



# **Ursa Operating Company, LLC**

**Rockies Region  
Valley Farms O  
24A-10-06-92**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**13 October, 2013**



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well 24A-10-06-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	24A-10-06-92 @ 5447.4ft (Original Well Elev)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	24A-10-06-92 @ 5447.4ft (Original Well Elev)
<b>Site:</b>	Valley Farms O	<b>North Reference:</b>	True
<b>Well:</b>	24A-10-06-92	<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		

<b>Site</b>	Valley Farms O				
<b>Site Position:</b>		<b>Northing:</b>	1,627,349.93 ft	<b>Latitude:</b>	39° 32' 9.673 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,391,526.28 ft	<b>Longitude:</b>	107° 39' 27.378 W
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"	<b>Grid Convergence:</b>	-1.36 °

<b>Well</b>	24A-10-06-92, SHL LAT: 39.536123290 LONG: -107.657608221					
<b>Well Position</b>	<b>+N/-S</b>	37.5 ft	<b>Northing:</b>	1,627,387.41 ft	<b>Latitude:</b>	39° 32' 10.044 N
	<b>+E/-W</b>	-0.9 ft	<b>Easting:</b>	2,391,526.25 ft	<b>Longitude:</b>	107° 39' 27.390 W
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b>	5,447.4 ft	<b>Ground Level:</b>	5,432.0 ft

<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>
	IGRF200510	10/10/2013	9.87	65.79	52,126

<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	52.61

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	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	
1,448.3	10.45	52.61	1,446.4	19.2	25.2	3.00	3.00	0.00	52.61	
5,039.1	10.45	52.61	4,977.6	414.7	542.6	0.00	0.00	0.00	0.00	
5,387.4	0.00	0.00	5,324.0	433.9	567.8	3.00	-3.00	0.00	180.00	24A-10-06-92 TGT
7,657.4	0.00	0.00	7,594.0	433.9	567.8	0.00	0.00	0.00	0.00	

