1,308.9	1,315.7	0.00	0.00	0.00	0.00
3,000.0	36.88	84.20	2,579.2	139.1	1,368.6	1,375.7	0.00	0.00	0.00	0.00
3,100.0	36.88	84.20	2,659.2	145.2	1,428.3	1,435.7	0.00	0.00	0.00	0.00
3,200.0	36.88	84.20	2,739.2	151.3	1,488.1	1,495.7	0.00	0.00	0.00	0.00
3,300.0	36.88	84.20	2,819.2	157.3	1,547.8	1,555.7	0.00	0.00	0.00	0.00
3,400.0	36.88	84.20	2,899.2	163.4	1,607.5	1,615.8	0.00	0.00	0.00	0.00
3,500.0	36.88	84.20	2,979.2	169.5	1,667.2	1,675.8	0.00	0.00	0.00	0.00
3,600.0	36.88	84.20	3,059.1	175.6	1,726.9	1,735.8	0.00	0.00	0.00	0.00
3,666.1	36.88	84.20	3,112.0	179.6	1,766.4	1,775.5	0.00	0.00	0.00	0.00
<b>Williams Fork</b>										
3,700.0	36.88	84.20	3,139.1	181.6	1,786.6	1,795.8	0.00	0.00	0.00	0.00
3,800.0	36.88	84.20	3,219.1	187.7	1,846.3	1,855.8	0.00	0.00	0.00	0.00
3,900.0	36.88	84.20	3,299.1	193.8	1,906.0	1,915.9	0.00	0.00	0.00	0.00
4,000.0	36.88	84.20	3,379.1	199.8	1,965.7	1,975.9	0.00	0.00	0.00	0.00
4,100.0	36.88	84.20	3,459.1	205.9	2,025.5	2,035.9	0.00	0.00	0.00	0.00
4,200.0	36.88	84.20	3,539.0	212.0	2,085.2	2,095.9	0.00	0.00	0.00	0.00
4,300.0	36.88	84.20	3,619.0	218.0	2,144.9	2,155.9	0.00	0.00	0.00	0.00
4,400.0	36.88	84.20	3,699.0	224.1	2,204.6	2,216.0	0.00	0.00	0.00	0.00

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	B&V 33B-07-07-95 @ 5101.0usft (Capstar 321)
<b>Site:</b>	B&V	<b>North Reference:</b>	True
<b>Well:</b>	B&V 33B-07-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<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)	
4,484.3	36.88	84.20	3,766.5	229.2	2,254.9	2,266.6	0.00	0.00	0.00	
<b>Start Drop -3.50</b>										
4,500.0	36.34	84.20	3,779.1	230.2	2,264.2	2,275.9	3.50	-3.50	0.00	
4,600.0	32.84	84.20	3,861.4	235.9	2,320.7	2,332.7	3.50	-3.50	0.00	
4,700.0	29.34	84.20	3,947.0	241.1	2,372.1	2,384.3	3.50	-3.50	0.00	
4,800.0	25.84	84.20	4,035.6	245.8	2,418.1	2,430.6	3.50	-3.50	0.00	
4,900.0	22.34	84.20	4,126.9	249.9	2,458.7	2,471.4	3.50	-3.50	0.00	
4,950.6	20.56	84.20	4,174.0	251.8	2,477.1	2,489.9	3.50	-3.50	0.00	
<b>Top of Gas</b>										
5,000.0	18.84	84.20	4,220.5	253.5	2,493.7	2,506.5	3.50	-3.50	0.00	
5,100.0	15.34	84.20	4,316.1	256.5	2,522.9	2,535.9	3.50	-3.50	0.00	
5,200.0	11.84	84.20	4,413.3	258.8	2,546.3	2,559.4	3.50	-3.50	0.00	
5,300.0	8.34	84.20	4,511.7	260.6	2,563.7	2,576.9	3.50	-3.50	0.00	
5,400.0	4.84	84.20	4,611.0	261.8	2,575.1	2,588.4	3.50	-3.50	0.00	
5,500.0	1.34	84.20	4,710.9	262.3	2,580.5	2,593.8	3.50	-3.50	0.00	
5,538.1	0.00	0.00	4,749.0	262.4	2,580.9	2,594.2	3.50	-3.50	0.00	
<b>Back to Vertical - Start 1654.0 hold at 5538.1 MD</b>										
5,600.0	0.00	0.00	4,810.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
5,700.0	0.00	0.00	4,910.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,010.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,110.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,210.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,310.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,200.0	0.00	0.00	5,410.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	5,510.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,368.1	0.00	0.00	5,579.0	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
<b>Cameo</b>										
6,400.0	0.00	0.00	5,610.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	5,710.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	5,810.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	5,910.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,010.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
6,892.1	0.00	0.00	6,103.0	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
<b>Rolins</b>										
6,900.0	0.00	0.00	6,110.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,210.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,310.9	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
7,192.1	0.00	0.00	6,403.0	262.4	2,580.9	2,594.2	0.00	0.00	0.00	
<b>TD at 7192.1 - TD</b>										

