



Ursa Operating Company, LLC

**Rockies Region
Monument Ridge
BAT 13A-17-07-95**

Wellbore #1

Plan: Design #1

Standard Planning Report

02 July, 2013



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BAT 13A-17-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Project:	Rockies Region	MD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Site:	Monument Ridge	North Reference:	True
Well:	BAT 13A-17-07-95	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		Monument Ridge			
Site Position: From:		Northing:	1,592,015.87 ft	Latitude:	39° 25' 53.266 N
	Lat/Long	Easting:	2,284,550.92 ft	Longitude:	108° 1' 59.725 W
	Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:

Well	BAT 13A-17-07-95, SHL LAT: 39.431428470 LONG: -108.033255800					
Well Position	+N/-S	-12.5 ft	Northing:	1,592,003.36 ft	Latitude:	39° 25' 53.142 N
	+E/-W	0.3 ft	Easting:	2,284,550.91 ft	Longitude:	108° 1' 59.721 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	5,461.2 ft	Ground Level:	5,441.2 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/1/2013	10.07	65.64	52,049

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	36.41

Plan Sections										
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	
1,270.2	37.46	36.41	1,195.6	271.7	200.4	3.50	3.50	0.00	36.41	
4,074.2	37.46	36.41	3,421.4	1,644.1	1,212.6	0.00	0.00	0.00	0.00	
5,144.5	0.00	0.00	4,417.0	1,915.7	1,413.0	3.50	-3.50	0.00	180.00	13A-17-07-95 TGT
7,337.5	0.00	0.00	6,610.0	1,915.7	1,413.0	0.00	0.00	0.00	0.00	13A-17-07-95 BHL

