



# **Ursa Operating Company, LLC**

**Rockies Region**

**Monument Ridge B**

**Monument Ridge B 43D-08-07-95**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**12 June, 2015**



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Monument Ridge B 43D-08-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	Monument Ridge B 43D-08-07-95 @ 5718.8usft (PLAN KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	Monument Ridge B 43D-08-07-95 @ 5718.8usft (PLAN KB)
<b>Site:</b>	Monument Ridge B	<b>North Reference:</b>	True
<b>Well:</b>	Monument Ridge B 43D-08-07-95	<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		

Site		Monument Ridge B			
Site Position:		Northing:	1,596,716.55 usft	Latitude:	39° 26' 40.501 N
From:	Lat/Long	Easting:	2,287,433.43 usft	Longitude:	108° 1' 24.665 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.59 °

Well	Monument Ridge B 43D-08-07-95, SHL: 39.447654424 -108.012356016					
Well Position	+N/-S	1,118.7 usft	Northing:	1,597,747.23 usft	Latitude:	39° 26' 51.556 N
	+E/-W	3,152.1 usft	Easting:	2,290,615.40 usft	Longitude:	108° 0' 44.482 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,718.8 usft	Ground Level:	5,701.8 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	6/7/2015	9.84	65.59	51,823

<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	319.90	

<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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.2	10.51	319.90	598.5	21.0	-17.7	3.50	3.50	0.00	319.90	
4,535.0	10.51	319.90	4,467.3	569.8	-479.9	0.00	0.00	0.00	0.00	
4,835.1	0.00	0.00	4,765.8	590.7	-497.5	3.50	-3.50	0.00	180.00	Monument Ridge B 43D-08-07-95
7,137.1	0.00	0.00	7,067.8	590.7	-497.5	0.00	0.00	0.00	0.00	