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well 24A-10-06-92
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	24A-10-06-92 @ 5447.4ft (Original Well Elev)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	24A-10-06-92 @ 5447.4ft (Original Well Elev)
<b>Site:</b>	Valley Farms O	<b>North Reference:</b>	True
<b>Well:</b>	24A-10-06-92	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
<b>Start Build 3.00</b>									
1,200.0	3.00	52.61	1,200.0	1.6	2.1	2.6	3.00	3.00	0.00
1,300.0	6.00	52.61	1,299.6	6.4	8.3	10.5	3.00	3.00	0.00
1,400.0	9.00	52.61	1,398.8	14.3	18.7	23.5	3.00	3.00	0.00
1,448.3	10.45	52.61	1,446.4	19.2	25.2	31.7	3.00	3.00	0.00
<b>Start 3590.8 hold at 1448.3 MD</b>									
1,500.0	10.45	52.61	1,497.2	24.9	32.6	41.0	0.00	0.00	0.00
1,600.0	10.45	52.61	1,595.6	35.9	47.0	59.2	0.00	0.00	0.00
1,700.0	10.45	52.61	1,693.9	47.0	61.4	77.3	0.00	0.00	0.00
1,800.0	10.45	52.61	1,792.2	58.0	75.8	95.5	0.00	0.00	0.00
1,900.0	10.45	52.61	1,890.6	69.0	90.3	113.6	0.00	0.00	0.00
2,000.0	10.45	52.61	1,988.9	80.0	104.7	131.7	0.00	0.00	0.00
2,100.0	10.45	52.61	2,087.3	91.0	119.1	149.9	0.00	0.00	0.00
2,200.0	10.45	52.61	2,185.6	102.0	133.5	168.0	0.00	0.00	0.00
2,300.0	10.45	52.61	2,283.9	113.0	147.9	186.1	0.00	0.00	0.00
2,400.0	10.45	52.61	2,382.3	124.0	162.3	204.3	0.00	0.00	0.00
2,500.0	10.45	52.61	2,480.6	135.1	176.7	222.4	0.00	0.00	0.00
2,600.0	10.45	52.61	2,579.0	146.1	191.1	240.6	0.00	0.00	0.00
2,700.0	10.45	52.61	2,677.3	157.1	205.5	258.7	0.00	0.00	0.00
2,800.0	10.45	52.61	2,775.7	168.1	219.9	276.8	0.00	0.00	0.00
2,900.0	10.45	52.61	2,874.0	179.1	234.4	295.0	0.00	0.00	0.00
3,000.0	10.45	52.61	2,972.3	190.1	248.8	313.1	0.00	0.00	0.00
3,100.0	10.45	52.61	3,070.7	201.1	263.2	331.2	0.00	0.00	0.00
3,200.0	10.45	52.61	3,169.0	212.2	277.6	349.4	0.00	0.00	0.00
3,300.0	10.45	52.61	3,267.4	223.2	292.0	367.5	0.00	0.00	0.00
3,400.0	10.45	52.61	3,365.7	234.2	306.4	385.7	0.00	0.00	0.00
3,500.0	10.45	52.61	3,464.0	245.2	320.8	403.8	0.00	0.00	0.00
3,600.0	10.45	52.61	3,562.4	256.2	335.2	421.9	0.00	0.00	0.00
3,700.0	10.45	52.61	3,660.7	267.2	349.6	440.1	0.00	0.00	0.00
3,769.8	10.45	52.61	3,729.4	274.9	359.7	452.7	0.00	0.00	0.00
<b>Williams Fork</b>									
3,800.0	10.45	52.61	3,759.1	278.2	364.0	458.2	0.00	0.00	0.00
3,900.0	10.45	52.61	3,857.4	289.3	378.5	476.3	0.00	0.00	0.00
4,000.0	10.45	52.61	3,955.8	300.3	392.9	494.5	0.00	0.00	0.00
4,100.0	10.45	52.61	4,054.1	311.3	407.3	512.6	0.00	0.00	0.00
4,200.0	10.45	52.61	4,152.4	322.3	421.7	530.8	0.00	0.00	0.00
4,300.0	10.45	52.61	4,250.8	333.3	436.1	548.9	0.00	0.00	0.00
4,400.0	10.45	52.61	4,349.1	344.3	450.5	567.0	0.00	0.00	0.00
4,500.0	10.45	52.61	4,447.5	355.3	464.9	585.2	0.00	0.00	0.00
4,600.0	10.45	52.61	4,545.8	366.3	479.3	603.3	0.00	0.00	0.00
4,700.0	10.45	52.61	4,644.1	377.4	493.7	621.4	0.00	0.00	0.00

