



Ursa Operating Company, LLC

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

Wellbore #1

Plan: Design #1

Standard Planning Report

11 July, 2013



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BAT 41C-19-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 41C-19-07-95 @ 5461.2ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	BAT 41C-19-07-95 @ 5461.2ft (Original Well Elev)
Site:	Monument Ridge	North Reference:	True
Well:	BAT 41C-19-07-95	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:		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 41C-19-07-95, SHL 39.431188410, -108.033247200					
Well Position	+N/-S	-99.9 ft	Northing:	1,591,915.89 ft	Latitude:	39° 25' 52.278 N
	+E/-W	2.8 ft	Easting:	2,284,550.90 ft	Longitude:	108° 1' 59.690 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	7/11/2013	10.06	65.64	52,046

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	169.08

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	
680.4	16.81	169.08	673.6	-68.7	13.3	3.50	3.50	0.00	169.08	
3,897.9	16.81	169.08	3,753.4	-982.6	189.6	0.00	0.00	0.00	0.00	
4,378.3	0.00	0.00	4,227.0	-1,051.3	202.9	3.50	-3.50	0.00	180.00	BAT 41C-19-07-95 TC
6,571.3	0.00	0.00	6,420.0	-1,051.3	202.9	0.00	0.00	0.00	0.00	BAT 41C-19-07-95 TI

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Site:	Monument Ridge	North Reference:	True
Well:	BAT 41C-19-07-95	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	169.08	299.9	-3.0	0.6	3.1	3.50	3.50	0.00
400.0	7.00	169.08	399.5	-12.0	2.3	12.2	3.50	3.50	0.00
500.0	10.50	169.08	498.3	-26.9	5.2	27.4	3.50	3.50	0.00
600.0	14.00	169.08	596.0	-47.7	9.2	48.6	3.50	3.50	0.00
680.4	16.81	169.08	673.6	-68.7	13.3	70.0	3.50	3.50	0.00
Start 3217.5 hold at 680.4 MD									
700.0	16.81	169.08	692.3	-74.3	14.3	75.7	0.00	0.00	0.00
800.0	16.81	169.08	788.0	-102.7	19.8	104.6	0.00	0.00	0.00
900.0	16.81	169.08	883.7	-131.1	25.3	133.5	0.00	0.00	0.00
1,000.0	16.81	169.08	979.5	-159.5	30.8	162.4	0.00	0.00	0.00
1,100.0	16.81	169.08	1,075.2	-187.9	36.3	191.4	0.00	0.00	0.00
1,200.0	16.81	169.08	1,170.9	-216.3	41.7	220.3	0.00	0.00	0.00
1,300.0	16.81	169.08	1,266.6	-244.7	47.2	249.2	0.00	0.00	0.00
1,400.0	16.81	169.08	1,362.4	-273.1	52.7	278.1	0.00	0.00	0.00
1,500.0	16.81	169.08	1,458.1	-301.5	58.2	307.1	0.00	0.00	0.00
1,600.0	16.81	169.08	1,553.8	-329.9	63.7	336.0	0.00	0.00	0.00
1,700.0	16.81	169.08	1,649.5	-358.3	69.1	364.9	0.00	0.00	0.00
1,800.0	16.81	169.08	1,745.3	-386.7	74.6	393.9	0.00	0.00	0.00
1,900.0	16.81	169.08	1,841.0	-415.1	80.1	422.8	0.00	0.00	0.00
2,000.0	16.81	169.08	1,936.7	-443.5	85.6	451.7	0.00	0.00	0.00
2,100.0	16.81	169.08	2,032.4	-471.9	91.1	480.6	0.00	0.00	0.00
2,200.0	16.81	169.08	2,128.2	-500.3	96.5	509.6	0.00	0.00	0.00
2,300.0	16.81	169.08	2,223.9	-528.7	102.0	538.5	0.00	0.00	0.00
2,400.0	16.81	169.08	2,319.6	-557.1	107.5	567.4	0.00	0.00	0.00
2,500.0	16.81	169.08	2,415.3	-585.5	113.0	596.4	0.00	0.00	0.00
2,600.0	16.81	169.08	2,511.1	-614.0	118.5	625.3	0.00	0.00	0.00
2,700.0	16.81	169.08	2,606.8	-642.4	124.0	654.2	0.00	0.00	0.00
2,800.0	16.81	169.08	2,702.5	-670.8	129.4	683.1	0.00	0.00	0.00
2,900.0	16.81	169.08	2,798.2	-699.2	134.9	712.1	0.00	0.00	0.00
3,000.0	16.81	169.08	2,894.0	-727.6	140.4	741.0	0.00	0.00	0.00
3,100.0	16.81	169.08	2,989.7	-756.0	145.9	769.9	0.00	0.00	0.00
3,200.0	16.81	169.08	3,085.4	-784.4	151.4	798.8	0.00	0.00	0.00
3,300.0	16.81	169.08	3,181.1	-812.8	156.8	827.8	0.00	0.00	0.00
3,353.1	16.81	169.08	3,232.0	-827.9	159.8	843.1	0.00	0.00	0.00
WF									
3,400.0	16.81	169.08	3,276.9	-841.2	162.3	856.7	0.00	0.00	0.00
3,500.0	16.81	169.08	3,372.6	-869.6	167.8	885.6	0.00	0.00	0.00
3,600.0	16.81	169.08	3,468.3	-898.0	173.3	914.6	0.00	0.00	0.00
3,700.0	16.81	169.08	3,564.0	-926.4	178.8	943.5	0.00	0.00	0.00
3,800.0	16.81	169.08	3,659.8	-954.8	184.2	972.4	0.00	0.00	0.00
3,897.9	16.81	169.08	3,753.4	-982.6	189.6	1,000.7	0.00	0.00	0.00
Start Drop -3.50									
3,900.0	16.74	169.08	3,755.5	-983.2	189.7	1,001.3	3.50	-3.50	0.00
4,000.0	13.24	169.08	3,852.1	-1,008.6	194.6	1,027.2	3.50	-3.50	0.00
4,100.0	9.74	169.08	3,950.0	-1,028.1	198.4	1,047.1	3.50	-3.50	0.00
4,200.0	6.24	169.08	4,049.1	-1,041.8	201.0	1,061.0	3.50	-3.50	0.00
4,300.0	2.74	169.08	4,148.7	-1,049.5	202.5	1,068.8	3.50	-3.50	0.00
4,378.3	0.00	0.00	4,227.0	-1,051.3	202.9	1,070.7	3.50	-3.50	0.00

