



# **Ursa Operating Company, LLC**

**Rockies Region**

**Tompkins**

**BAT 42B-08-07-95**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**20 May, 2014**



<b>Database:</b>	MasterDB	<b>Local Co-ordinate Reference:</b>	Well BAT 42B-08-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	BAT 42B-08-07-95 @ 5547.4usft (Xtreme 15)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 42B-08-07-95 @ 5547.4usft (Xtreme 15)
<b>Site:</b>	Tompkins	<b>North Reference:</b>	True
<b>Well:</b>	BAT 42B-08-07-95	<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		Tompkins			
Site Position:		Northing:	1,602,267.15 usft	Latitude:	39° 27' 36.106 N
From:	Lat/Long	Easting:	2,290,225.27 usft	Longitude:	108° 0' 51.048 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.59 °

Well	BAT 42B-08-07-95, SHL LAT: 39.459960900 LONG: -108.013827900					
Well Position	+N/-S	-25.0 usft	Northing:	1,602,239.45 usft	Latitude:	39° 27' 35.859 N
	+E/-W	99.4 usft	Easting:	2,290,323.92 usft	Longitude:	108° 0' 49.780 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,547.4 usft	Ground Level:	5,532.0 usft

<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>
	IGRF2010	5/20/2014	9.98	65.63	51,936

<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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	182.58

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,402.6	31.59	182.58	1,357.5	-242.3	-10.9	3.50	3.50	0.00	182.58	
4,218.1	31.59	182.58	3,755.9	-1,715.7	-77.4	0.00	0.00	0.00	0.00	
5,120.7	0.00	0.00	4,613.4	-1,958.1	-88.4	3.50	-3.50	0.00	180.00	BAT 42B-08-07-95 TC
7,435.3	0.00	0.00	6,928.0	-1,958.1	-88.4	0.00	0.00	0.00	0.00	