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	Monument Ridge B 43D-08-07-95 @ 5718.8usft (PLAN KB)
<b>Site:</b>	Monument Ridge B	<b>North Reference:</b>	True
<b>Well:</b>	Monument Ridge B 43D-08-07-95	<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	
0.1	0.00	0.00	0.1	0.0	0.0	0.0	0.00	0.00	0.00	
<b>SHL: 39.447654424, -108.012356016</b>										
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	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>Start Build 3.50</b>										
400.0	3.50	319.90	399.9	2.3	-2.0	3.1	3.50	3.50	0.00	
500.0	7.00	319.90	499.5	9.3	-7.9	12.2	3.50	3.50	0.00	
600.2	10.51	319.90	598.5	21.0	-17.7	27.4	3.50	3.50	0.00	
<b>Start 3934.8 hold at 600.2 MD</b>										
700.0	10.51	319.90	696.6	34.9	-29.4	45.6	0.00	0.00	0.00	
800.0	10.51	319.90	795.0	48.9	-41.2	63.9	0.00	0.00	0.00	
900.0	10.51	319.90	893.3	62.8	-52.9	82.1	0.00	0.00	0.00	
1,000.0	10.51	319.90	991.6	76.8	-64.6	100.3	0.00	0.00	0.00	
1,100.0	10.51	319.90	1,089.9	90.7	-76.4	118.6	0.00	0.00	0.00	
1,200.0	10.51	319.90	1,188.3	104.6	-88.1	136.8	0.00	0.00	0.00	
1,300.0	10.51	319.90	1,286.6	118.6	-99.9	155.0	0.00	0.00	0.00	
1,400.0	10.51	319.90	1,384.9	132.5	-111.6	173.3	0.00	0.00	0.00	
1,500.0	10.51	319.90	1,483.2	146.5	-123.4	191.5	0.00	0.00	0.00	
1,600.0	10.51	319.90	1,581.6	160.4	-135.1	209.8	0.00	0.00	0.00	
1,700.0	10.51	319.90	1,679.9	174.4	-146.9	228.0	0.00	0.00	0.00	
1,720.5	10.51	319.90	1,700.0	177.2	-149.3	231.7	0.00	0.00	0.00	
<b>Surface Casing</b>										
1,800.0	10.51	319.90	1,778.2	188.3	-158.6	246.2	0.00	0.00	0.00	
1,900.0	10.51	319.90	1,876.5	202.3	-170.4	264.5	0.00	0.00	0.00	
2,000.0	10.51	319.90	1,974.9	216.2	-182.1	282.7	0.00	0.00	0.00	
2,100.0	10.51	319.90	2,073.2	230.2	-193.8	300.9	0.00	0.00	0.00	
2,200.0	10.51	319.90	2,171.5	244.1	-205.6	319.2	0.00	0.00	0.00	
2,300.0	10.51	319.90	2,269.8	258.1	-217.3	337.4	0.00	0.00	0.00	
2,400.0	10.51	319.90	2,368.1	272.0	-229.1	355.6	0.00	0.00	0.00	
2,500.0	10.51	319.90	2,466.5	286.0	-240.8	373.9	0.00	0.00	0.00	
2,600.0	10.51	319.90	2,564.8	299.9	-252.6	392.1	0.00	0.00	0.00	
2,700.0	10.51	319.90	2,663.1	313.8	-264.3	410.3	0.00	0.00	0.00	
2,800.0	10.51	319.90	2,761.4	327.8	-276.1	428.6	0.00	0.00	0.00	
2,900.0	10.51	319.90	2,859.8	341.7	-287.8	446.8	0.00	0.00	0.00	
3,000.0	10.51	319.90	2,958.1	355.7	-299.6	465.0	0.00	0.00	0.00	
3,100.0	10.51	319.90	3,056.4	369.6	-311.3	483.3	0.00	0.00	0.00	
3,200.0	10.51	319.90	3,154.7	383.6	-323.1	501.5	0.00	0.00	0.00	
3,300.0	10.51	319.90	3,253.1	397.5	-334.8	519.7	0.00	0.00	0.00	
3,400.0	10.51	319.90	3,351.4	411.5	-346.5	538.0	0.00	0.00	0.00	
3,500.0	10.51	319.90	3,449.7	425.4	-358.3	556.2	0.00	0.00	0.00	
3,600.0	10.51	319.90	3,548.0	439.4	-370.0	574.4	0.00	0.00	0.00	
3,700.0	10.51	319.90	3,646.4	453.3	-381.8	592.7	0.00	0.00	0.00	
3,742.2	10.51	319.90	3,687.8	459.2	-386.7	600.3	0.00	0.00	0.00	
<b>Williams Fork</b>										
3,800.0	10.51	319.90	3,744.7	467.3	-393.5	610.9	0.00	0.00	0.00	
3,900.0	10.51	319.90	3,843.0	481.2	-405.3	629.1	0.00	0.00	0.00	
4,000.0	10.51	319.90	3,941.3	495.2	-417.0	647.4	0.00	0.00	0.00	
4,100.0	10.51	319.90	4,039.6	509.1	-428.8	665.6	0.00	0.00	0.00	
4,200.0	10.51	319.90	4,138.0	523.0	-440.5	683.8	0.00	0.00	0.00	