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Site:	Monument Ridge	North Reference:	True
Well:	BAT 41C-19-07-95	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)
Start 2193.0 hold at 4378.3 MD - Top of Gas									
4,400.0	0.00	0.00	4,248.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
4,500.0	0.00	0.00	4,348.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
4,600.0	0.00	0.00	4,448.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
4,700.0	0.00	0.00	4,548.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
4,800.0	0.00	0.00	4,648.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
4,900.0	0.00	0.00	4,748.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,000.0	0.00	0.00	4,848.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,100.0	0.00	0.00	4,948.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,200.0	0.00	0.00	5,048.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,300.0	0.00	0.00	5,148.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,248.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,500.0	0.00	0.00	5,348.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,600.0	0.00	0.00	5,448.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,700.0	0.00	0.00	5,548.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,750.3	0.00	0.00	5,599.0	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
Cameo									
5,800.0	0.00	0.00	5,648.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,748.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,848.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
6,100.0	0.00	0.00	5,948.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,048.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
6,271.3	0.00	0.00	6,120.0	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
Rollins									
6,300.0	0.00	0.00	6,148.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,248.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
6,500.0	0.00	0.00	6,348.7	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
6,571.3	0.00	0.00	6,420.0	-1,051.3	202.9	1,070.7	0.00	0.00	0.00
TD at 6571.3									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,353.1	3,232.0	WF		0.00	
4,378.3	4,227.0	Top of Gas		0.00	
5,750.3	5,599.0	Cameo		0.00	
6,271.3	6,120.0	Rollins		0.00	

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Project:	Rockies Region	MD Reference:	BAT 41C-19-07-95 @ 5461.2ft (Original Well Elev)
Site:	Monument Ridge	North Reference:	True
Well:	BAT 41C-19-07-95	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
680.4	673.6	-68.7	13.3	Start 3217.5 hold at 680.4 MD
3,897.9	3,753.4	-982.6	189.6	Start Drop -3.50
4,378.3	4,227.0	-1,051.3	202.9	Start 2193.0 hold at 4378.3 MD
6,571.3	6,420.0	-1,051.3	202.9	TD at 6571.3



Well Name: BAT 41C-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 1591915.89 2284550.90 39° 25' 52.278 N 108° 1' 59.690 W
 Original Well Elev BAT 41C-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 41C-19-07-95
 Design #1
 11:14, July 11 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BAT 41C-19-07-95 TGT	4227.0	-1051.3	202.9	1590859.32	2284724.38	39° 25' 41.887 N	108° 1' 57.104 W	Point
BAT 41C-19-07-95 TD	6420.0	-1051.3	202.9	1590859.32	2284724.38	39° 25' 41.887 N	108° 1' 57.104 W	Point

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
673.6	680.4	Start 3217.5 hold at 680.4 MD
3753.4	3897.9	Start Drop -3.50
4227.0	4378.3	Start 2193.0 hold at 4378.3 MD
6420.0	6571.3	TD at 6571.3

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	680.4	16.81	169.08	673.6	-68.7	13.3	3.50	169.08	70.0	
4	3897.9	16.81	169.08	3753.4	-982.6	189.6	0.00	0.00	1000.7	
5	4378.3	0.00	0.00	4227.0	-1051.3	202.9	3.50	180.00	1070.7	BAT 41C-19-07-95 TGT
6	6571.3	0.00	0.00	6420.0	-1051.3	202.9	0.00	0.00	1070.7	BAT 41C-19-07-95 TD

