



# **Ursa Operating Company, LLC**

**Rockies Region**

**McLin A**

**34A-12-06-92**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**25 February, 2014**



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well 34A-12-06-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Site:</b>	McLin A	<b>North Reference:</b>	True
<b>Well:</b>	34A-12-06-92	<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		McLin A			
Site Position:		Northing:	1,627,437.28 usft	Latitude:	39° 32' 13.196 N
From:	Lat/Long	Easting:	2,402,964.77 usft	Longitude:	107° 37' 1.441 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.34 °

Well	34A-12-06-92, SHL LAT: 39.536974354 LONG: -107.617149690					
Well Position	+N/-S	-9.0 usft	Northing:	1,627,428.87 usft	Latitude:	39° 32' 13.108 N
	+E/-W	-23.3 usft	Easting:	2,402,941.23 usft	Longitude:	107° 37' 1.739 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,621.4 usft	Ground Level:	5,606.0 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	2/21/2014	9.84	65.77	52,052

<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	79.75

<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	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,300.0	2.00	100.00	1,300.0	-0.6	3.4	1.00	1.00	0.00	100.00	
2,009.0	23.13	79.44	1,988.2	23.0	154.3	3.00	2.98	-2.90	-22.35	
3,838.6	23.13	79.44	3,670.7	154.8	860.9	0.00	0.00	0.00	0.00	
4,609.7	0.00	0.00	4,421.0	182.9	1,011.8	3.00	-3.00	0.00	180.00	34A-12-06-92 TGT
7,184.7	0.00	0.00	6,996.0	182.9	1,011.8	0.00	0.00	0.00	0.00	

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well 34A-12-06-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Site:</b>	McLin A	<b>North Reference:</b>	True
<b>Well:</b>	34A-12-06-92	<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
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
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 1.00									
1,200.0	1.00	100.00	1,200.0	-0.2	0.9	0.8	1.00	1.00	0.00
1,300.0	2.00	100.00	1,300.0	-0.6	3.4	3.3	1.00	1.00	0.00
Start DLS 3.00 TFO -11.34									
1,400.0	4.91	86.55	1,399.8	-0.7	9.4	9.2	3.00	2.91	-13.45
1,500.0	7.89	83.16	1,499.1	0.4	20.5	20.3	3.00	2.98	-3.39
1,600.0	10.88	81.62	1,597.8	2.6	36.7	36.5	3.00	2.99	-1.54
1,700.0	13.87	80.74	1,695.5	5.9	57.8	58.0	3.00	2.99	-0.88
1,800.0	16.87	80.17	1,791.9	10.3	84.0	84.5	3.00	3.00	-0.57
1,900.0	19.86	79.76	1,886.8	15.8	115.0	116.0	3.00	3.00	-0.40
2,004.2	22.99	79.45	1,983.8	22.7	152.4	154.0	3.00	3.00	-0.30
Start 1835.5 hold at 2004.2 MD									
2,009.0	23.13	79.44	1,988.2	23.0	154.3	155.9	3.00	3.00	-0.26
2,100.0	23.13	79.44	2,071.8	29.6	189.4	191.6	0.00	0.00	0.00
2,200.0	23.13	79.44	2,163.8	36.8	228.0	230.9	0.00	0.00	0.00
2,300.0	23.13	79.44	2,255.8	44.0	266.6	270.2	0.00	0.00	0.00
2,400.0	23.13	79.44	2,347.7	51.2	305.3	309.5	0.00	0.00	0.00
2,500.0	23.13	79.44	2,439.7	58.4	343.9	348.8	0.00	0.00	0.00
2,600.0	23.13	79.44	2,531.6	65.6	382.5	388.1	0.00	0.00	0.00
2,700.0	23.13	79.44	2,623.6	72.8	421.1	427.4	0.00	0.00	0.00
2,800.0	23.13	79.44	2,715.6	80.0	459.7	466.6	0.00	0.00	0.00
2,900.0	23.13	79.44	2,807.5	87.2	498.4	505.9	0.00	0.00	0.00
3,000.0	23.13	79.44	2,899.5	94.4	537.0	545.2	0.00	0.00	0.00
3,100.0	23.13	79.44	2,991.4	101.6	575.6	584.5	0.00	0.00	0.00
3,200.0	23.13	79.44	3,083.4	108.8	614.2	623.8	0.00	0.00	0.00
3,300.0	23.13	79.44	3,175.4	116.0	652.9	663.1	0.00	0.00	0.00
3,400.0	23.13	79.44	3,267.3	123.2	691.5	702.4	0.00	0.00	0.00
3,500.0	23.13	79.44	3,359.3	130.4	730.1	741.6	0.00	0.00	0.00
3,600.0	23.13	79.44	3,451.2	137.6	768.7	780.9	0.00	0.00	0.00
3,700.0	23.13	79.44	3,543.2	144.8	807.3	820.2	0.00	0.00	0.00
3,800.0	23.13	79.44	3,635.2	152.0	846.0	859.5	0.00	0.00	0.00
3,838.6	23.13	79.44	3,670.7	154.8	860.9	874.7	0.00	0.00	0.00
3,839.7	23.10	79.44	3,671.7	154.9	861.3	875.1	3.00	-3.00	0.00
Start Drop -3.00									
3,900.0	21.29	79.44	3,727.5	159.0	883.7	897.9	3.00	-3.00	0.00
4,000.0	18.29	79.44	3,821.6	165.3	917.0	931.7	3.00	-3.00	0.00
4,100.0	15.29	79.44	3,917.3	170.5	945.4	960.6	3.00	-3.00	0.00
4,200.0	12.29	79.44	4,014.4	174.9	968.8	984.5	3.00	-3.00	0.00
4,300.0	9.29	79.44	4,112.6	178.3	987.2	1,003.2	3.00	-3.00	0.00
4,400.0	6.29	79.44	4,211.7	180.8	1,000.5	1,016.7	3.00	-3.00	0.00
4,500.0	3.29	79.44	4,311.3	182.4	1,008.7	1,025.1	3.00	-3.00	0.00
4,609.4	0.01	79.44	4,420.7	182.9	1,011.8	1,028.2	3.00	-3.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well 34A-12-06-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Site:</b>	McLin A	<b>North Reference:</b>	True
<b>Well:</b>	34A-12-06-92	<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)
Start 2575.0 hold at 4609.4 MD									
4,609.7	0.00	0.00	4,421.0	182.9	1,011.8	1,028.2	3.00	-3.00	0.00
4,700.0	0.00	0.00	4,511.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
4,800.0	0.00	0.00	4,611.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
4,900.0	0.00	0.00	4,711.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,811.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,100.0	0.00	0.00	4,911.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,011.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,300.0	0.00	0.00	5,111.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,211.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,500.0	0.00	0.00	5,311.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,411.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,700.0	0.00	0.00	5,511.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,611.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
5,900.0	0.00	0.00	5,711.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,811.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,100.0	0.00	0.00	5,911.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,011.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,300.0	0.00	0.00	6,111.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,211.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,500.0	0.00	0.00	6,311.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,411.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,700.0	0.00	0.00	6,511.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,611.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
6,900.0	0.00	0.00	6,711.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,811.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
7,100.0	0.00	0.00	6,911.3	182.9	1,011.8	1,028.2	0.00	0.00	0.00
7,184.4	0.00	0.00	6,995.7	182.9	1,011.8	1,028.2	0.00	0.00	0.00
TD at 7184.4									
7,184.7	0.00	0.00	6,996.0	182.9	1,011.8	1,028.2	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
34A-12-06-92 TGT	0.00	0.00	4,421.0	182.9	1,011.8	1,627,588.18	2,403,957.04	39° 32' 14.915 N	107° 36' 48.823 W
- plan hits target center									
- Rectangle (sides W100.0 H40.0 D2,575.0)									

