



Ursa Operating Company, LLC

Rockies Region

Tompkins

BAT 41B-08-07-95

Wellbore #1

Plan: Design #1

Standard Planning Report

20 May, 2014



Database:	MasterDB	Local Co-ordinate Reference:	Well BAT 41B-08-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)
Project:	Rockies Region	MD Reference:	BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 41B-08-07-95	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	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 41B-08-07-95, SHL LAT: 39.460025200 LONG: -108.013958700					
Well Position	+N/-S	-1.5 usft	Northing:	1,602,263.89 usft	Latitude:	39° 27' 36.091 N
	+E/-W	62.5 usft	Easting:	2,290,287.65 usft	Longitude:	108° 0' 50.251 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,547.4 usft	Ground Level:	5,532.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/20/2014	9.98	65.63	51,936

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	185.71

Plan Sections										
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	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,210.4	10.86	185.71	1,208.6	-29.2	-2.9	3.50	3.50	0.00	185.71	
4,425.3	10.86	185.71	4,365.8	-632.2	-63.2	0.00	0.00	0.00	0.00	
4,735.7	0.00	0.00	4,674.4	-661.4	-66.2	3.50	-3.50	0.00	180.00	BAT 41B-08-07-95 TC
7,050.3	0.00	0.00	6,989.0	-661.4	-66.2	0.00	0.00	0.00	0.00	

Database:	MasterDB	Local Co-ordinate Reference:	Well BAT 41B-08-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)
Project:	Rockies Region	MD Reference:	BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 41B-08-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 3.50									
1,000.0	3.50	185.71	999.9	-3.0	-0.3	3.1	3.50	3.50	0.00
1,100.0	7.00	185.71	1,099.5	-12.1	-1.2	12.2	3.50	3.50	0.00
1,200.0	10.50	185.71	1,198.3	-27.3	-2.7	27.4	3.50	3.50	0.00
1,210.4	10.86	185.71	1,208.6	-29.2	-2.9	29.3	3.50	3.50	0.00
Start 3214.9 hold at 1210.4 MD									
1,300.0	10.86	185.71	1,296.5	-46.0	-4.6	46.2	0.00	0.00	0.00
1,400.0	10.86	185.71	1,394.7	-64.8	-6.5	65.1	0.00	0.00	0.00
1,500.0	10.86	185.71	1,493.0	-83.5	-8.4	83.9	0.00	0.00	0.00
1,600.0	10.86	185.71	1,591.2	-102.3	-10.2	102.8	0.00	0.00	0.00
1,700.0	10.86	185.71	1,689.4	-121.0	-12.1	121.6	0.00	0.00	0.00
1,710.8	10.86	185.71	1,700.0	-123.1	-12.3	123.7	0.00	0.00	0.00
Surface Casing									
1,800.0	10.86	185.71	1,787.6	-139.8	-14.0	140.5	0.00	0.00	0.00
1,900.0	10.86	185.71	1,885.8	-158.5	-15.9	159.3	0.00	0.00	0.00
2,000.0	10.86	185.71	1,984.0	-177.3	-17.7	178.2	0.00	0.00	0.00
2,100.0	10.86	185.71	2,082.2	-196.0	-19.6	197.0	0.00	0.00	0.00
2,200.0	10.86	185.71	2,180.4	-214.8	-21.5	215.9	0.00	0.00	0.00
2,300.0	10.86	185.71	2,278.6	-233.6	-23.4	234.7	0.00	0.00	0.00
2,400.0	10.86	185.71	2,376.8	-252.3	-25.2	253.6	0.00	0.00	0.00
2,500.0	10.86	185.71	2,475.0	-271.1	-27.1	272.4	0.00	0.00	0.00
2,600.0	10.86	185.71	2,573.2	-289.8	-29.0	291.3	0.00	0.00	0.00
2,700.0	10.86	185.71	2,671.4	-308.6	-30.9	310.1	0.00	0.00	0.00
2,800.0	10.86	185.71	2,769.6	-327.3	-32.7	329.0	0.00	0.00	0.00
2,900.0	10.86	185.71	2,867.9	-346.1	-34.6	347.8	0.00	0.00	0.00
3,000.0	10.86	185.71	2,966.1	-364.8	-36.5	366.7	0.00	0.00	0.00
3,100.0	10.86	185.71	3,064.3	-383.6	-38.4	385.5	0.00	0.00	0.00
3,200.0	10.86	185.71	3,162.5	-402.4	-40.2	404.4	0.00	0.00	0.00
3,300.0	10.86	185.71	3,260.7	-421.1	-42.1	423.2	0.00	0.00	0.00
3,400.0	10.86	185.71	3,358.9	-439.9	-44.0	442.1	0.00	0.00	0.00
3,500.0	10.86	185.71	3,457.1	-458.6	-45.9	460.9	0.00	0.00	0.00
3,600.0	10.86	185.71	3,555.3	-477.4	-47.8	479.8	0.00	0.00	0.00
3,689.7	10.86	185.71	3,643.4	-494.2	-49.4	496.7	0.00	0.00	0.00
Williams Fork									
3,700.0	10.86	185.71	3,653.5	-496.1	-49.6	498.6	0.00	0.00	0.00
3,800.0	10.86	185.71	3,751.7	-514.9	-51.5	517.5	0.00	0.00	0.00
3,900.0	10.86	185.71	3,849.9	-533.6	-53.4	536.3	0.00	0.00	0.00
4,000.0	10.86	185.71	3,948.1	-552.4	-55.3	555.2	0.00	0.00	0.00
4,100.0	10.86	185.71	4,046.3	-571.2	-57.1	574.0	0.00	0.00	0.00
4,200.0	10.86	185.71	4,144.6	-589.9	-59.0	592.9	0.00	0.00	0.00
4,300.0	10.86	185.71	4,242.8	-608.7	-60.9	611.7	0.00	0.00	0.00
4,400.0	10.86	185.71	4,341.0	-627.4	-62.8	630.6	0.00	0.00	0.00
4,425.3	10.86	185.71	4,365.8	-632.2	-63.2	635.3	0.00	0.00	0.00
Start Drop -3.50									

