



# **Ursa Operating Company, LLC**

**Rockies Region  
Valley Farms L  
34A-11-6-92**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**16 April, 2014**



<b>Database:</b>	MasterDB	<b>Local Co-ordinate Reference:</b>	Well 34A-11-6-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	34A-11-6-92 @ 5564.4usft (PAD Est KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-11-6-92 @ 5564.4usft (PAD Est KB)
<b>Site:</b>	Valley Farms L	<b>North Reference:</b>	True
<b>Well:</b>	34A-11-6-92	<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		Valley Farms L			
Site Position:		Northing:	1,627,813.25 usft	Latitude:	39° 32' 16.142 N
From:	Lat/Long	Easting:	2,399,633.87 usft	Longitude:	107° 37' 44.058 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.34 °

Well	34A-11-6-92, SHL LAT: 39.537783611 LONG: -107.628982431					
Well Position	+N/-S	-12.2 usft	Northing:	1,627,801.54 usft	Latitude:	39° 32' 16.021 N
	+E/-W	-21.8 usft	Easting:	2,399,611.78 usft	Longitude:	107° 37' 44.337 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,564.4 usft	Ground Level:	5,549.0 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	4/7/2014	9.83	65.76	52,039

<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	268.12

<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	
1,075.0	0.00	0.00	1,075.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,661.6	17.60	268.12	1,652.5	-2.9	-89.3	3.00	3.00	0.00	268.12	
4,085.2	17.60	268.12	3,962.5	-26.9	-821.7	0.00	0.00	0.00	0.00	
4,671.8	0.00	0.00	4,540.0	-29.8	-911.1	3.00	-3.00	0.00	180.00	34A-11-6-92 TGT
7,455.8	0.00	0.00	7,324.0	-29.8	-911.1	0.00	0.00	0.00	0.00	

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-11-6-92 @ 5564.4usft (PAD Est KB)
<b>Site:</b>	Valley Farms L	<b>North Reference:</b>	True
<b>Well:</b>	34A-11-6-92	<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
1,075.0	0.00	0.00	1,075.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 3.00									
1,100.0	0.75	268.12	1,100.0	0.0	-0.2	0.2	3.00	3.00	0.00
1,200.0	3.75	268.12	1,199.9	-0.1	-4.1	4.1	3.00	3.00	0.00
1,300.0	6.75	268.12	1,299.5	-0.4	-13.2	13.2	3.00	3.00	0.00
1,400.0	9.75	268.12	1,398.4	-0.9	-27.6	27.6	3.00	3.00	0.00
1,500.0	12.75	268.12	1,496.5	-1.5	-47.1	47.1	3.00	3.00	0.00
1,600.0	15.75	268.12	1,593.4	-2.3	-71.7	71.7	3.00	3.00	0.00
1,661.6	17.60	268.12	1,652.5	-2.9	-89.3	89.4	3.00	3.00	0.00
Start 2423.5 hold at 1661.6 MD									
1,700.0	17.60	268.12	1,689.0	-3.3	-100.9	101.0	0.00	0.00	0.00
1,800.0	17.60	268.12	1,784.3	-4.3	-131.2	131.2	0.00	0.00	0.00
1,900.0	17.60	268.12	1,879.7	-5.3	-161.4	161.5	0.00	0.00	0.00
2,000.0	17.60	268.12	1,975.0	-6.3	-191.6	191.7	0.00	0.00	0.00
2,100.0	17.60	268.12	2,070.3	-7.3	-221.8	221.9	0.00	0.00	0.00
2,200.0	17.60	268.12	2,165.6	-8.3	-252.0	252.2	0.00	0.00	0.00
2,300.0	17.60	268.12	2,260.9	-9.2	-282.3	282.4	0.00	0.00	0.00
2,400.0	17.60	268.12	2,356.3	-10.2	-312.5	312.6	0.00	0.00	0.00
2,500.0	17.60	268.12	2,451.6	-11.2	-342.7	342.9	0.00	0.00	0.00
2,600.0	17.60	268.12	2,546.9	-12.2	-372.9	373.1	0.00	0.00	0.00
2,700.0	17.60	268.12	2,642.2	-13.2	-403.1	403.3	0.00	0.00	0.00
2,800.0	17.60	268.12	2,737.5	-14.2	-433.3	433.6	0.00	0.00	0.00
2,900.0	17.60	268.12	2,832.9	-15.2	-463.6	463.8	0.00	0.00	0.00
3,000.0	17.60	268.12	2,928.2	-16.2	-493.8	494.1	0.00	0.00	0.00
3,100.0	17.60	268.12	3,023.5	-17.2	-524.0	524.3	0.00	0.00	0.00
3,200.0	17.60	268.12	3,118.8	-18.1	-554.2	554.5	0.00	0.00	0.00
3,300.0	17.60	268.12	3,214.1	-19.1	-584.4	584.8	0.00	0.00	0.00
3,400.0	17.60	268.12	3,309.5	-20.1	-614.7	615.0	0.00	0.00	0.00
3,500.0	17.60	268.12	3,404.8	-21.1	-644.9	645.2	0.00	0.00	0.00
3,504.9	17.60	268.12	3,409.4	-21.2	-646.3	646.7	0.00	0.00	0.00
Williams Fork									
3,600.0	17.60	268.12	3,500.1	-22.1	-675.1	675.5	0.00	0.00	0.00
3,700.0	17.60	268.12	3,595.4	-23.1	-705.3	705.7	0.00	0.00	0.00
3,800.0	17.60	268.12	3,690.7	-24.1	-735.5	735.9	0.00	0.00	0.00
3,900.0	17.60	268.12	3,786.1	-25.1	-765.8	766.2	0.00	0.00	0.00
4,000.0	17.60	268.12	3,881.4	-26.1	-796.0	796.4	0.00	0.00	0.00
4,085.2	17.60	268.12	3,962.5	-26.9	-821.7	822.2	0.00	0.00	0.00
Start Drop -3.00									
4,100.0	17.15	268.12	3,976.7	-27.1	-826.1	826.6	3.00	-3.00	0.00
4,200.0	14.15	268.12	4,073.0	-27.9	-853.1	853.6	3.00	-3.00	0.00
4,300.0	11.15	268.12	4,170.5	-28.7	-875.0	875.5	3.00	-3.00	0.00
4,400.0	8.15	268.12	4,269.1	-29.2	-891.8	892.2	3.00	-3.00	0.00
4,500.0	5.15	268.12	4,368.4	-29.6	-903.3	903.8	3.00	-3.00	0.00