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BAT 13A-17-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Project:	Rockies Region	MD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Site:	Monument Ridge	North Reference:	True
Well:	BAT 13A-17-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
Start Build 3.50									
300.0	3.50	36.41	299.9	2.5	1.8	3.1	3.50	3.50	0.00
400.0	7.00	36.41	399.5	9.8	7.2	12.2	3.50	3.50	0.00
500.0	10.50	36.41	498.3	22.1	16.3	27.4	3.50	3.50	0.00
600.0	14.00	36.41	596.0	39.1	28.9	48.6	3.50	3.50	0.00
700.0	17.50	36.41	692.3	61.0	45.0	75.8	3.50	3.50	0.00
800.0	21.00	36.41	786.7	87.5	64.5	108.7	3.50	3.50	0.00
900.0	24.50	36.41	878.9	118.6	87.5	147.4	3.50	3.50	0.00
1,000.0	28.00	36.41	968.5	154.2	113.7	191.6	3.50	3.50	0.00
1,100.0	31.50	36.41	1,055.3	194.1	143.2	241.2	3.50	3.50	0.00
1,200.0	35.00	36.41	1,139.0	238.3	175.7	296.1	3.50	3.50	0.00
1,270.2	37.46	36.41	1,195.6	271.7	200.4	337.6	3.50	3.50	0.00
Start 2804.0 hold at 1270.2 MD									
1,300.0	37.46	36.41	1,219.2	286.2	211.1	355.7	0.00	0.00	0.00
1,400.0	37.46	36.41	1,298.6	335.2	247.2	416.5	0.00	0.00	0.00
1,500.0	37.46	36.41	1,378.0	384.1	283.3	477.3	0.00	0.00	0.00
1,600.0	37.46	36.41	1,457.4	433.1	319.4	538.1	0.00	0.00	0.00
1,700.0	37.46	36.41	1,536.8	482.0	355.5	598.9	0.00	0.00	0.00
1,800.0	37.46	36.41	1,616.1	531.0	391.6	659.8	0.00	0.00	0.00
1,900.0	37.46	36.41	1,695.5	579.9	427.7	720.6	0.00	0.00	0.00
2,000.0	37.46	36.41	1,774.9	628.8	463.8	781.4	0.00	0.00	0.00
2,100.0	37.46	36.41	1,854.3	677.8	499.9	842.2	0.00	0.00	0.00
2,200.0	37.46	36.41	1,933.7	726.7	536.0	903.0	0.00	0.00	0.00
2,300.0	37.46	36.41	2,013.0	775.7	572.1	963.8	0.00	0.00	0.00
2,400.0	37.46	36.41	2,092.4	824.6	608.2	1,024.7	0.00	0.00	0.00
2,500.0	37.46	36.41	2,171.8	873.6	644.3	1,085.5	0.00	0.00	0.00
2,600.0	37.46	36.41	2,251.2	922.5	680.4	1,146.3	0.00	0.00	0.00
2,700.0	37.46	36.41	2,330.5	971.5	716.5	1,207.1	0.00	0.00	0.00
2,800.0	37.46	36.41	2,409.9	1,020.4	752.6	1,267.9	0.00	0.00	0.00
2,900.0	37.46	36.41	2,489.3	1,069.4	788.7	1,328.8	0.00	0.00	0.00
3,000.0	37.46	36.41	2,568.7	1,118.3	824.8	1,389.6	0.00	0.00	0.00
3,100.0	37.46	36.41	2,648.1	1,167.3	860.9	1,450.4	0.00	0.00	0.00
3,200.0	37.46	36.41	2,727.4	1,216.2	897.0	1,511.2	0.00	0.00	0.00
3,300.0	37.46	36.41	2,806.8	1,265.1	933.1	1,572.0	0.00	0.00	0.00
3,400.0	37.46	36.41	2,886.2	1,314.1	969.2	1,632.9	0.00	0.00	0.00
3,500.0	37.46	36.41	2,965.6	1,363.0	1,005.3	1,693.7	0.00	0.00	0.00
3,600.0	37.46	36.41	3,045.0	1,412.0	1,041.4	1,754.5	0.00	0.00	0.00
3,700.0	37.46	36.41	3,124.3	1,460.9	1,077.5	1,815.3	0.00	0.00	0.00
3,800.0	37.46	36.41	3,203.7	1,509.9	1,113.6	1,876.1	0.00	0.00	0.00
3,900.0	37.46	36.41	3,283.1	1,558.8	1,149.7	1,936.9	0.00	0.00	0.00
4,000.0	37.46	36.41	3,362.5	1,607.8	1,185.8	1,997.8	0.00	0.00	0.00
4,074.2	37.46	36.41	3,421.4	1,644.1	1,212.6	2,042.9	0.00	0.00	0.00
Start Drop -3.50									
4,075.0	37.43	36.41	3,422.0	1,644.5	1,212.9	2,043.4	3.50	-3.50	0.00
WF									
4,100.0	36.56	36.41	3,442.0	1,656.6	1,221.8	2,058.4	3.50	-3.50	0.00
4,200.0	33.06	36.41	3,524.1	1,702.5	1,255.7	2,115.5	3.50	-3.50	0.00
4,300.0	29.56	36.41	3,609.5	1,744.3	1,286.5	2,167.4	3.50	-3.50	0.00
4,400.0	26.06	36.41	3,697.9	1,781.9	1,314.2	2,214.1	3.50	-3.50	0.00
4,500.0	22.56	36.41	3,789.1	1,815.0	1,338.7	2,255.2	3.50	-3.50	0.00
4,600.0	19.06	36.41	3,882.5	1,843.6	1,359.7	2,290.8	3.50	-3.50	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BAT 13A-17-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Project:	Rockies Region	MD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Site:	Monument Ridge	North Reference:	True
Well:	BAT 13A-17-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
4,700.0	15.56	36.41	3,978.0	1,867.5	1,377.4	2,320.5	3.50	-3.50	0.00
4,800.0	12.06	36.41	4,075.1	1,886.7	1,391.6	2,344.4	3.50	-3.50	0.00
4,900.0	8.56	36.41	4,173.5	1,901.1	1,402.2	2,362.2	3.50	-3.50	0.00
5,000.0	5.06	36.41	4,272.7	1,910.6	1,409.2	2,374.1	3.50	-3.50	0.00
5,100.0	1.56	36.41	4,372.6	1,915.3	1,412.6	2,379.9	3.50	-3.50	0.00
5,144.5	0.00	0.00	4,417.0	1,915.7	1,413.0	2,380.5	3.50	-3.50	0.00
Start 2193.0 hold at 5144.5 MD - Top of Gas									
5,200.0	0.00	0.00	4,472.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
5,300.0	0.00	0.00	4,572.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
5,400.0	0.00	0.00	4,672.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
5,500.0	0.00	0.00	4,772.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
5,600.0	0.00	0.00	4,872.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
5,700.0	0.00	0.00	4,972.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
5,800.0	0.00	0.00	5,072.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
5,900.0	0.00	0.00	5,172.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,272.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,100.0	0.00	0.00	5,372.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,200.0	0.00	0.00	5,472.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,300.0	0.00	0.00	5,572.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,400.0	0.00	0.00	5,672.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,500.0	0.00	0.00	5,772.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,516.5	0.00	0.00	5,789.0	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
Cameo									
6,600.0	0.00	0.00	5,872.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,700.0	0.00	0.00	5,972.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,800.0	0.00	0.00	6,072.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
6,900.0	0.00	0.00	6,172.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,272.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
7,037.5	0.00	0.00	6,310.0	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
Rollins									
7,100.0	0.00	0.00	6,372.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
7,200.0	0.00	0.00	6,472.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
7,300.0	0.00	0.00	6,572.5	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
7,337.5	0.00	0.00	6,610.0	1,915.7	1,413.0	2,380.5	0.00	0.00	0.00
TD at 7337.5									