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Project:	Rockies Region	MD Reference:	BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 41B-08-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)	
4,500.0	8.25	185.71	4,439.5	-644.5	-64.5	647.7	3.50	-3.50	0.00	
4,600.0	4.75	185.71	4,538.8	-655.8	-65.6	659.0	3.50	-3.50	0.00	
4,700.0	1.25	185.71	4,638.7	-661.0	-66.1	664.3	3.50	-3.50	0.00	
4,735.7	0.00	0.00	4,674.4	-661.4	-66.2	664.7	3.50	-3.50	487.63	
Back to Vertical - Start 2314.6 hold at 4735.7 MD - Top of Gas - BAT 41B-08-07-95 TGT										
4,800.0	0.00	0.00	4,738.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,838.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,938.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,038.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,138.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,238.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,338.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,438.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,538.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,638.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,738.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,838.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,938.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,038.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,138.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,252.7	0.00	0.00	6,191.4	-661.4	-66.2	664.7	0.00	0.00	0.00	
Cameo										
6,300.0	0.00	0.00	6,238.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,338.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,438.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,538.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,638.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,750.7	0.00	0.00	6,689.4	-661.4	-66.2	664.7	0.00	0.00	0.00	
Rollins										
6,800.0	0.00	0.00	6,738.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,838.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,938.7	-661.4	-66.2	664.7	0.00	0.00	0.00	
7,050.3	0.00	0.00	6,989.0	-661.4	-66.2	664.7	0.00	0.00	0.00	
TD at 7050.3										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
BAT 41B-08-07-95 TGT	0.00	0.00	4,674.4	-661.4	-66.2	1,601,604.60	2,290,203.23	39° 27' 29.554 N	108° 0' 51.095 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Rectangle (sides W100.0 H40.0 D2,315.0)										

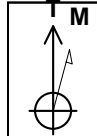
Database:	MasterDB	Local Co-ordinate Reference:	Well BAT 41B-08-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)
Project:	Rockies Region	MD Reference:	BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 41B-08-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,689.7	3,643.4	Williams Fork		0.00	
4,735.7	4,674.4	Top of Gas		0.00	
6,252.7	6,191.4	Cameo		0.00	
6,750.7	6,689.4	Rollins		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
900.0	900.0	0.0	0.0	Start Build 3.50	
1,210.4	1,208.6	-29.2	-2.9	Start 3214.9 hold at 1210.4 MD	
1,710.8	1,700.0	-123.1	-12.3	Surface Casing	
4,425.3	4,365.8	-632.2	-63.2	Start Drop -3.50	
4,735.7	4,674.4	-661.4	-66.2	Back to Vertical	
4,735.7	4,674.4	-661.4	-66.2	Start 2314.6 hold at 4735.7 MD	
7,050.3	6,989.0	-661.4	-66.2	TD at 7050.3	



Well Name: BAT 41B-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 1602263.89 2290287.65 39° 27' 36.091 N 108° 0' 50.251 W
 Xtreme 15 BAT 41B-08-07-95 @ 5547.4usft (Xtreme 15)



Azimuths to True North
 Magnetic North: 9.98°
 Magnetic Field
 Strength: 51936.4snT
 Dip Angle: 65.63°
 Date: 5/20/2014
 Model: IGRF2010

Tompkins
 BAT 41B-08-07-95
 Design #1
 20:31, May 20 2014

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BAT 41B-08-07-95	4637.4	-661.4	-66.2	1601604.61	2290203.22	39° 27' 29.554 N	108° 0' 51.095 W	Rectangle (Sides: L40.0 W100.0)

ANNOTATIONS

TVD	MD	Annotation
900.0	900.0	Start Build 3.50
1208.6	1210.4	Start 3214.9 hold at 1210.4 MD
1700.0	1710.8	Surface Casing
4365.8	4425.3	Start Drop -3.50
4674.4	4735.7	Back to Vertical
4674.4	4735.7	Start 2314.6 hold at 4735.7 MD
6989.0	7050.3	TD at 7050.3

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	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1210.4	10.86	185.71	1208.6	-29.2	-2.9	3.50	185.71	29.3	
4	4425.3	10.86	185.71	4365.8	-632.2	-63.2	0.00	0.00	635.3	
5	4735.7	0.00	0.00	4674.4	-661.4	-66.2	3.50	180.00	664.7	BAT 41B-08-07-95 TGT
6	7050.3	0.00	0.00	6989.0	-661.4	-66.2	0.00	0.00	664.7	

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3643.4	3689.7	Williams Fork	0.00	
4674.4	4735.7	Top of Gas	0.00	
6191.4	6252.7	Cameo	0.00	
6689.4	6750.7	Rollins	0.00	