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-11-6-92 @ 5564.4usft (PAD Est KB)
<b>Site:</b>	Valley Farms L	<b>North Reference:</b>	True
<b>Well:</b>	34A-11-6-92	<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)
4,600.0	2.15	268.12	4,468.2	-29.8	-909.7	910.2	3.00	-3.00	0.00
4,671.8	0.00	0.00	4,540.0	-29.8	-911.1	911.5	3.00	-3.00	0.00
<b>Start 2784.0 hold at 4671.8 MD - 34A-11-6-92 TGT</b>									
4,672.2	0.00	0.00	4,540.4	-29.8	-911.1	911.5	0.00	0.00	0.00
<b>Top of Gas</b>									
4,700.0	0.00	0.00	4,568.2	-29.8	-911.1	911.5	0.00	0.00	0.00
4,800.0	0.00	0.00	4,668.2	-29.8	-911.1	911.5	0.00	0.00	0.00
4,900.0	0.00	0.00	4,768.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,000.0	0.00	0.00	4,868.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,100.0	0.00	0.00	4,968.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,200.0	0.00	0.00	5,068.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,300.0	0.00	0.00	5,168.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,400.0	0.00	0.00	5,268.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,500.0	0.00	0.00	5,368.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,600.0	0.00	0.00	5,468.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,700.0	0.00	0.00	5,568.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,800.0	0.00	0.00	5,668.2	-29.8	-911.1	911.5	0.00	0.00	0.00
5,900.0	0.00	0.00	5,768.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,868.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,100.0	0.00	0.00	5,968.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,161.2	0.00	0.00	6,029.4	-29.8	-911.1	911.5	0.00	0.00	0.00
<b>Cameo</b>									
6,200.0	0.00	0.00	6,068.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,300.0	0.00	0.00	6,168.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,268.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,500.0	0.00	0.00	6,368.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,468.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,700.0	0.00	0.00	6,568.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,800.0	0.00	0.00	6,668.2	-29.8	-911.1	911.5	0.00	0.00	0.00
6,900.0	0.00	0.00	6,768.2	-29.8	-911.1	911.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,868.2	-29.8	-911.1	911.5	0.00	0.00	0.00
7,100.0	0.00	0.00	6,968.2	-29.8	-911.1	911.5	0.00	0.00	0.00
7,156.2	0.00	0.00	7,024.4	-29.8	-911.1	911.5	0.00	0.00	0.00
<b>Rollins</b>									
7,200.0	0.00	0.00	7,068.2	-29.8	-911.1	911.5	0.00	0.00	0.00
7,300.0	0.00	0.00	7,168.2	-29.8	-911.1	911.5	0.00	0.00	0.00
7,400.0	0.00	0.00	7,268.2	-29.8	-911.1	911.5	0.00	0.00	0.00
7,455.8	0.00	0.00	7,324.0	-29.8	-911.1	911.5	0.00	0.00	0.00
<b>TD at 7455.8</b>									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
34A-11-6-92 TGT - plan hits target center - Rectangle (sides W100.0 H40.0 D2,784.0)	0.00	0.00	4,540.0	-29.8	-911.1	1,627,793.07	2,398,700.28	39° 32' 15.726 N	107° 37' 55.966 W

