



# **Ursa Operating Company, LLC**

**Rockies Region  
Monument Ridge  
BAT 34B-18-07-95**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**02 July, 2013**



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BAT 34B-18-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	BAT 34B-18-07-95 @ 5461.2ft (Original Well Elev)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 34B-18-07-95 @ 5461.2ft (Original Well Elev)
<b>Site:</b>	Monument Ridge	<b>North Reference:</b>	True
<b>Well:</b>	BAT 34B-18-07-95	<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 34B-18-07-95, SHL LAT: 39.431361600 LONG: -108.033173700					
Well Position	+N/-S	-36.9 ft	Northing:	1,591,978.37 ft	Latitude:	39° 25' 52.902 N
	+E/-W	23.5 ft	Easting:	2,284,573.41 ft	Longitude:	108° 1' 59.425 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	7/2/2013	10.07	65.64	52,049

<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	288.20

<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	
750.9	19.28	288.20	740.5	28.7	-87.2	3.50	3.50	0.00	288.20	
3,889.9	19.28	288.20	3,703.5	352.5	-1,071.8	0.00	0.00	0.00	0.00	
4,440.7	0.00	0.00	4,244.0	381.2	-1,159.0	3.50	-3.50	0.00	180.00	34B-18-07-95 TGT
6,633.7	0.00	0.00	6,437.0	381.2	-1,159.0	0.00	0.00	0.00	0.00	34B-18-07-95 BHL

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<b>Well:</b>	BAT 34B-18-07-95	<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	288.20	299.9	1.0	-2.9	3.1	3.50	3.50	0.00
400.0	7.00	288.20	399.5	3.8	-11.6	12.2	3.50	3.50	0.00
500.0	10.50	288.20	498.3	8.6	-26.0	27.4	3.50	3.50	0.00
600.0	14.00	288.20	596.0	15.2	-46.2	48.6	3.50	3.50	0.00
700.0	17.50	288.20	692.3	23.7	-72.0	75.8	3.50	3.50	0.00
750.9	19.28	288.20	740.5	28.7	-87.2	91.8	3.50	3.50	0.00
<b>Start 3139.0 hold at 750.9 MD</b>									
800.0	19.28	288.20	786.9	33.8	-102.6	108.0	0.00	0.00	0.00
900.0	19.28	288.20	881.3	44.1	-134.0	141.1	0.00	0.00	0.00
1,000.0	19.28	288.20	975.7	54.4	-165.4	174.1	0.00	0.00	0.00
1,100.0	19.28	288.20	1,070.1	64.7	-196.7	207.1	0.00	0.00	0.00
1,200.0	19.28	288.20	1,164.5	75.0	-228.1	240.1	0.00	0.00	0.00
1,300.0	19.28	288.20	1,258.9	85.3	-259.5	273.1	0.00	0.00	0.00
1,400.0	19.28	288.20	1,353.3	95.6	-290.8	306.1	0.00	0.00	0.00
1,500.0	19.28	288.20	1,447.6	106.0	-322.2	339.2	0.00	0.00	0.00
1,600.0	19.28	288.20	1,542.0	116.3	-353.6	372.2	0.00	0.00	0.00
1,700.0	19.28	288.20	1,636.4	126.6	-384.9	405.2	0.00	0.00	0.00
1,800.0	19.28	288.20	1,730.8	136.9	-416.3	438.2	0.00	0.00	0.00
1,900.0	19.28	288.20	1,825.2	147.2	-447.7	471.2	0.00	0.00	0.00
2,000.0	19.28	288.20	1,919.6	157.5	-479.0	504.3	0.00	0.00	0.00
2,100.0	19.28	288.20	2,014.0	167.9	-510.4	537.3	0.00	0.00	0.00
2,200.0	19.28	288.20	2,108.4	178.2	-541.7	570.3	0.00	0.00	0.00
2,300.0	19.28	288.20	2,202.8	188.5	-573.1	603.3	0.00	0.00	0.00
2,400.0	19.28	288.20	2,297.2	198.8	-604.5	636.3	0.00	0.00	0.00
2,500.0	19.28	288.20	2,391.6	209.1	-635.8	669.4	0.00	0.00	0.00
2,600.0	19.28	288.20	2,486.0	219.4	-667.2	702.4	0.00	0.00	0.00
2,700.0	19.28	288.20	2,580.3	229.7	-698.6	735.4	0.00	0.00	0.00
2,800.0	19.28	288.20	2,674.7	240.1	-729.9	768.4	0.00	0.00	0.00
2,900.0	19.28	288.20	2,769.1	250.4	-761.3	801.4	0.00	0.00	0.00
3,000.0	19.28	288.20	2,863.5	260.7	-792.7	834.4	0.00	0.00	0.00
3,100.0	19.28	288.20	2,957.9	271.0	-824.0	867.5	0.00	0.00	0.00
3,200.0	19.28	288.20	3,052.3	281.3	-855.4	900.5	0.00	0.00	0.00
3,300.0	19.28	288.20	3,146.7	291.6	-886.8	933.5	0.00	0.00	0.00
3,400.0	19.28	288.20	3,241.1	302.0	-918.1	966.5	0.00	0.00	0.00
3,408.4	19.28	288.20	3,249.0	302.8	-920.8	969.3	0.00	0.00	0.00
<b>WF</b>									
3,500.0	19.28	288.20	3,335.5	312.3	-949.5	999.5	0.00	0.00	0.00
3,600.0	19.28	288.20	3,429.9	322.6	-980.9	1,032.6	0.00	0.00	0.00
3,700.0	19.28	288.20	3,524.3	332.9	-1,012.2	1,065.6	0.00	0.00	0.00
3,800.0	19.28	288.20	3,618.7	343.2	-1,043.6	1,098.6	0.00	0.00	0.00
3,889.9	19.28	288.20	3,703.5	352.5	-1,071.8	1,128.3	0.00	0.00	0.00
<b>Start Drop -3.50</b>									
3,900.0	18.93	288.20	3,713.1	353.5	-1,074.9	1,131.6	3.50	-3.50	0.00
4,000.0	15.43	288.20	3,808.6	362.7	-1,103.0	1,161.1	3.50	-3.50	0.00
4,100.0	11.93	288.20	3,905.7	370.1	-1,125.4	1,184.7	3.50	-3.50	0.00
4,200.0	8.43	288.20	4,004.1	375.6	-1,142.2	1,202.4	3.50	-3.50	0.00
4,300.0	4.93	288.20	4,103.5	379.3	-1,153.3	1,214.0	3.50	-3.50	0.00
4,400.0	1.43	288.20	4,203.3	381.0	-1,158.5	1,219.6	3.50	-3.50	0.00

