

Ursa Operating Company, LLC

Rockies Region

Speakman A

BAT 12B-24-07-96

Wellbore #1

Plan: Design #1

Standard Planning Report

06 June, 2013



Payzone Directional

Planning Report



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BAT 12B-24-07-96
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 12B-24-07-96 @ 5197.5ft (EST KB)
Project:	Rockies Region	MD Reference:	BAT 12B-24-07-96 @ 5197.5ft (EST KB)
Site:	Speakman A	North Reference:	True
Well:	BAT 12B-24-07-96	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		Speakman A			
Site Position:		Northing:	484,154.15 m	Latitude:	39° 25' 15.663 N
From:	Lat/Long	Easting:	693,950.13 m	Longitude:	108° 3' 38.016 W
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.61 °

Well	BAT 12B-24-07-96, SHL LAT: 39.420967096 LONG: -108.060500117					
Well Position	+N/-S	-18.4 ft	Northing:	484,148.40 m	Latitude:	39° 25' 15.481 N
	+E/-W	16.9 ft	Easting:	693,955.14 m	Longitude:	108° 3' 37.800 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	5,197.5 ft	Ground Level:	5,182.5 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/4/2013	10.09	65.63	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	314.22

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	
1,303.0	38.61	314.22	1,221.4	249.5	-256.4	3.50	3.50	0.00	314.22	
3,194.5	38.61	314.22	2,699.6	1,072.7	-1,102.1	0.00	0.00	0.00	0.00	
4,297.6	0.00	0.00	3,721.0	1,322.2	-1,358.5	3.50	-3.50	0.00	180.00	BAT 12B-24-07-96 TC
6,402.6	0.00	0.00	5,826.0	1,322.2	-1,358.5	0.00	0.00	0.00	0.00	BAT 12B-24-07-96 Bf

Payzone Directional Planning Report



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Project:	Rockies Region	MD Reference:	BAT 12B-24-07-96 @ 5197.5ft (EST KB)
Site:	Speakman A	North Reference:	True
Well:	BAT 12B-24-07-96	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	314.22	299.9	2.1	-2.2	3.1	3.50	3.50	0.00
400.0	7.00	314.22	399.5	8.5	-8.7	12.2	3.50	3.50	0.00
500.0	10.50	314.22	498.3	19.1	-19.6	27.4	3.50	3.50	0.00
600.0	14.00	314.22	596.0	33.9	-34.8	48.6	3.50	3.50	0.00
700.0	17.50	314.22	692.3	52.8	-54.3	75.8	3.50	3.50	0.00
800.0	21.00	314.22	786.7	75.8	-77.9	108.7	3.50	3.50	0.00
900.0	24.50	314.22	878.9	102.8	-105.6	147.4	3.50	3.50	0.00
1,000.0	28.00	314.22	968.5	133.6	-137.3	191.6	3.50	3.50	0.00
1,100.0	31.50	314.22	1,055.3	168.3	-172.9	241.2	3.50	3.50	0.00
1,200.0	35.00	314.22	1,139.0	206.5	-212.2	296.1	3.50	3.50	0.00
1,303.0	38.61	314.22	1,221.4	249.5	-256.4	357.8	3.50	3.50	0.00
Start 1891.5 hold at 1303.0 MD									
1,400.0	38.61	314.22	1,297.2	291.7	-299.7	418.3	0.00	0.00	0.00
1,500.0	38.61	314.22	1,375.4	335.3	-344.4	480.7	0.00	0.00	0.00
1,600.0	38.61	314.22	1,453.5	378.8	-389.2	543.1	0.00	0.00	0.00
1,700.0	38.61	314.22	1,531.7	422.3	-433.9	605.5	0.00	0.00	0.00
1,800.0	38.61	314.22	1,609.8	465.8	-478.6	667.9	0.00	0.00	0.00
1,900.0	38.61	314.22	1,687.9	509.3	-523.3	730.3	0.00	0.00	0.00
2,000.0	38.61	314.22	1,766.1	552.9	-568.0	792.6	0.00	0.00	0.00
2,100.0	38.61	314.22	1,844.2	596.4	-612.7	855.0	0.00	0.00	0.00
2,200.0	38.61	314.22	1,922.4	639.9	-657.4	917.4	0.00	0.00	0.00
2,300.0	38.61	314.22	2,000.5	683.4	-702.2	979.8	0.00	0.00	0.00
2,400.0	38.61	314.22	2,078.7	726.9	-746.9	1,042.2	0.00	0.00	0.00
2,500.0	38.61	314.22	2,156.8	770.5	-791.6	1,104.6	0.00	0.00	0.00
2,600.0	38.61	314.22	2,235.0	814.0	-836.3	1,167.0	0.00	0.00	0.00
2,700.0	38.61	314.22	2,313.1	857.5	-881.0	1,229.4	0.00	0.00	0.00
2,800.0	38.61	314.22	2,391.3	901.0	-925.7	1,291.8	0.00	0.00	0.00
2,900.0	38.61	314.22	2,469.4	944.5	-970.4	1,354.2	0.00	0.00	0.00
3,000.0	38.61	314.22	2,547.5	988.0	-1,015.2	1,416.6	0.00	0.00	0.00
3,100.0	38.61	314.22	2,625.7	1,031.6	-1,059.9	1,479.0	0.00	0.00	0.00
3,100.4	38.61	314.22	2,626.0	1,031.7	-1,060.1	1,479.3	0.00	0.00	0.00
WF									
3,194.5	38.61	314.22	2,699.6	1,072.7	-1,102.1	1,538.0	0.00	0.00	0.00
Start Drop -3.50									
3,200.0	38.41	314.22	2,703.8	1,075.1	-1,104.6	1,541.4	3.50	-3.50	0.00
3,300.0	34.91	314.22	2,784.0	1,116.7	-1,147.4	1,601.1	3.50	-3.50	0.00
3,400.0	31.41	314.22	2,867.7	1,154.9	-1,186.6	1,655.8	3.50	-3.50	0.00
3,500.0	27.91	314.22	2,954.6	1,189.4	-1,222.0	1,705.3	3.50	-3.50	0.00
3,600.0	24.41	314.22	3,044.4	1,220.1	-1,253.6	1,749.4	3.50	-3.50	0.00
3,700.0	20.91	314.22	3,136.6	1,247.0	-1,281.2	1,787.9	3.50	-3.50	0.00
3,800.0	17.41	314.22	3,231.1	1,269.9	-1,304.7	1,820.7	3.50	-3.50	0.00
3,900.0	13.91	314.22	3,327.3	1,288.7	-1,324.1	1,847.7	3.50	-3.50	0.00
4,000.0	10.41	314.22	3,425.1	1,303.4	-1,339.2	1,868.8	3.50	-3.50	0.00
4,100.0	6.91	314.22	3,523.9	1,313.9	-1,350.0	1,883.8	3.50	-3.50	0.00
4,200.0	3.41	314.22	3,623.5	1,320.2	-1,356.4	1,892.8	3.50	-3.50	0.00
4,297.6	0.00	0.00	3,721.0	1,322.2	-1,358.5	1,895.8	3.50	-3.50	46.92
Start 2105.0 hold at 4297.6 MD - TOP PERF									
4,300.0	0.00	0.00	3,723.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
4,400.0	0.00	0.00	3,823.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00