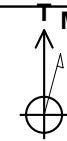
<b>Database:</b>	MasterDB	<b>Local Co-ordinate Reference:</b>	Well 34A-11-6-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	34A-11-6-92 @ 5564.4usft (PAD Est KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	34A-11-6-92 @ 5564.4usft (PAD Est KB)
<b>Site:</b>	Valley Farms L	<b>North Reference:</b>	True
<b>Well:</b>	34A-11-6-92	<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 (°)
3,504.9	3,409.4	Williams Fork		0.00	
4,672.2	4,540.4	Top of Gas		0.00	
6,161.2	6,029.4	Cameo		0.00	
7,156.2	7,024.4	Rollins		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,075.0	1,075.0	0.0	0.0	Start Build 3.00
1,661.6	1,652.5	-2.9	-89.3	Start 2423.5 hold at 1661.6 MD
4,085.2	3,962.5	-26.9	-821.7	Start Drop -3.00
4,671.8	4,540.0	-29.8	-911.1	Start 2784.0 hold at 4671.8 MD
7,455.8	7,324.0	-29.8	-911.1	TD at 7455.8



Well Name: 34A-11-6-92  
Surface Location: Valley Farms L  
North American Datum 1983, US State Plane 1983, Colorado Central Zone  
Ground Elevation: 5549.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1627801.55 2399611.78 39° 32' 16.021 N 107° 37' 44.337 W  
PAD Est KB 34A-11-6-92 @ 5564.4usft (PAD Est KB)



Azimuths to True North  
Magnetic North: 9.83°  
Magnetic Field  
Strength: 52039.2snT  
Dip Angle: 65.76°  
Date: 4/7/2014  
Model: IGRF2010

Valley Farms L  
34A-11-6-92  
Design #1  
8:27, April 16 2014

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
34A-11-6-92 TGT	4540.0	-29.8	-911.1	1627793.07	2398700.27	39° 32' 15.726 N 107° 37' 55.966 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	1075.0	0.00	0.00	1075.0	0.0	0.0	0.00	0.00	0.0	
3	1661.6	17.60	268.12	1652.5	-2.9	-89.3	3.00	268.12	89.4	
4	4085.2	17.60	268.12	3962.5	-26.9	-821.7	0.00	0.00	822.2	
5	4671.8	0.00	0.00	4540.0	-29.8	-911.1	3.00	180.00	911.5	34A-11-6-92 TGT
6	7455.8	0.00	0.00	7324.0	-29.8	-911.1	0.00	0.00	911.5	

#### ANNOTATIONS

TVD	MD	Annotation
1075.0	1075.0	Start Build 3.00
1652.5	1661.6	Start 2423.5 hold at 1661.6 MD
3962.5	4085.2	Start Drop -3.00
4540.0	4671.8	Start 2784.0 hold at 4671.8 MD
7324.0	7455.8	TD at 7455.8

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3409.4	3504.9	Williams Fork	0.00	
4540.4	4672.2	Top of Gas	0.00	
6029.4	6161.2	Cameo	0.00	
7024.4	7156.2	Rollins	0.00	