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<b>Site:</b>	Valley Farms O	<b>North Reference:</b>	True
<b>Well:</b>	24A-10-06-92	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,800.0	10.45	52.61	4,742.5	388.4	508.2	639.6	0.00	0.00	0.00	
4,900.0	10.45	52.61	4,840.8	399.4	522.6	657.7	0.00	0.00	0.00	
5,000.0	10.45	52.61	4,939.2	410.4	537.0	675.8	0.00	0.00	0.00	
5,039.1	10.45	52.61	4,977.6	414.7	542.6	682.9	0.00	0.00	0.00	
<b>Start Drop -3.00</b>										
5,100.0	8.62	52.61	5,037.7	420.8	550.6	693.0	3.00	-3.00	0.00	
5,200.0	5.62	52.61	5,136.9	428.4	560.5	705.4	3.00	-3.00	0.00	
5,300.0	2.62	52.61	5,236.6	432.7	566.2	712.6	3.00	-3.00	0.00	
5,387.4	0.00	0.00	5,324.0	433.9	567.8	714.6	3.00	-3.00	0.00	
<b>Start 2270.0 hold at 5387.4 MD</b>										
5,387.8	0.00	0.00	5,324.4	433.9	567.8	714.6	0.00	0.00	0.00	
<b>Top of Gas</b>										
5,400.0	0.00	0.00	5,336.6	433.9	567.8	714.6	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,436.6	433.9	567.8	714.6	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,536.6	433.9	567.8	714.6	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,636.6	433.9	567.8	714.6	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,736.6	433.9	567.8	714.6	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,836.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,936.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,036.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,136.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,236.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,359.8	0.00	0.00	6,296.4	433.9	567.8	714.6	0.00	0.00	0.00	
<b>Cameo</b>										
6,400.0	0.00	0.00	6,336.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,436.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,536.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,636.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,736.6	433.9	567.8	714.6	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,836.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,936.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,036.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,136.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,236.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,357.8	0.00	0.00	7,294.4	433.9	567.8	714.6	0.00	0.00	0.00	
<b>Rollins</b>										
7,400.0	0.00	0.00	7,336.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,436.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,536.6	433.9	567.8	714.6	0.00	0.00	0.00	
7,657.4	0.00	0.00	7,594.0	433.9	567.8	714.6	0.00	0.00	0.00	
<b>TD at 7657.4</b>										

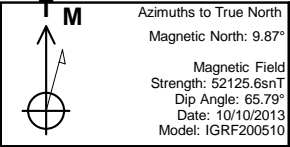
Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,769.8	3,729.4	Williams Fork		0.00		
5,387.8	5,324.4	Top of Gas		0.00		
6,359.8	6,296.4	Cameo		0.00		
7,357.8	7,294.4	Rollins		0.00		

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<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	24A-10-06-92 @ 5447.4ft (Original Well Elev)
<b>Site:</b>	Valley Farms O	<b>North Reference:</b>	True
<b>Well:</b>	24A-10-06-92	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,100.0	1,100.0	0.0	0.0	Start Build 3.00
1,448.3	1,446.4	19.2	25.2	Start 3590.8 hold at 1448.3 MD
5,039.1	4,977.6	414.7	542.6	Start Drop -3.00
5,387.4	5,324.0	433.9	567.8	Start 2270.0 hold at 5387.4 MD
7,657.4	7,594.0	433.9	567.8	TD at 7657.4



Well Name: 24A-10-06-92  
 Surface Location: Valley Farms O  
 North American Datum 1983, US State Plane 1983, Colorado Central Zone  
 Ground Elevation: 5432.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1627387.41 2391526.25 39° 32' 10.044 N 107° 39' 27.390 W  
 Original Well Elev 24A-10-06-92 @ 5447.4ft (Original Well Elev)



Valley Farms O  
 24A-10-06-92  
 Design #1  
 19:57, October 13 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
24A-10-06-92 TGT	5324.0	433.9	567.8	1627807.74	2392104.16	39° 32' 14.333 N	107° 39' 20.142 W	Rectangle (Sides: L40.0 W100.0)

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1446.4	1448.3	Start 3590.8 hold at 1448.3 MD
4977.6	5039.1	Start Drop -3.00
5324.0	5387.4	Start 2270.0 hold at 5387.4 MD
7594.0	7657.4	TD at 7657.4

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	1448.3	10.45	52.61	1446.4	19.2	25.2	3.00	52.61	31.7	
4	5039.1	10.45	52.61	4977.6	414.7	542.6	0.00	0.00	682.9	
5	5387.4	0.00	0.00	5324.0	433.9	567.8	3.00	180.00	714.6	24A-10-06-92 TGT
6	7657.4	0.00	0.00	7594.0	433.9	567.8	0.00	0.00	714.6	

FORMATION TOP DETAILS

TVDPathMDPath	Formation
3729.4 3769.8	Williams Fork
5324.4 5387.8	Top of Gas
6296.4 6359.8	Cameo
7294.4 7357.8	Rollins

