



Ursa Operating Company, LLC

Rockies Region

Tompkins

BAT 31B-08-07-95

Wellbore #1

Plan: Design #1

Standard Planning Report

20 May, 2014



Database:	MasterDB	Local Co-ordinate Reference:	Well BAT 31B-08-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)
Project:	Rockies Region	MD Reference:	BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 31B-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 31B-08-07-95, SHL LAT: 39.460028600 LONG: -108.014135600					
Well Position	+N/-S	-0.3 usft	Northing:	1,602,266.51 usft	Latitude:	39° 27' 36.103 N
	+E/-W	12.5 usft	Easting:	2,290,237.76 usft	Longitude:	108° 0' 50.888 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	5/19/2014	9.98	65.63	51,937

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	244.75

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	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,398.0	24.43	244.75	1,377.1	-62.5	-132.6	3.50	3.50	0.00	244.75	
4,260.6	24.43	244.75	3,983.3	-567.5	-1,203.4	0.00	0.00	0.00	0.00	
4,958.6	0.00	0.00	4,660.4	-630.0	-1,336.0	3.50	-3.50	0.00	180.00	BAT 31B-08-07-95 TC
7,278.2	0.00	0.00	6,980.0	-630.0	-1,336.0	0.00	0.00	0.00	0.00	

Database:	MasterDB	Local Co-ordinate Reference:	Well BAT 31B-08-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)
Project:	Rockies Region	MD Reference:	BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 31B-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
Start Build 3.50									
800.0	3.50	244.75	799.9	-1.3	-2.8	3.1	3.50	3.50	0.00
900.0	7.00	244.75	899.5	-5.2	-11.0	12.2	3.50	3.50	0.00
1,000.0	10.50	244.75	998.3	-11.7	-24.8	27.4	3.50	3.50	0.00
1,100.0	14.00	244.75	1,096.0	-20.7	-44.0	48.6	3.50	3.50	0.00
1,200.0	17.50	244.75	1,192.3	-32.3	-68.5	75.8	3.50	3.50	0.00
1,300.0	21.00	244.75	1,286.7	-46.4	-98.3	108.7	3.50	3.50	0.00
1,398.0	24.43	244.75	1,377.1	-62.5	-132.6	146.6	3.50	3.50	0.00
Start 2862.6 hold at 1398.0 MD									
1,400.0	24.43	244.75	1,378.9	-62.9	-133.3	147.4	0.00	0.00	0.00
1,500.0	24.43	244.75	1,469.9	-80.5	-170.7	188.8	0.00	0.00	0.00
1,600.0	24.43	244.75	1,561.0	-98.1	-208.1	230.1	0.00	0.00	0.00
1,700.0	24.43	244.75	1,652.0	-115.8	-245.5	271.5	0.00	0.00	0.00
1,752.7	24.43	244.75	1,700.0	-125.1	-265.3	293.3	0.00	0.00	0.00
Surface Casing									
1,800.0	24.43	244.75	1,743.0	-133.4	-282.9	312.8	0.00	0.00	0.00
1,900.0	24.43	244.75	1,834.1	-151.1	-320.4	354.2	0.00	0.00	0.00
2,000.0	24.43	244.75	1,925.1	-168.7	-357.8	395.6	0.00	0.00	0.00
2,100.0	24.43	244.75	2,016.2	-186.4	-395.2	436.9	0.00	0.00	0.00
2,200.0	24.43	244.75	2,107.2	-204.0	-432.6	478.3	0.00	0.00	0.00
2,300.0	24.43	244.75	2,198.3	-221.6	-470.0	519.6	0.00	0.00	0.00
2,400.0	24.43	244.75	2,289.3	-239.3	-507.4	561.0	0.00	0.00	0.00
2,500.0	24.43	244.75	2,380.4	-256.9	-544.8	602.3	0.00	0.00	0.00
2,600.0	24.43	244.75	2,471.4	-274.6	-582.2	643.7	0.00	0.00	0.00
2,700.0	24.43	244.75	2,562.5	-292.2	-619.6	685.1	0.00	0.00	0.00
2,800.0	24.43	244.75	2,653.5	-309.8	-657.0	726.4	0.00	0.00	0.00
2,900.0	24.43	244.75	2,744.6	-327.5	-694.4	767.8	0.00	0.00	0.00
3,000.0	24.43	244.75	2,835.6	-345.1	-731.9	809.1	0.00	0.00	0.00
3,100.0	24.43	244.75	2,926.6	-362.8	-769.3	850.5	0.00	0.00	0.00
3,200.0	24.43	244.75	3,017.7	-380.4	-806.7	891.9	0.00	0.00	0.00
3,300.0	24.43	244.75	3,108.7	-398.0	-844.1	933.2	0.00	0.00	0.00
3,400.0	24.43	244.75	3,199.8	-415.7	-881.5	974.6	0.00	0.00	0.00
3,500.0	24.43	244.75	3,290.8	-433.3	-918.9	1,015.9	0.00	0.00	0.00
3,600.0	24.43	244.75	3,381.9	-451.0	-956.3	1,057.3	0.00	0.00	0.00
3,700.0	24.43	244.75	3,472.9	-468.6	-993.7	1,098.7	0.00	0.00	0.00
3,800.0	24.43	244.75	3,564.0	-486.2	-1,031.1	1,140.0	0.00	0.00	0.00
3,871.9	24.43	244.75	3,629.4	-498.9	-1,058.0	1,169.7	0.00	0.00	0.00
Williams Fork									
3,900.0	24.43	244.75	3,655.0	-503.9	-1,068.5	1,181.4	0.00	0.00	0.00
4,000.0	24.43	244.75	3,746.1	-521.5	-1,105.9	1,222.7	0.00	0.00	0.00
4,100.0	24.43	244.75	3,837.1	-539.2	-1,143.3	1,264.1	0.00	0.00	0.00
4,200.0	24.43	244.75	3,928.2	-556.8	-1,180.8	1,305.5	0.00	0.00	0.00
4,260.6	24.43	244.75	3,983.3	-567.5	-1,203.4	1,330.5	0.00	0.00	0.00
Start Drop -3.50									
4,300.0	23.05	244.75	4,019.4	-574.3	-1,217.8	1,346.4	3.50	-3.50	0.00
4,400.0	19.55	244.75	4,112.5	-589.8	-1,250.6	1,382.7	3.50	-3.50	0.00

