



Ursa Operating Company, LLC

Rockies Region

B&V

B&V 33D-07-07-95

Wellbore #1

Plan: Design #1

Standard Planning Report

05 March, 2015



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

Project	Rockies Region		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

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

Well	B&V 33D-07-07-95, SHL: 39.450374167 -108.046873386					
Well Position	+N/-S	76.5 usft	Northing:	1,599,008.84 usft	Latitude:	39° 27' 1.347 N
	+E/-W	95.6 usft	Easting:	2,280,899.43 usft	Longitude:	108° 2' 48.744 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,101.0 usft	Ground Level:	5,084.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/5/2015	9.89	65.59	51,851

Design	Design #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	98.39	

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
0.0	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	
1,281.8	37.86	98.39	1,204.7	-50.3	340.9	3.50	3.50	0.00	98.39	
4,455.4	37.86	98.39	3,710.3	-334.5	2,267.9	0.00	0.00	0.00	0.00	
5,537.1	0.00	0.00	4,715.0	-384.8	2,608.8	3.50	-3.50	0.00	180.00	B&V 33D-07-07-95
7,191.1	0.00	0.00	6,369.0	-384.8	2,608.8	0.00	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well B&V 33D-07-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	B&V 33D-07-07-95 @ 5101.0usft (Capstar 321)
Project:	Rockies Region	MD Reference:	B&V 33D-07-07-95 @ 5101.0usft (Capstar 321)
Site:	B&V	North Reference:	True
Well:	B&V 33D-07-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
100.0	0.00	0.00	100.0	0.0	0.0	0.0	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
Start Build 3.50									
300.0	3.50	98.39	299.9	-0.4	3.0	3.1	3.50	3.50	0.00
400.0	7.00	98.39	399.5	-1.8	12.1	12.2	3.50	3.50	0.00
500.0	10.50	98.39	498.3	-4.0	27.1	27.4	3.50	3.50	0.00
600.0	14.00	98.39	596.0	-7.1	48.1	48.6	3.50	3.50	0.00
700.0	17.50	98.39	692.3	-11.1	75.0	75.8	3.50	3.50	0.00
800.0	21.00	98.39	786.7	-15.9	107.6	108.7	3.50	3.50	0.00
900.0	24.50	98.39	878.9	-21.5	145.8	147.4	3.50	3.50	0.00
1,000.0	28.00	98.39	968.5	-28.0	189.6	191.6	3.50	3.50	0.00
1,100.0	31.50	98.39	1,055.3	-35.2	238.6	241.2	3.50	3.50	0.00
1,200.0	35.00	98.39	1,139.0	-43.2	292.9	296.1	3.50	3.50	0.00
1,281.8	37.86	98.39	1,204.7	-50.3	340.9	344.6	3.50	3.50	0.00
Start 3173.6 hold at 1281.8 MD									
1,300.0	37.86	98.39	1,219.1	-51.9	352.0	355.8	0.00	0.00	0.00
1,400.0	37.86	98.39	1,298.1	-60.9	412.7	417.2	0.00	0.00	0.00
1,500.0	37.86	98.39	1,377.0	-69.8	473.4	478.5	0.00	0.00	0.00
1,600.0	37.86	98.39	1,456.0	-78.8	534.1	539.9	0.00	0.00	0.00
1,700.0	37.86	98.39	1,534.9	-87.7	594.9	601.3	0.00	0.00	0.00
1,800.0	37.86	98.39	1,613.9	-96.7	655.6	662.7	0.00	0.00	0.00
1,900.0	37.86	98.39	1,692.8	-105.6	716.3	724.1	0.00	0.00	0.00
1,909.1	37.86	98.39	1,700.0	-106.5	721.8	729.6	0.00	0.00	0.00
Surface Casing									
2,000.0	37.86	98.39	1,771.8	-114.6	777.0	785.4	0.00	0.00	0.00
2,100.0	37.86	98.39	1,850.7	-123.6	837.7	846.8	0.00	0.00	0.00
2,200.0	37.86	98.39	1,929.7	-132.5	898.5	908.2	0.00	0.00	0.00
2,300.0	37.86	98.39	2,008.6	-141.5	959.2	969.6	0.00	0.00	0.00
2,400.0	37.86	98.39	2,087.6	-150.4	1,019.9	1,030.9	0.00	0.00	0.00
2,500.0	37.86	98.39	2,166.5	-159.4	1,080.6	1,092.3	0.00	0.00	0.00
2,600.0	37.86	98.39	2,245.5	-168.3	1,141.3	1,153.7	0.00	0.00	0.00
2,700.0	37.86	98.39	2,324.4	-177.3	1,202.1	1,215.1	0.00	0.00	0.00
2,800.0	37.86	98.39	2,403.4	-186.2	1,262.8	1,276.4	0.00	0.00	0.00
2,900.0	37.86	98.39	2,482.3	-195.2	1,323.5	1,337.8	0.00	0.00	0.00
3,000.0	37.86	98.39	2,561.3	-204.2	1,384.2	1,399.2	0.00	0.00	0.00
3,100.0	37.86	98.39	2,640.2	-213.1	1,444.9	1,460.6	0.00	0.00	0.00
3,200.0	37.86	98.39	2,719.2	-222.1	1,505.7	1,521.9	0.00	0.00	0.00
3,300.0	37.86	98.39	2,798.1	-231.0	1,566.4	1,583.3	0.00	0.00	0.00
3,400.0	37.86	98.39	2,877.1	-240.0	1,627.1	1,644.7	0.00	0.00	0.00
3,500.0	37.86	98.39	2,956.0	-248.9	1,687.8	1,706.1	0.00	0.00	0.00
3,600.0	37.86	98.39	3,035.0	-257.9	1,748.5	1,767.5	0.00	0.00	0.00
3,654.5	37.86	98.39	3,078.0	-262.8	1,781.6	1,800.9	0.00	0.00	0.00
Williams Fork									
3,700.0	37.86	98.39	3,113.9	-266.8	1,809.3	1,828.8	0.00	0.00	0.00
3,800.0	37.86	98.39	3,192.9	-275.8	1,870.0	1,890.2	0.00	0.00	0.00
3,900.0	37.86	98.39	3,271.8	-284.8	1,930.7	1,951.6	0.00	0.00	0.00
4,000.0	37.86	98.39	3,350.8	-293.7	1,991.4	2,013.0	0.00	0.00	0.00
4,100.0	37.86	98.39	3,429.7	-302.7	2,052.1	2,074.3	0.00	0.00	0.00
4,200.0	37.86	98.39	3,508.7	-311.6	2,112.9	2,135.7	0.00	0.00	0.00
4,300.0	37.86	98.39	3,587.6	-320.6	2,173.6	2,197.1	0.00	0.00	0.00
4,400.0	37.86	98.39	3,666.5	-329.5	2,234.3	2,258.5	0.00	0.00	0.00