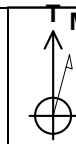
Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,075.0	3,422.0	WF		0.00	
5,144.5	4,417.0	Top of Gas		0.00	
6,516.5	5,789.0	Cameo		0.00	
7,037.5	6,310.0	Rollins		0.00	

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BAT 13A-17-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Project:	Rockies Region	MD Reference:	BAT 13A-17-07-95 @ 5461.2ft (EST KB)
Site:	Monument Ridge	North Reference:	True
Well:	BAT 13A-17-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
1,270.2	1,195.6	271.7	200.4	Start 2804.0 hold at 1270.2 MD
4,074.2	3,421.4	1,644.1	1,212.6	Start Drop -3.50
5,144.5	4,417.0	1,915.7	1,413.0	Start 2193.0 hold at 5144.5 MD
7,337.5	6,610.0	1,915.7	1,413.0	TD at 7337.5



Well Name: BAT 13A-17-07-95
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 1592003.36 2284550.91 39° 25' 53.142 N 108° 1' 59.721 W
EST KB BAT 13A-17-07-95 @ 5461.2ft (EST KB)



Azimuths to True North
Magnetic North: 10.07°
Magnetic Field
Strength: 52049.0nT
Dip Angle: 65.64°
Date: 7/1/2013
Model: IGRF200510

Monument Ridge
BAT 13A-17-07-95
Design #1
10:58, July 02 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
13A-17-07-95 TGT	4417.0	1915.7	1413.0	1593878.96	2286016.76	39° 26' 12.077 N	108° 1' 41.711 W	Point
13A-17-07-95 BHL	6610.0	1915.7	1413.0	1593878.96	2286016.76	39° 26' 12.077 N	108° 1' 41.711 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	1270.2	37.46	36.41	1195.6	271.7	200.4	3.50	36.41	337.6	
4	4074.2	37.46	36.41	3421.4	1644.1	1212.6	0.00	0.00	2042.9	
5	5144.5	0.00	0.00	4417.0	1915.7	1413.0	3.50	180.00	2380.5	13A-17-07-95 TGT
6	7337.5	0.00	0.00	6610.0	1915.7	1413.0	0.00	0.00	2380.5	13A-17-07-95 BHL

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
1195.6	1270.2	Start 2804.0 hold at 1270.2 MD
3421.4	4074.2	Start Drop -3.50
4417.0	5144.5	Start 2193.0 hold at 5144.5 MD
6610.0	7337.5	TD at 7337.5

FORMATION TOP DETAILS

TVDPathMDPath	Formation
3422.0 4075.0	WF
4417.0 5144.5	Top of Gas
5789.0 6516.5	Cameo
6310.0 7037.5	Rollins

