



# **Ursa Operating Company, LLC**

**Rockies Region  
Monument Ridge  
BAT 41D-19-07-95**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**11 July, 2013**



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BAT 41D-19-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	BAT 41D-19-07-95 @ 5461.2ft (Original Well Elev)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 41D-19-07-95 @ 5461.2ft (Original Well Elev)
<b>Site:</b>	Monument Ridge	<b>North Reference:</b>	True
<b>Well:</b>	BAT 41D-19-07-95	<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			
Site Position:		Northing:	1,592,015.87 ft	Latitude:	39° 25' 53.266 N
From:	Lat/Long	Easting:	2,284,550.92 ft	Longitude:	108° 1' 59.725 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-1.60 °

Well	BAT 41D-19-07-95, SHL 39.431154120, -108.033246000					
Well Position	+N/-S	-112.4 ft	Northing:	1,591,903.40 ft	Latitude:	39° 25' 52.155 N
	+E/-W	3.1 ft	Easting:	2,284,550.89 ft	Longitude:	108° 1' 59.686 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	5,461.2 ft	Ground Level:	5,441.2 ft

<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>
	IGRF200510	7/11/2013	10.06	65.64	52,046

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	170.85

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	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	
825.5	21.89	170.85	810.4	-116.6	18.8	3.50	3.50	0.00	170.85	
3,831.5	21.89	170.85	3,599.6	-1,223.1	197.0	0.00	0.00	0.00	0.00	
4,457.0	0.00	0.00	4,210.0	-1,339.7	215.8	3.50	-3.50	0.00	180.00	BAT 41D-19-07-95 T
6,650.0	0.00	0.00	6,403.0	-1,339.7	215.8	0.00	0.00	0.00	0.00	BAT 41D-19-07-95 T

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 41D-19-07-95 @ 5461.2ft (Original Well Elev)
<b>Site:</b>	Monument Ridge	<b>North Reference:</b>	True
<b>Well:</b>	BAT 41D-19-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
<b>Start Build 3.50</b>									
300.0	3.50	170.85	299.9	-3.0	0.5	3.1	3.50	3.50	0.00
400.0	7.00	170.85	399.5	-12.0	1.9	12.2	3.50	3.50	0.00
500.0	10.50	170.85	498.3	-27.1	4.4	27.4	3.50	3.50	0.00
600.0	14.00	170.85	596.0	-48.0	7.7	48.6	3.50	3.50	0.00
700.0	17.50	170.85	692.3	-74.8	12.0	75.8	3.50	3.50	0.00
800.0	21.00	170.85	786.7	-107.3	17.3	108.7	3.50	3.50	0.00
825.5	21.89	170.85	810.4	-116.6	18.8	118.1	3.50	3.50	0.00
<b>Start 3006.0 hold at 825.5 MD</b>									
900.0	21.89	170.85	879.5	-144.0	23.2	145.8	0.00	0.00	0.00
1,000.0	21.89	170.85	972.3	-180.8	29.1	183.1	0.00	0.00	0.00
1,100.0	21.89	170.85	1,065.1	-217.6	35.1	220.4	0.00	0.00	0.00
1,200.0	21.89	170.85	1,157.9	-254.4	41.0	257.7	0.00	0.00	0.00
1,300.0	21.89	170.85	1,250.7	-291.2	46.9	295.0	0.00	0.00	0.00
1,400.0	21.89	170.85	1,343.5	-328.0	52.8	332.3	0.00	0.00	0.00
1,500.0	21.89	170.85	1,436.2	-364.9	58.8	369.6	0.00	0.00	0.00
1,600.0	21.89	170.85	1,529.0	-401.7	64.7	406.8	0.00	0.00	0.00
1,700.0	21.89	170.85	1,621.8	-438.5	70.6	444.1	0.00	0.00	0.00
1,800.0	21.89	170.85	1,714.6	-475.3	76.6	481.4	0.00	0.00	0.00
1,900.0	21.89	170.85	1,807.4	-512.1	82.5	518.7	0.00	0.00	0.00
2,000.0	21.89	170.85	1,900.2	-548.9	88.4	556.0	0.00	0.00	0.00
2,100.0	21.89	170.85	1,993.0	-585.7	94.4	593.3	0.00	0.00	0.00
2,200.0	21.89	170.85	2,085.8	-622.5	100.3	630.6	0.00	0.00	0.00
2,300.0	21.89	170.85	2,178.6	-659.4	106.2	667.9	0.00	0.00	0.00
2,400.0	21.89	170.85	2,271.3	-696.2	112.1	705.1	0.00	0.00	0.00
2,500.0	21.89	170.85	2,364.1	-733.0	118.1	742.4	0.00	0.00	0.00
2,600.0	21.89	170.85	2,456.9	-769.8	124.0	779.7	0.00	0.00	0.00
2,700.0	21.89	170.85	2,549.7	-806.6	129.9	817.0	0.00	0.00	0.00
2,800.0	21.89	170.85	2,642.5	-843.4	135.9	854.3	0.00	0.00	0.00
2,900.0	21.89	170.85	2,735.3	-880.2	141.8	891.6	0.00	0.00	0.00
3,000.0	21.89	170.85	2,828.1	-917.0	147.7	928.9	0.00	0.00	0.00
3,100.0	21.89	170.85	2,920.9	-953.9	153.7	966.2	0.00	0.00	0.00
3,200.0	21.89	170.85	3,013.6	-990.7	159.6	1,003.4	0.00	0.00	0.00
3,300.0	21.89	170.85	3,106.4	-1,027.5	165.5	1,040.7	0.00	0.00	0.00
3,400.0	21.89	170.85	3,199.2	-1,064.3	171.4	1,078.0	0.00	0.00	0.00
3,417.0	21.89	170.85	3,215.0	-1,070.5	172.5	1,084.4	0.00	0.00	0.00
<b>WF</b>									
3,500.0	21.89	170.85	3,292.0	-1,101.1	177.4	1,115.3	0.00	0.00	0.00
3,600.0	21.89	170.85	3,384.8	-1,137.9	183.3	1,152.6	0.00	0.00	0.00
3,700.0	21.89	170.85	3,477.6	-1,174.7	189.2	1,189.9	0.00	0.00	0.00
3,800.0	21.89	170.85	3,570.4	-1,211.5	195.2	1,227.2	0.00	0.00	0.00
3,831.5	21.89	170.85	3,599.6	-1,223.1	197.0	1,238.9	0.00	0.00	0.00
<b>Start Drop -3.50</b>									
3,900.0	19.50	170.85	3,663.7	-1,247.0	200.9	1,263.1	3.50	-3.50	0.00
4,000.0	16.00	170.85	3,758.9	-1,277.1	205.7	1,293.6	3.50	-3.50	0.00
4,100.0	12.50	170.85	3,855.8	-1,301.4	209.6	1,318.2	3.50	-3.50	0.00
4,200.0	9.00	170.85	3,954.1	-1,319.8	212.6	1,336.8	3.50	-3.50	0.00
4,300.0	5.50	170.85	4,053.2	-1,332.3	214.6	1,349.4	3.50	-3.50	0.00
4,400.0	2.00	170.85	4,153.0	-1,338.7	215.7	1,356.0	3.50	-3.50	0.00