<b>Database:</b>	MasterDB	<b>Local Co-ordinate Reference:</b>	Well BAT 42B-08-07-95
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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 42B-08-07-95 @ 5547.4usft (Xtreme 15)
<b>Site:</b>	Tompkins	<b>North Reference:</b>	True
<b>Well:</b>	BAT 42B-08-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Start Build 3.50</b>									
600.0	3.50	182.58	599.9	-3.1	-0.1	3.1	3.50	3.50	0.00
700.0	7.00	182.58	699.5	-12.2	-0.6	12.2	3.50	3.50	0.00
800.0	10.50	182.58	798.3	-27.4	-1.2	27.4	3.50	3.50	0.00
900.0	14.00	182.58	896.0	-48.6	-2.2	48.6	3.50	3.50	0.00
1,000.0	17.50	182.58	992.3	-75.7	-3.4	75.8	3.50	3.50	0.00
1,100.0	21.00	182.58	1,086.7	-108.6	-4.9	108.7	3.50	3.50	0.00
1,200.0	24.50	182.58	1,178.9	-147.2	-6.6	147.4	3.50	3.50	0.00
1,300.0	28.00	182.58	1,268.5	-191.4	-8.6	191.6	3.50	3.50	0.00
1,402.6	31.59	182.58	1,357.5	-242.3	-10.9	242.6	3.50	3.50	0.00
<b>Start 2815.5 hold at 1402.6 MD</b>									
1,500.0	31.59	182.58	1,440.5	-293.3	-13.2	293.6	0.00	0.00	0.00
1,600.0	31.59	182.58	1,525.7	-345.6	-15.6	346.0	0.00	0.00	0.00
1,700.0	31.59	182.58	1,610.9	-398.0	-18.0	398.4	0.00	0.00	0.00
1,800.0	31.59	182.58	1,696.1	-450.3	-20.3	450.8	0.00	0.00	0.00
1,804.6	31.59	182.58	1,700.0	-452.7	-20.4	453.2	0.00	0.00	0.00
<b>Surface Casing</b>									
1,900.0	31.59	182.58	1,781.2	-502.6	-22.7	503.2	0.00	0.00	0.00
2,000.0	31.59	182.58	1,866.4	-555.0	-25.0	555.5	0.00	0.00	0.00
2,100.0	31.59	182.58	1,951.6	-607.3	-27.4	607.9	0.00	0.00	0.00
2,200.0	31.59	182.58	2,036.8	-659.6	-29.8	660.3	0.00	0.00	0.00
2,300.0	31.59	182.58	2,122.0	-712.0	-32.1	712.7	0.00	0.00	0.00
2,400.0	31.59	182.58	2,207.2	-764.3	-34.5	765.1	0.00	0.00	0.00
2,500.0	31.59	182.58	2,292.3	-816.6	-36.8	817.5	0.00	0.00	0.00
2,600.0	31.59	182.58	2,377.5	-869.0	-39.2	869.8	0.00	0.00	0.00
2,700.0	31.59	182.58	2,462.7	-921.3	-41.6	922.2	0.00	0.00	0.00
2,800.0	31.59	182.58	2,547.9	-973.6	-43.9	974.6	0.00	0.00	0.00
2,900.0	31.59	182.58	2,633.1	-1,026.0	-46.3	1,027.0	0.00	0.00	0.00
3,000.0	31.59	182.58	2,718.2	-1,078.3	-48.7	1,079.4	0.00	0.00	0.00
3,100.0	31.59	182.58	2,803.4	-1,130.6	-51.0	1,131.8	0.00	0.00	0.00
3,200.0	31.59	182.58	2,888.6	-1,183.0	-53.4	1,184.2	0.00	0.00	0.00
3,300.0	31.59	182.58	2,973.8	-1,235.3	-55.7	1,236.5	0.00	0.00	0.00
3,400.0	31.59	182.58	3,059.0	-1,287.6	-58.1	1,288.9	0.00	0.00	0.00
3,500.0	31.59	182.58	3,144.1	-1,339.9	-60.5	1,341.3	0.00	0.00	0.00
3,600.0	31.59	182.58	3,229.3	-1,392.3	-62.8	1,393.7	0.00	0.00	0.00
3,700.0	31.59	182.58	3,314.5	-1,444.6	-65.2	1,446.1	0.00	0.00	0.00
3,800.0	31.59	182.58	3,399.7	-1,496.9	-67.5	1,498.5	0.00	0.00	0.00
3,900.0	31.59	182.58	3,484.9	-1,549.3	-69.9	1,550.8	0.00	0.00	0.00
4,000.0	31.59	182.58	3,570.1	-1,601.6	-72.3	1,603.2	0.00	0.00	0.00
4,014.5	31.59	182.58	3,582.4	-1,609.2	-72.6	1,610.8	0.00	0.00	0.00
<b>Williams Fork</b>									
4,100.0	31.59	182.58	3,655.2	-1,653.9	-74.6	1,655.6	0.00	0.00	0.00
4,200.0	31.59	182.58	3,740.4	-1,706.3	-77.0	1,708.0	0.00	0.00	0.00
4,218.1	31.59	182.58	3,755.9	-1,715.7	-77.4	1,717.5	0.00	0.00	0.00
<b>Start Drop -3.50</b>									
4,300.0	28.72	182.58	3,826.6	-1,756.8	-79.3	1,758.6	3.50	-3.50	0.00
4,400.0	25.22	182.58	3,915.7	-1,802.1	-81.3	1,804.0	3.50	-3.50	0.00
4,500.0	21.72	182.58	4,007.5	-1,841.9	-83.1	1,843.8	3.50	-3.50	0.00

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 42B-08-07-95 @ 5547.4usft (Xtreme 15)
<b>Site:</b>	Tompkins	<b>North Reference:</b>	True
<b>Well:</b>	BAT 42B-08-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.0	18.22	182.58	4,101.4	-1,876.1	-84.7	1,878.0	3.50	-3.50	0.00
4,700.0	14.72	182.58	4,197.3	-1,904.4	-85.9	1,906.3	3.50	-3.50	0.00
4,800.0	11.22	182.58	4,294.7	-1,926.8	-86.9	1,928.8	3.50	-3.50	0.00
4,900.0	7.72	182.58	4,393.4	-1,943.2	-87.7	1,945.2	3.50	-3.50	0.00
5,000.0	4.22	182.58	4,492.8	-1,953.6	-88.2	1,955.6	3.50	-3.50	0.00
5,100.0	0.72	182.58	4,592.7	-1,958.0	-88.3	1,959.9	3.50	-3.50	0.00
5,120.7	0.00	0.00	4,613.4	-1,958.1	-88.4	1,960.1	3.50	-3.50	856.76
Back to Vertical - Start 2314.6 hold at 5120.7 MD - Top of Gas - BAT 42B-08-07-95 TGT									
5,200.0	0.00	0.00	4,692.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
5,300.0	0.00	0.00	4,792.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
5,400.0	0.00	0.00	4,892.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
5,500.0	0.00	0.00	4,992.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,092.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,192.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
5,800.0	0.00	0.00	5,292.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,392.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,492.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,100.0	0.00	0.00	5,592.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,200.0	0.00	0.00	5,692.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,300.0	0.00	0.00	5,792.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,400.0	0.00	0.00	5,892.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,500.0	0.00	0.00	5,992.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,092.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,637.7	0.00	0.00	6,130.4	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
Cameo									
6,700.0	0.00	0.00	6,192.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,292.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
6,900.0	0.00	0.00	6,392.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
7,000.0	0.00	0.00	6,492.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
7,100.0	0.00	0.00	6,592.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
7,135.7	0.00	0.00	6,628.4	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
Rollins									
7,200.0	0.00	0.00	6,692.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
7,300.0	0.00	0.00	6,792.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
7,400.0	0.00	0.00	6,892.7	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
7,435.3	0.00	0.00	6,928.0	-1,958.1	-88.4	1,960.1	0.00	0.00	0.00
TD at 7435.3									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BAT 42B-08-07-95 TGT	0.00	0.00	4,613.4	-1,958.1	-88.4	1,600,284.56	2,290,181.43	39° 27' 16.506 N	108° 0' 50.907 W
- hit/miss target									
- Shape									
- plan hits target center									
- Rectangle (sides W100.0 H40.0 D2,315.0)									

