



# **Ursa Operating Company, LLC**

**Rockies Region  
Monument Ridge  
BAT 41A-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 41A-19-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	BAT 41A-19-07-95 @ 5461.2ft (Original Well Elev)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 41A-19-07-95 @ 5461.2ft (Original Well Elev)
<b>Site:</b>	Monument Ridge	<b>North Reference:</b>	True
<b>Well:</b>	BAT 41A-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		

<b>Site</b>	Monument Ridge				
<b>Site Position:</b>		<b>Northing:</b>	1,592,015.87 ft	<b>Latitude:</b>	39° 25' 53.266 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,284,550.92 ft	<b>Longitude:</b>	108° 1' 59.725 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	-1.60 °

<b>Well</b>	BAT 41A-19-07-95, SHL 39.431257000, -108.033249600					
<b>Well Position</b>	<b>+N/-S</b>	-75.0 ft	<b>Northing:</b>	1,591,940.88 ft	<b>Latitude:</b>	39° 25' 52.525 N
	<b>+E/-W</b>	2.1 ft	<b>Easting:</b>	2,284,550.92 ft	<b>Longitude:</b>	108° 1' 59.699 W
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	5,461.2 ft	<b>Ground Level:</b>	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	159.35

<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	
411.3	7.40	159.35	410.7	-12.7	4.8	3.50	3.50	0.00	159.35	
4,067.3	7.40	159.35	4,036.3	-453.1	170.8	0.00	0.00	0.00	0.00	
4,278.6	0.00	0.00	4,247.0	-465.8	175.6	3.50	-3.50	0.00	180.00	BAT 41A-19-07-95 TC
6,471.6	0.00	0.00	6,440.0	-465.8	175.6	0.00	0.00	0.00	0.00	BAT 41A-19-07-95 TC

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 41A-19-07-95 @ 5461.2ft (Original Well Elev)
<b>Site:</b>	Monument Ridge	<b>North Reference:</b>	True
<b>Well:</b>	BAT 41A-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	159.35	299.9	-2.9	1.1	3.1	3.50	3.50	0.00
400.0	7.00	159.35	399.5	-11.4	4.3	12.2	3.50	3.50	0.00
411.3	7.40	159.35	410.7	-12.7	4.8	13.6	3.50	3.50	0.00
<b>Start 3656.0 hold at 411.3 MD</b>									
500.0	7.40	159.35	498.7	-23.4	8.8	25.0	0.00	0.00	0.00
600.0	7.40	159.35	597.8	-35.5	13.4	37.9	0.00	0.00	0.00
700.0	7.40	159.35	697.0	-47.5	17.9	50.8	0.00	0.00	0.00
800.0	7.40	159.35	796.2	-59.6	22.4	63.7	0.00	0.00	0.00
900.0	7.40	159.35	895.3	-71.6	27.0	76.5	0.00	0.00	0.00
1,000.0	7.40	159.35	994.5	-83.7	31.5	89.4	0.00	0.00	0.00
1,100.0	7.40	159.35	1,093.7	-95.7	36.1	102.3	0.00	0.00	0.00
1,200.0	7.40	159.35	1,192.9	-107.7	40.6	115.1	0.00	0.00	0.00
1,300.0	7.40	159.35	1,292.0	-119.8	45.1	128.0	0.00	0.00	0.00
1,400.0	7.40	159.35	1,391.2	-131.8	49.7	140.9	0.00	0.00	0.00
1,500.0	7.40	159.35	1,490.4	-143.9	54.2	153.8	0.00	0.00	0.00
1,600.0	7.40	159.35	1,589.5	-155.9	58.8	166.6	0.00	0.00	0.00
1,700.0	7.40	159.35	1,688.7	-168.0	63.3	179.5	0.00	0.00	0.00
1,800.0	7.40	159.35	1,787.9	-180.0	67.8	192.4	0.00	0.00	0.00
1,900.0	7.40	159.35	1,887.0	-192.1	72.4	205.2	0.00	0.00	0.00
2,000.0	7.40	159.35	1,986.2	-204.1	76.9	218.1	0.00	0.00	0.00
2,100.0	7.40	159.35	2,085.4	-216.1	81.5	231.0	0.00	0.00	0.00
2,200.0	7.40	159.35	2,184.5	-228.2	86.0	243.9	0.00	0.00	0.00
2,300.0	7.40	159.35	2,283.7	-240.2	90.5	256.7	0.00	0.00	0.00
2,400.0	7.40	159.35	2,382.9	-252.3	95.1	269.6	0.00	0.00	0.00
2,500.0	7.40	159.35	2,482.0	-264.3	99.6	282.5	0.00	0.00	0.00
2,600.0	7.40	159.35	2,581.2	-276.4	104.2	295.3	0.00	0.00	0.00
2,700.0	7.40	159.35	2,680.4	-288.4	108.7	308.2	0.00	0.00	0.00
2,800.0	7.40	159.35	2,779.5	-300.5	113.2	321.1	0.00	0.00	0.00
2,900.0	7.40	159.35	2,878.7	-312.5	117.8	334.0	0.00	0.00	0.00
3,000.0	7.40	159.35	2,977.9	-324.5	122.3	346.8	0.00	0.00	0.00
3,100.0	7.40	159.35	3,077.0	-336.6	126.9	359.7	0.00	0.00	0.00
3,200.0	7.40	159.35	3,176.2	-348.6	131.4	372.6	0.00	0.00	0.00
3,276.4	7.40	159.35	3,252.0	-357.8	134.9	382.4	0.00	0.00	0.00
<b>WF</b>									
3,300.0	7.40	159.35	3,275.4	-360.7	135.9	385.5	0.00	0.00	0.00
3,400.0	7.40	159.35	3,374.6	-372.7	140.5	398.3	0.00	0.00	0.00
3,500.0	7.40	159.35	3,473.7	-384.8	145.0	411.2	0.00	0.00	0.00
3,600.0	7.40	159.35	3,572.9	-396.8	149.6	424.1	0.00	0.00	0.00
3,700.0	7.40	159.35	3,672.1	-408.9	154.1	436.9	0.00	0.00	0.00
3,800.0	7.40	159.35	3,771.2	-420.9	158.6	449.8	0.00	0.00	0.00
3,900.0	7.40	159.35	3,870.4	-433.0	163.2	462.7	0.00	0.00	0.00
4,000.0	7.40	159.35	3,969.6	-445.0	167.7	475.6	0.00	0.00	0.00
4,067.3	7.40	159.35	4,036.3	-453.1	170.8	484.2	0.00	0.00	0.00
<b>Start Drop -3.50</b>									
4,100.0	6.25	159.35	4,068.8	-456.7	172.1	488.1	3.50	-3.50	0.00
4,200.0	2.75	159.35	4,168.4	-464.1	174.9	495.9	3.50	-3.50	0.00
4,278.6	0.00	0.00	4,247.0	-465.8	175.6	497.8	3.50	-3.50	0.00