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<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)
4,300.0	10.51	319.90	4,236.3	537.0	-452.3	702.1	0.00	0.00	0.00
4,400.0	10.51	319.90	4,334.6	550.9	-464.0	720.3	0.00	0.00	0.00
4,500.0	10.51	319.90	4,432.9	564.9	-475.8	738.5	0.00	0.00	0.00
4,535.0	10.51	319.90	4,467.3	569.8	-479.9	744.9	0.00	0.00	0.00
<b>Start Drop -3.50</b>									
4,600.0	8.23	319.90	4,531.5	577.9	-486.7	755.5	3.50	-3.50	0.00
4,700.0	4.73	319.90	4,630.8	586.5	-493.9	766.8	3.50	-3.50	0.00
4,800.0	1.23	319.90	4,730.7	590.5	-497.3	772.0	3.50	-3.50	0.00
4,835.1	0.00	0.00	4,765.8	590.7	-497.5	772.3	3.50	-3.50	0.00
<b>Back to Vertical - Start 2302.0 hold at 4835.1 MD - Top of Gas</b>									
4,900.0	0.00	0.00	4,830.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,000.0	0.00	0.00	4,930.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,100.0	0.00	0.00	5,030.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,200.0	0.00	0.00	5,130.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,300.0	0.00	0.00	5,230.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,400.0	0.00	0.00	5,330.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,500.0	0.00	0.00	5,430.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,600.0	0.00	0.00	5,530.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,700.0	0.00	0.00	5,630.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,800.0	0.00	0.00	5,730.7	590.7	-497.5	772.3	0.00	0.00	0.00
5,900.0	0.00	0.00	5,830.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,000.0	0.00	0.00	5,930.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,100.0	0.00	0.00	6,030.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,137.1	0.00	0.00	6,067.8	590.7	-497.5	772.3	0.00	0.00	0.00
<b>Cameo</b>									
6,200.0	0.00	0.00	6,130.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,300.0	0.00	0.00	6,230.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,400.0	0.00	0.00	6,330.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,500.0	0.00	0.00	6,430.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,600.0	0.00	0.00	6,530.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,700.0	0.00	0.00	6,630.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,800.0	0.00	0.00	6,730.7	590.7	-497.5	772.3	0.00	0.00	0.00
6,837.1	0.00	0.00	6,767.8	590.7	-497.5	772.3	0.00	0.00	0.00
<b>Rollins</b>									
6,900.0	0.00	0.00	6,830.7	590.7	-497.5	772.3	0.00	0.00	0.00
7,000.0	0.00	0.00	6,930.7	590.7	-497.5	772.3	0.00	0.00	0.00
7,100.0	0.00	0.00	7,030.7	590.7	-497.5	772.3	0.00	0.00	0.00
7,137.0	0.00	0.00	7,067.7	590.7	-497.5	772.3	0.00	0.00	0.00
<b>BHL: 39.4492763, -108.0141179</b>									
7,137.1	0.00	0.00	7,067.8	590.7	-497.5	772.3	0.00	0.00	0.00
<b>TD at 7137.1 - TD</b>									

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<b>Site:</b>	Monument Ridge B	<b>North Reference:</b>	True
<b>Well:</b>	Monument Ridge B 43D-08-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

#### Design Targets

##### Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
Monument Ridge B 43D- - plan hits target center - Rectangle (sides W100.0 H40.0 D2,302.0)	0.00	0.00	4,765.8	590.7	-497.5	1,598,351.51	2,290,134.39	39° 26' 57.395 N	108° 0' 50.824 W

#### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,742.2	3,687.8	Williams Fork		0.00	
4,835.1	4,765.8	Top of Gas		0.00	
6,137.1	6,067.8	Cameo		0.00	
6,837.1	6,767.8	Rollins		0.00	
7,137.1	7,067.8	TD		0.00	

#### Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.1	0.1	0.0	0.0	SHL: 39.447654424, -108.012356016
300.0	300.0	0.0	0.0	Start Build 3.50
600.2	598.5	21.0	-17.7	Start 3934.8 hold at 600.2 MD
1,720.5	1,700.0	177.2	-149.3	Surface Casing
4,535.0	4,467.3	569.8	-479.9	Start Drop -3.50
4,835.1	4,765.8	590.7	-497.5	Back to Vertical
4,835.1	4,765.8	590.7	-497.5	Start 2302.0 hold at 4835.1 MD
7,137.0	7,067.7	590.7	-497.5	BHL: 39.4492763, -108.0141179
7,137.1	7,067.8	590.7	-497.5	TD at 7137.1