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Site:	B&V	North Reference:	True
Well:	B&V 33D-07-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
4,455.4	37.86	98.39	3,710.3	-334.5	2,267.9	2,292.4	0.00	0.00	0.00
Start Drop -3.50									
4,500.0	36.30	98.39	3,745.9	-338.4	2,294.5	2,319.4	3.50	-3.50	0.00
4,600.0	32.80	98.39	3,828.2	-346.7	2,350.6	2,376.1	3.50	-3.50	0.00
4,700.0	29.30	98.39	3,913.9	-354.2	2,401.7	2,427.6	3.50	-3.50	0.00
4,800.0	25.80	98.39	4,002.5	-361.0	2,447.4	2,473.9	3.50	-3.50	0.00
4,900.0	22.30	98.39	4,093.8	-366.9	2,487.7	2,514.6	3.50	-3.50	0.00
4,949.6	20.56	98.39	4,140.0	-369.6	2,505.6	2,532.7	3.50	-3.50	0.00
Top of Gas									
5,000.0	18.80	98.39	4,187.4	-372.0	2,522.4	2,549.7	3.50	-3.50	0.00
5,100.0	15.30	98.39	4,283.0	-376.3	2,551.4	2,579.0	3.50	-3.50	0.00
5,200.0	11.80	98.39	4,380.2	-379.7	2,574.6	2,602.5	3.50	-3.50	0.00
5,300.0	8.30	98.39	4,478.7	-382.3	2,591.9	2,619.9	3.50	-3.50	0.00
5,400.0	4.80	98.39	4,578.0	-383.9	2,603.2	2,631.3	3.50	-3.50	0.00
5,500.0	1.30	98.39	4,677.9	-384.7	2,608.4	2,636.6	3.50	-3.50	0.00
5,537.1	0.00	0.00	4,715.0	-384.8	2,608.8	2,637.1	3.50	-3.50	0.00
Back to Vertical - Start 1654.0 hold at 5537.1 MD									
5,600.0	0.00	0.00	4,777.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
5,700.0	0.00	0.00	4,877.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
5,800.0	0.00	0.00	4,977.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,077.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,177.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,100.0	0.00	0.00	5,277.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,200.0	0.00	0.00	5,377.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,300.0	0.00	0.00	5,477.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,367.1	0.00	0.00	5,545.0	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
Cameo									
6,400.0	0.00	0.00	5,577.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,500.0	0.00	0.00	5,677.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,600.0	0.00	0.00	5,777.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,700.0	0.00	0.00	5,877.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,800.0	0.00	0.00	5,977.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
6,891.1	0.00	0.00	6,069.0	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
Rollins									
6,900.0	0.00	0.00	6,077.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,177.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
7,100.0	0.00	0.00	6,277.9	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
7,191.1	0.00	0.00	6,369.0	-384.8	2,608.8	2,637.1	0.00	0.00	0.00
TD at 7191.1 - TD									