Payzone Directional

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Site:	Speakman A	North Reference:	True
Well:	BAT 12B-24-07-96	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

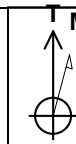
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	0.00	0.00	3,923.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
4,600.0	0.00	0.00	4,023.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
4,700.0	0.00	0.00	4,123.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
4,800.0	0.00	0.00	4,223.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
4,900.0	0.00	0.00	4,323.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,000.0	0.00	0.00	4,423.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,100.0	0.00	0.00	4,523.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,200.0	0.00	0.00	4,623.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,300.0	0.00	0.00	4,723.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,400.0	0.00	0.00	4,823.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,500.0	0.00	0.00	4,923.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,581.6	0.00	0.00	5,005.0	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
CAMEO									
5,600.0	0.00	0.00	5,023.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,123.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,223.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,323.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,423.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
6,100.0	0.00	0.00	5,523.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
6,102.6	0.00	0.00	5,526.0	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
ROLLINS									
6,200.0	0.00	0.00	5,623.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
6,300.0	0.00	0.00	5,723.4	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
6,402.6	0.00	0.00	5,826.0	1,322.2	-1,358.5	1,895.8	0.00	0.00	0.00
TD at 6402.6									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,100.4	2,626.0	WF		0.00	
4,297.6	3,721.0	TOP PERF		0.00	
5,581.6	5,005.0	CAMEO		0.00	
6,102.6	5,526.0	ROLLINS		0.00	

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
1,303.0	1,221.4	249.5	-256.4	Start 1891.5 hold at 1303.0 MD
3,194.5	2,699.6	1,072.7	-1,102.1	Start Drop -3.50
4,297.6	3,721.0	1,322.2	-1,358.5	Start 2105.0 hold at 4297.6 MD
6,402.6	5,826.0	1,322.2	-1,358.5	TD at 6402.6



Well Name: BAT 12B-24-07-96
Surface Location: Speakman A
North American Datum 1983 , US State Plane 1983, Colorado Central Zone
Ground Elevation: 5182.5
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 484148.40 693955.14 39° 25' 15.481 N 108° 3' 37.800 W
EST KB BAT 12B-24-07-96 @ 5197.5ft (EST KB)



Azimuths to True North
Magnetic North: 10.09°
Magnetic Field
Strength: 52049.2snT
Dip Angle: 65.63°
Date: 6/4/2013
Model: IGRF200510

Speakman A
BAT 12B-24-07-96
Design #1
22:37, June 06 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BAT 12B-24-07-96 TGT	3721.0	1322.2	-1358.5	484562.93	693552.58	39° 25' 28.550 N	108° 3' 55.113 W	Point
BAT 12B-24-07-96 BHL	5826.0	1322.2	-1358.5	484562.93	693552.58	39° 25' 28.550 N	108° 3' 55.113 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	1303.0	38.61	314.22	1221.4	249.5	-256.4	3.50	314.22	357.8	
4	3194.5	38.61	314.22	2699.6	1072.7	-1102.1	0.00	0.00	1538.0	
5	4297.6	0.00	0.00	3721.0	1322.2	-1358.5	3.50	180.00	1895.8	BAT 12B-24-07-96 TGT
6	6402.6	0.00	0.00	5826.0	1322.2	-1358.5	0.00	0.00	1895.8	BAT 12B-24-07-96 BHL

ANNOTATIONS

TVD	MD	Annotation
200.0	200.0	Start Build 3.50
1221.4	1303.0	Start 1891.5 hold at 1303.0 MD
2699.6	3194.5	Start Drop -3.50
3721.0	4297.6	Start 2105.0 hold at 4297.6 MD
5826.0	6402.6	TD at 6402.6

FORMATION TOP DETAILS

TVDP	MDP	Formation
2626.0	3100.4	WF
3721.0	4297.6	TOP PERF
5005.0	5581.6	CAMEO
5526.0	6102.6	ROLLINS