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<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)
4,440.7	0.00	0.00	4,244.0	381.2	-1,159.0	1,220.1	3.50	-3.50	0.00
<b>Start 2193.0 hold at 4440.7 MD - Top of Gas</b>									
4,500.0	0.00	0.00	4,303.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
4,600.0	0.00	0.00	4,403.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
4,700.0	0.00	0.00	4,503.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
4,800.0	0.00	0.00	4,603.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
4,900.0	0.00	0.00	4,703.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,000.0	0.00	0.00	4,803.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,100.0	0.00	0.00	4,903.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,003.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,300.0	0.00	0.00	5,103.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,203.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,500.0	0.00	0.00	5,303.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,403.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,503.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,603.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
5,812.7	0.00	0.00	5,616.0	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
<b>Cameo</b>									
5,900.0	0.00	0.00	5,703.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,803.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,100.0	0.00	0.00	5,903.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,003.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,300.0	0.00	0.00	6,103.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,333.7	0.00	0.00	6,137.0	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
<b>Rollins</b>									
6,400.0	0.00	0.00	6,203.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,500.0	0.00	0.00	6,303.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,403.3	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
6,633.7	0.00	0.00	6,437.0	381.2	-1,159.0	1,220.1	0.00	0.00	0.00
<b>TD at 6633.7</b>									

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,408.4	3,249.0	WF		0.00	
4,440.7	4,244.0	Top of Gas		0.00	
5,812.7	5,616.0	Cameo		0.00	
6,333.7	6,137.0	Rollins		0.00	

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<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
750.9	740.5	28.7	-87.2	Start 3139.0 hold at 750.9 MD
3,889.9	3,703.5	352.5	-1,071.8	Start Drop -3.50
4,440.7	4,244.0	381.2	-1,159.0	Start 2193.0 hold at 4440.7 MD
6,633.7	6,437.0	381.2	-1,159.0	TD at 6633.7



Well Name: BAT 34B-18-07-95  
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 1591978.37 2284573.41 39° 25' 56.669 N 108° 1' 59.425 W  
Original Well Elev BAT 34B-18-07-95 @ 5461.2ft (Original Well Elev)



Azimuths to True North  
Magnetic North: 10.07°  
Magnetic Field  
Strength: 52048.7snT  
Dip Angle: 65.64°  
Date: 7/2/2013  
Model: IGRF200510

Monument Ridge  
BAT 34B-18-07-95  
Design #1  
17:06, July 02 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
34B-18-07-95 TGT	4244.0	381.2	-1159.0	1592391.70	2283425.49	39° 25' 56.669 N	108° 2' 14.197 W	Point
34B-18-07-95 BHL	6437.0	381.2	-1159.0	1592391.70	2283425.49	39° 25' 56.669 N	108° 2' 14.197 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	750.9	19.28	288.20	740.5	28.7	-87.2	3.50	288.20	91.8	
4	3889.9	19.28	288.20	3703.5	352.5	-1071.8	0.00	0.00	1128.3	
5	4440.7	0.00	0.00	4244.0	381.2	-1159.0	3.50	180.00	1220.1	34B-18-07-95 TGT
6	6633.7	0.00	0.00	6437.0	381.2	-1159.0	0.00	0.00	1220.1	34B-18-07-95 BHL

#### ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
740.5	750.9	Start 3139.0 hold at 750.9 MD
3703.5	3889.9	Start Drop -3.50
4244.0	4440.7	Start 2193.0 hold at 4440.7 MD
6437.0	6633.7	TD at 6633.7

#### FORMATION TOP DETAILS

TVDP	MDP	Path	Formation
3249.0	3408.4	WF	WF
4244.0	4440.7		Top of Gas
5616.0	5812.7		Cameo
6137.0	6333.7		Rollins