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

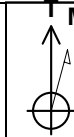
Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
B&V 33D-07-07-95 TG1	0.00	0.00	4,140.0	-384.8	2,608.8	1,598,551.09	2,283,496.46	39° 26' 57.543 N	108° 2' 15.486 W
- plan misses target center by 98.0usft at 4984.7usft MD (4173.0 TVD, -371.3 N, 2517.5 E)								39.4493174	108.0376349
- Rectangle (sides W100.0 H40.0 D2,229.0)									
B&V 33D-07-07-95	0.00	0.00	4,715.0	-384.8	2,608.8	1,598,551.09	2,283,496.46	39° 26' 57.543 N	108° 2' 15.486 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,654.5	3,078.0	Williams Fork		0.00		
4,949.6	4,140.0	Top of Gas		0.00		
6,367.1	5,545.0	Cameo		0.00		
6,891.1	6,069.0	Rollins		0.00		
7,191.1	6,369.0	TD		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
200.0	200.0	0.0	0.0	Start Build 3.50	
1,281.8	1,204.7	-50.3	340.9	Start 3173.6 hold at 1281.8 MD	
1,909.1	1,700.0	-106.5	721.8	Surface Casing	
4,455.4	3,710.3	-334.5	2,267.9	Start Drop -3.50	
5,537.1	4,715.0	-384.8	2,608.8	Back to Vertical	
5,537.1	4,715.0	-384.8	2,608.8	Start 1654.0 hold at 5537.1 MD	
7,191.1	6,369.0	-384.8	2,608.8	TD at 7191.1	



Well Name: B&V 33D-07-07-95
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 1599008.85 2280899.43 39° 27' 1.347 N 108° 2' 48.744 W
Capstar 321 B&V 33D-07-07-95 @ 5101.0usft (Capstar 321)



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

B&V
B&V 33D-07-07-95
Design #1
14:07, 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 33D-07-07-95 TGT	4140.0	-384.8	2608.8	1598551.10	2283496.46	39° 26' 57.543 N	108° 2' 15.486 W	Rectangle (Sides: L40.0 W100.0)
B&V 33D-07-07-95	4715.0	-384.8	2608.8	1598551.10	2283496.46	39° 26' 57.543 N	108° 2' 15.486 W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	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	1281.8	37.86	98.39	1204.7	-50.3	340.9	3.50	98.39	344.6	
4	4455.4	37.86	98.39	3710.3	-334.5	2267.9	0.00	0.00	2292.4	
5	5537.1	0.00	0.00	4715.0	-384.8	2608.8	3.50	180.00	2637.1	B&V 33D-07-07-95
6	7191.1	0.00	0.00	6369.0	-384.8	2608.8	0.00	0.00	2637.1	

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
1204.7	1281.8	Start 3173.6 hold at 1281.8 MD
1700.0	1909.1	Surface Casing
3710.3	4455.4	Start Drop -3.50
4715.0	5537.1	Back to Vertical
4715.0	5537.1	Start 1654.0 hold at 5537.1 MD
6369.0	7191.1	TD at 7191.1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3078.0	3654.5	Williams Fork	0.00	
4140.0	4949.6	Top of Gas	0.00	
5545.0	6367.1	Cameo	0.00	
6069.0	6891.1	Rollins	0.00	