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Project:	Rockies Region	MD Reference:	BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 31B-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	16.05	244.75	4,207.7	-602.8	-1,278.3	1,413.3	3.50	-3.50	0.00	
4,600.0	12.55	244.75	4,304.6	-613.3	-1,300.6	1,438.0	3.50	-3.50	0.00	
4,700.0	9.05	244.75	4,402.8	-621.3	-1,317.6	1,456.7	3.50	-3.50	0.00	
4,800.0	5.55	244.75	4,502.0	-626.7	-1,329.1	1,469.4	3.50	-3.50	0.00	
4,900.0	2.05	244.75	4,601.8	-629.6	-1,335.1	1,476.0	3.50	-3.50	0.00	
4,958.6	0.00	0.00	4,660.4	-630.0	-1,336.0	1,477.1	3.50	-3.50	0.00	
Back to Vertical - Start 2319.6 hold at 4958.6 MD - Top of Gas - BAT 31B-08-07-95 TGT										
5,000.0	0.00	0.00	4,701.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,100.0	0.00	0.00	4,801.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,200.0	0.00	0.00	4,901.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,001.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,101.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,201.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,301.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,401.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,501.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,601.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,701.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,801.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,200.0	0.00	0.00	5,901.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,001.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,101.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,475.6	0.00	0.00	6,177.4	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
Cameo										
6,500.0	0.00	0.00	6,201.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,301.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,401.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,501.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,601.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
6,973.6	0.00	0.00	6,675.4	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
Rollins										
7,000.0	0.00	0.00	6,701.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,801.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
7,200.0	0.00	0.00	6,901.8	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
7,278.2	0.00	0.00	6,980.0	-630.0	-1,336.0	1,477.1	0.00	0.00	0.00	
TD at 7278.2										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
BAT 31B-08-07-95 TGT	0.00	0.00	4,660.4	-630.0	-1,336.0	1,601,673.71	2,288,884.84	39° 27' 29.876 N	108° 1' 7.922 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Rectangle (sides W100.0 H40.0 D2,315.0)										