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,253.9	3,133.0	Williams Fork		0.00	
4,609.7	4,421.0	Top of Gas		0.00	
5,709.7	5,521.0	Cameo		0.00	
6,884.7	6,696.0	Rollins		0.00	

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well 34A-12-06-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-12-06-92 @ 5621.4usft (PAD Est KB)
<b>Site:</b>	McLin A	<b>North Reference:</b>	True
<b>Well:</b>	34A-12-06-92	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,100.0	1,100.0	0.0	0.0	Start Build 1.00
1,300.0	1,300.0	-0.6	3.4	Start DLS 3.00 TFO -11.34
2,004.2	1,983.8	22.7	152.4	Start 1835.5 hold at 2004.2 MD
3,839.7	3,671.7	154.9	861.3	Start Drop -3.00
4,609.4	4,420.7	182.9	1,011.8	Start 2575.0 hold at 4609.4 MD
7,184.4	6,995.7	182.9	1,011.8	TD at 7184.4



Well Name: 34A-12-06-92  
Surface Location: McLin A  
North American Datum 1983, US State Plane 1983, Colorado Central Zone  
Ground Elevation: 5606.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1627428.87 2402941.22 39° 32' 13.108 N 107° 37' 1.739 W  
PAD Est KB 34A-12-06-92 @ 5621.4usft (PAD Est KB)



Azimuths to True North  
Magnetic North: 9.84°  
Magnetic Field  
Strength: 52052.3snT  
Dip Angle: 65.77°  
Date: 2/21/2014  
Model: IGRF2010

McLin A  
34A-12-06-92  
Design #1  
15:35, February 25 2014

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
34A-12-06-92 TGT	4421.0	182.9	1011.8	1627588.18	2403957.04	39° 32' 14.915 N	107° 36' 48.823 W	Rectangle (Sides: L40.0 W100.0)

#### 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	1100.0	0.00	0.00	1100.0	0.0	0.0	0.00	0.00	0.0	
3	1300.0	2.00	100.00	1300.0	-0.6	3.4	1.00	100.00	3.3	
4	2009.0	23.13	79.44	1988.2	23.0	154.3	3.00	-22.35	155.9	
5	3838.6	23.13	79.44	3670.7	154.8	860.9	0.00	0.00	874.7	
6	4609.7	0.00	0.00	4421.0	182.9	1011.8	3.00	180.00	1028.2	34A-12-06-92 TGT
7	7184.7	0.00	0.00	6996.0	182.9	1011.8	0.00	0.00	1028.2	

#### ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 1.00
1300.0	1300.0	Start DLS 3.00 TFO -11.34
1983.8	2004.2	Start 1835.5 hold at 2004.2 MD
3671.7	3839.7	Start Drop -3.00
4420.7	4609.4	Start 2575.0 hold at 4609.4 MD
6995.7	7184.4	TD at 7184.4

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3133.0	3253.9	Williams Fork	0.00	
4421.0	4609.7	Top of Gas	0.00	
5521.0	5709.7	Cameo	0.00	
6696.0	6884.7	Rollins	0.00	