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<b>Well:</b>	BAT 41A-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)
<b>Start 2193.0 hold at 4278.6 MD - Top of Gas</b>									
4,300.0	0.00	0.00	4,268.4	-465.8	175.6	497.8	0.00	0.00	0.00
4,400.0	0.00	0.00	4,368.4	-465.8	175.6	497.8	0.00	0.00	0.00
4,500.0	0.00	0.00	4,468.4	-465.8	175.6	497.8	0.00	0.00	0.00
4,600.0	0.00	0.00	4,568.4	-465.8	175.6	497.8	0.00	0.00	0.00
4,700.0	0.00	0.00	4,668.4	-465.8	175.6	497.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,768.4	-465.8	175.6	497.8	0.00	0.00	0.00
4,900.0	0.00	0.00	4,868.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,000.0	0.00	0.00	4,968.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,100.0	0.00	0.00	5,068.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,200.0	0.00	0.00	5,168.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,300.0	0.00	0.00	5,268.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,368.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,468.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,568.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,650.6	0.00	0.00	5,619.0	-465.8	175.6	497.8	0.00	0.00	0.00
<b>Cameo</b>									
5,700.0	0.00	0.00	5,668.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,768.4	-465.8	175.6	497.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,868.4	-465.8	175.6	497.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,968.4	-465.8	175.6	497.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,068.4	-465.8	175.6	497.8	0.00	0.00	0.00
6,171.6	0.00	0.00	6,140.0	-465.8	175.6	497.8	0.00	0.00	0.00
<b>Rollins</b>									
6,200.0	0.00	0.00	6,168.4	-465.8	175.6	497.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,268.4	-465.8	175.6	497.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,368.4	-465.8	175.6	497.8	0.00	0.00	0.00
6,471.6	0.00	0.00	6,440.0	-465.8	175.6	497.8	0.00	0.00	0.00
<b>TD at 6471.6</b>									

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,276.4	3,252.0	WF		0.00	
4,278.6	4,247.0	Top of Gas		0.00	
5,650.6	5,619.0	Cameo		0.00	
6,171.6	6,140.0	Rollins		0.00	

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 41A-19-07-95 @ 5461.2ft (Original Well Elev)
<b>Site:</b>	Monument Ridge	<b>North Reference:</b>	True
<b>Well:</b>	BAT 41A-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
411.3	410.7	-12.7	4.8	Start 3656.0 hold at 411.3 MD
4,067.3	4,036.3	-453.1	170.8	Start Drop -3.50
4,278.6	4,247.0	-465.8	175.6	Start 2193.0 hold at 4278.6 MD
6,471.6	6,440.0	-465.8	175.6	TD at 6471.6



Well Name: BAT 41A-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 1591940.88 2284550.92 39° 25' 52.525 N 108° 1' 59.699 W  
 Original Well Elev BAT 41A-19-07-95 @ 5461.2ft (Original Well Elev)



Azimuths to True North  
 Magnetic North: 10.06°  
 Magnetic Field  
 Strength: 52046.3snT  
 Dip Angle: 65.64°  
 Date: 7/11/2013  
 Model: IGRF200510

Monument Ridge  
 BAT 41A-19-07-95  
 Design #1  
 10:18, July 11 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BAT 41A-19-07-95 TGT	4247.0	-465.8	175.6	1591470.32	2284713.44	39° 25' 47.921 N	108° 1' 57.461 W	Point
BAT 41A-19-07-95 TD	6440.0	-465.8	175.6	1591470.32	2284713.44	39° 25' 47.921 N	108° 1' 57.461 W	Point

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
410.7	411.3	Start 3656.0 hold at 411.3 MD
4036.3	4067.3	Start Drop -3.50
4247.0	4278.6	Start 2193.0 hold at 4278.6 MD
6440.0	6471.6	TD at 6471.6

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	411.3	7.40	159.35	410.7	-12.7	4.8	3.50	159.35	13.6	
4	4067.3	7.40	159.35	4036.3	-453.1	170.8	0.00	0.00	484.2	
5	4278.6	0.00	0.00	4247.0	-465.8	175.6	3.50	180.00	497.8	BAT 41A-19-07-95 TGT
6	6471.6	0.00	0.00	6440.0	-465.8	175.6	0.00	0.00	497.8	BAT 41A-19-07-95 TD