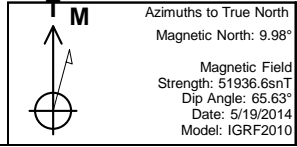
Database:	MasterDB	Local Co-ordinate Reference:	Well BAT 31B-08-07-95
Company:	Ursa Operating Company, LLC	TVD Reference:	BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)
Project:	Rockies Region	MD Reference:	BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)
Site:	Tompkins	North Reference:	True
Well:	BAT 31B-08-07-95	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,871.9	3,629.4	Williams Fork		0.00	
4,958.6	4,660.4	Top of Gas		0.00	
6,475.6	6,177.4	Cameo		0.00	
6,973.6	6,675.4	Rollins		0.00	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
700.0	700.0	0.0	0.0	Start Build 3.50	
1,398.0	1,377.1	-62.5	-132.6	Start 2862.6 hold at 1398.0 MD	
1,752.7	1,700.0	-125.1	-265.3	Surface Casing	
4,260.6	3,983.3	-567.5	-1,203.4	Start Drop -3.50	
4,958.6	4,660.4	-630.0	-1,336.0	Back to Vertical	
4,958.6	4,660.4	-630.0	-1,336.0	Start 2319.6 hold at 4958.6 MD	
7,278.2	6,980.0	-630.0	-1,336.0	TD at 7278.2	



Well Name: BAT 31B-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 1602266.51 2290237.76 39° 27' 36.103 N 108° 0' 50.888 W
 Xtreme 15 BAT 31B-08-07-95 @ 5547.4usft (Xtreme 15)



Tompkins
 BAT 31B-08-07-95
 Design #1
 21:36, May 20 2014

Azimuths to True North
 Magnetic North: 9.98°
 Magnetic Field
 Strength: 51936.6snT
 Dip Angle: 65.63°
 Date: 5/19/2014
 Model: IGRF2010

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BAT 31B-08-07-95	4660.4	-630.0	-1336.0	1601673.71	2288884.84	39° 27' 29.876 N	108° 1' 7.922 W	Rectangle (Sides: L40.0 W100.0)

ANNOTATIONS

TVD	MD	Annotation
700.0	700.0	Start Build 3.50
1377.1	1398.0	Start 2862.6 hold at 1398.0 MD
1700.0	1752.7	Surface Casing
3983.3	4260.6	Start Drop -3.50
4660.4	4958.6	Back to Vertical
4660.4	4958.6	Start 2319.6 hold at 4958.6 MD
6980.0	7278.2	TD at 7278.2

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	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	1398.0	24.43	244.75	1377.1	-62.5	-132.6	3.50	244.75	146.6	
4	4260.6	24.43	244.75	3983.3	-567.5	-1203.4	0.00	0.00	1330.5	
5	4958.6	0.00	0.00	4660.4	-630.0	-1336.0	3.50	180.00	1477.1	BAT 31B-08-07-95 TGT
6	7278.2	0.00	0.00	6980.0	-630.0	-1336.0	0.00	0.00	1477.1	

FORMATION TOP DETAILS

TVDPPath	MDPath	Formation	DipAngle	DipDir
3629.4	3871.9	Williams Fork	0.00	
4660.4	4958.6	Top of Gas	0.00	
6177.4	6475.6	Cameo	0.00	
6675.4	6973.6	Rollins	0.00	