<b>Database:</b>	MasterDB	<b>Local Co-ordinate Reference:</b>	Well BAT 42B-08-07-95
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	BAT 42B-08-07-95 @ 5547.4usft (Xtreme 15)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	BAT 42B-08-07-95 @ 5547.4usft (Xtreme 15)
<b>Site:</b>	Tompkins	<b>North Reference:</b>	True
<b>Well:</b>	BAT 42B-08-07-95	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,014.5	3,582.4	Williams Fork		0.00	
5,120.7	4,613.4	Top of Gas		0.00	
6,637.7	6,130.4	Cameo		0.00	
7,135.7	6,628.4	Rollins		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.0	500.0	0.0	0.0	Start Build 3.50
1,402.6	1,357.5	-242.3	-10.9	Start 2815.5 hold at 1402.6 MD
1,804.6	1,700.0	-452.7	-20.4	Surface Casing
4,218.1	3,755.9	-1,715.7	-77.4	Start Drop -3.50
5,120.7	4,613.4	-1,958.1	-88.4	Back to Vertical
5,120.7	4,613.4	-1,958.1	-88.4	Start 2314.6 hold at 5120.7 MD
7,435.3	6,928.0	-1,958.1	-88.4	TD at 7435.3



Well Name: BAT 42B-08-07-95  
Surface Location: Tompkins  
North American Datum 1983, US State Plane 1983, Colorado Central Zone  
Ground Elevation: 5532.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1602239.46 2290323.92 39° 27' 35.859 N 108° 0' 49.780 W  
Xtreme 15 BAT 42B-08-07-95 @ 5547.4usft (Xtreme 15)



Azimuths to True North  
Magnetic North: 9.98°  
Magnetic Field  
Strength: 51936.3snT  
Dip Angle: 65.63°  
Date: 5/20/2014  
Model: IGRF2010

Tompkins  
BAT 42B-08-07-95  
Design #1  
18:40, May 20 2014

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BAT 42B-08-07-95	4633.4	-1958.1	-88.4	1600284.57	2290181.43	39° 27' 16.506 N	108° 0' 50.907 W	Rectangle (Sides: L40.0 W100.0)

#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSECT	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	1402.6	31.59	182.58	1357.5	-242.3	-10.9	3.50	182.58	242.6	
4	4218.1	31.59	182.58	3755.9	-1715.7	-77.4	0.00	0.00	1717.5	
5	5120.7	0.00	0.00	4613.4	-1958.1	-88.4	3.50	180.00	1960.1	BAT 42B-08-07-95 TGT
6	7435.3	0.00	0.00	6928.0	-1958.1	-88.4	0.00	0.00	1960.1	

#### ANNOTATIONS

TVD	MD	Annotation
500.0	500.0	Start Build 3.50
1357.5	1402.6	Start 2815.5 hold at 1402.6 MD
1700.0	1804.6	Surface Casing
3755.9	4218.1	Start Drop -3.50
4613.4	5120.7	Back to Vertical
4613.4	5120.7	Start 2314.6 hold at 5120.7 MD
6928.0	7435.3	TD at 7435.3

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3582.4	4014.5	Williams Fork	0.00	
4613.4	5120.7	Top of Gas	0.00	
6130.4	6637.7	Cameo	0.00	
6628.4	7135.7	Rollins	0.00	