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<b>Well:</b>	BAT 41D-19-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

## Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,457.0	0.00	0.00	4,210.0	-1,339.7	215.8	1,357.0	3.50	-3.50	0.00
<b>Start 2193.0 hold at 4457.0 MD - Top of Gas</b>									
4,500.0	0.00	0.00	4,253.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,353.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,453.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,553.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,653.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,753.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,100.0	0.00	0.00	4,853.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,200.0	0.00	0.00	4,953.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,053.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,153.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,253.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,353.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,453.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,553.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
5,829.0	0.00	0.00	5,582.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
<b>Cameo</b>									
5,900.0	0.00	0.00	5,653.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,753.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,100.0	0.00	0.00	5,853.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,200.0	0.00	0.00	5,953.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,053.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,350.0	0.00	0.00	6,103.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
<b>Rollins</b>									
6,400.0	0.00	0.00	6,153.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,253.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,353.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
6,650.0	0.00	0.00	6,403.0	-1,339.7	215.8	1,357.0	0.00	0.00	0.00
<b>TD at 6650.0</b>									

## Formations

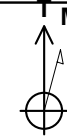
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,417.0	3,215.0	WF		0.00	
4,457.0	4,210.0	Top of Gas		0.00	
5,829.0	5,582.0	Cameo		0.00	
6,350.0	6,103.0	Rollins		0.00	

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<b>Well:</b>	BAT 41D-19-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.0	200.0	0.0	0.0	Start Build 3.50
825.5	810.4	-116.6	18.8	Start 3006.0 hold at 825.5 MD
3,831.5	3,599.6	-1,223.1	197.0	Start Drop -3.50
4,457.0	4,210.0	-1,339.7	215.8	Start 2193.0 hold at 4457.0 MD
6,650.0	6,403.0	-1,339.7	215.8	TD at 6650.0



Well Name: BAT 41D-19-07-95  
Surface Location: Monument Ridge  
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
Ground Elevation: 5441.2  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1591903.40 2284550.89 39° 25' 52.155 N 108° 1' 59.686 W  
Original Well Elev BAT 41D-19-07-95 @ 5461.2ft (Original Well Elev)



Azimuths to True North  
Magnetic North: 10.06°  
Magnetic Field  
Strength: 52046.2snT  
Dip Angle: 65.64°  
Date: 7/11/2013  
Model: IGRF200510

Monument Ridge  
BAT 41D-19-07-95  
Design #1  
11:24, July 11 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BAT 41D-19-07-95 TGT	4210.0	-1339.7	215.8	1590558.21	2284729.27	39° 25' 38.914 N	108° 1' 56.935 W	Point
BAT 41D-19-07-95 TD	6403.0	-1339.7	215.8	1590558.21	2284729.27	39° 25' 38.914 N	108° 1' 56.935 W	Point

#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	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	825.5	21.89	170.85	810.4	-116.6	18.8	3.50	170.85	118.1	
4	3831.5	21.89	170.85	3599.6	-1223.1	197.0	0.00	0.00	1238.9	
5	4457.0	0.00	0.00	4210.0	-1339.7	215.8	3.50	180.00	1357.0	BAT 41D-19-07-95 TGT
6	6650.0	0.00	0.00	6403.0	-1339.7	215.8	0.00	0.00	1357.0	BAT 41D-19-07-95 TD

#### ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
810.4	825.5	Start 3006.0 hold at 825.5 MD
3599.6	3831.5	Start Drop -3.50
4210.0	4457.0	Start 2193.0 hold at 4457.0 MD
6403.0	6650.0	TD at 6650.0