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	B&V 33B-07-07-95 @ 5101.0usft (Capstar 321)
<b>Site:</b>	B&V	<b>North Reference:</b>	True
<b>Well:</b>	B&V 33B-07-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
B&V 33B-07-07-95 TGT	0.00	0.00	4,174.0	262.4	2,580.9	1,599,210.81	2,283,502.63	39° 27' 4.062 N	108° 2' 15.642 W
- plan misses target center by 98.0usft at 4985.8usft MD (4207.1 TVD, 253.0 N, 2489.1 E)								39.4511284	108.0376783
- Rectangle (sides W100.0 H40.0 D2,229.0)									
B&V 33B-07-07-95	0.00	0.00	4,749.0	262.4	2,580.9	1,599,210.81	2,283,502.63	39° 27' 4.062 N	108° 2' 15.642 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,666.1	3,112.0	Williams Fork		0.00		
4,950.6	4,174.0	Top of Gas		0.00		
6,368.1	5,579.0	Cameo		0.00		
6,892.1	6,103.0	Rolins		0.00		
7,192.1	6,403.0	TD		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
200.0	200.0	0.0	0.0	Start Build 3.50	
1,253.8	1,182.5	33.1	326.0	Start 3230.5 hold at 1253.8 MD	
1,900.8	1,700.0	72.4	712.3	Surface Casing	
4,484.3	3,766.5	229.2	2,254.9	Start Drop -3.50	
5,538.1	4,749.0	262.4	2,580.9	Back to Vertical	
5,538.1	4,749.0	262.4	2,580.9	Start 1654.0 hold at 5538.1 MD	
7,192.1	6,403.0	262.4	2,580.9	TD at 7192.1	



Well Name: B&V 33B-07-95  
 Surface Location: B&V  
 North American Datum 1983, US State Plane 1983, Colorado Central Zone  
 Ground Elevation: 5084.0  
 +N/-S +E/-W Northing Easting Latitude Longitude  
 0.0 0.0 1599020.89 2280915.39 39° 27' 1.470 N 108° 2' 48.545 W  
 Capstar 321 B&V 33B-07-07-95 @ 5101.0usft (Capstar 321)



Azimuths to True North  
 Magnetic North: 9.89°  
 Magnetic Field  
 Strength: 51850.7snT  
 Dip Angle: 65.59°  
 Date: 3/5/2015  
 Model: IGRF2010

B&V  
 B&V 33B-07-07-95  
 Design #1  
 14:00, March 05 2015

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
B&V 33B-07-07-95 TGT	4174.0	262.4	2580.9	1599210.81	2283502.63	39° 27' 4.062 N	108° 2' 15.642 W	Rectangle (Sides: L40.0 W100.0)
B&V 33B-07-07-95	4749.0	262.4	2580.9	1599210.81	2283502.63	39° 27' 4.062 N	108° 2' 15.642 W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	1182.5	36.88	84.20	1182.5	33.1	326.0	3.50	84.20	327.6	
4	4484.3	36.88	84.20	3766.5	229.2	2254.9	0.00	0.00	2266.6	
5	5538.1	0.00	0.00	4749.0	262.4	2580.9	3.50	180.00	2594.2	B&V 33B-07-07-95
6	7192.1	0.00	0.00	6403.0	262.4	2580.9	0.00	0.00	2594.2	

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
1182.5	1253.8	Start 3230.5 hold at 1253.8 MD
1700.0	1900.8	Surface Casing
3766.5	4484.3	Start Drop -3.50
4749.0	5538.1	Back to Vertical
4749.0	5538.1	Start 1654.0 hold at 5538.1 MD
6403.0	7192.1	TD at 7192.1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3112.0	3666.1	Williams Fork	0.00	
4174.0	4950.6	Top of Gas	0.00	
5579.0	6368.1	Cameo	0.00	
6103.0	6892.1	Rolins	0.00	

