



# **Ursa Operating Company, LLC**

**Rockies Region  
Valley Farms J  
Valley Farms J3**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**09 September, 2013**



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Valley Farms J3
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	Valley Farms J3 @ 5552.4ft (PAD Est KB)
<b>Project:</b>	Rockies Region	<b>MD Reference:</b>	Valley Farms J3 @ 5552.4ft (PAD Est KB)
<b>Site:</b>	Valley Farms J	<b>North Reference:</b>	True
<b>Well:</b>	Valley Farms J3	<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 J				
Site Position:		Northing:	1,626,334.55 ft	Latitude:	39° 32' 2.073 N
From:	Lat/Long	Easting:	2,401,977.73 ft	Longitude:	107° 37' 13.708 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-1.34 °

Well	Valley Farms J3, SHL LAT: 39.533840500 LONG: -107.620473300					
Well Position	+N/-S	-25.0 ft	Northing:	1,626,309.56 ft	Latitude:	39° 32' 1.826 N
	+E/-W	0.3 ft	Easting:	2,401,977.46 ft	Longitude:	107° 37' 13.704 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	5,552.4 ft	Ground Level:	5,537.0 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	9/5/2013	9.87	65.79	52,137

<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)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	43.28

<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	
1,811.5	21.35	43.28	1,795.2	95.4	89.8	3.00	3.00	0.00	43.28	
3,722.2	21.35	43.28	3,574.8	601.7	566.7	0.00	0.00	0.00	0.00	
4,433.8	0.00	0.00	4,270.0	697.0	656.5	3.00	-3.00	0.00	180.00	J3 TGT
7,217.8	0.00	0.00	7,054.0	697.0	656.5	0.00	0.00	0.00	0.00	

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<b>Well:</b>	Valley Farms J3	<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
Start Build 3.00									
1,200.0	3.00	43.28	1,200.0	1.9	1.8	2.6	3.00	3.00	0.00
1,300.0	6.00	43.28	1,299.6	7.6	7.2	10.5	3.00	3.00	0.00
1,400.0	9.00	43.28	1,398.8	17.1	16.1	23.5	3.00	3.00	0.00
1,500.0	12.00	43.28	1,497.1	30.4	28.6	41.7	3.00	3.00	0.00
1,600.0	15.00	43.28	1,594.3	47.4	44.6	65.1	3.00	3.00	0.00
1,700.0	18.00	43.28	1,690.2	68.0	64.1	93.5	3.00	3.00	0.00
1,800.0	21.00	43.28	1,784.4	92.3	87.0	126.9	3.00	3.00	0.00
1,811.5	21.35	43.28	1,795.2	95.4	89.8	131.0	3.00	3.00	0.00
Start 1910.7 hold at 1811.5 MD									
1,900.0	21.35	43.28	1,877.6	118.8	111.9	163.2	0.00	0.00	0.00
2,000.0	21.35	43.28	1,970.7	145.3	136.9	199.6	0.00	0.00	0.00
2,100.0	21.35	43.28	2,063.9	171.8	161.8	236.0	0.00	0.00	0.00
2,200.0	21.35	43.28	2,157.0	198.3	186.8	272.4	0.00	0.00	0.00
2,300.0	21.35	43.28	2,250.1	224.8	211.7	308.8	0.00	0.00	0.00
2,400.0	21.35	43.28	2,343.3	251.3	236.7	345.2	0.00	0.00	0.00
2,500.0	21.35	43.28	2,436.4	277.8	261.6	381.6	0.00	0.00	0.00
2,600.0	21.35	43.28	2,529.6	304.3	286.6	418.0	0.00	0.00	0.00
2,700.0	21.35	43.28	2,622.7	330.8	311.6	454.4	0.00	0.00	0.00
2,800.0	21.35	43.28	2,715.8	357.3	336.5	490.8	0.00	0.00	0.00
2,900.0	21.35	43.28	2,809.0	383.8	361.5	527.2	0.00	0.00	0.00
3,000.0	21.35	43.28	2,902.1	410.3	386.4	563.6	0.00	0.00	0.00
3,100.0	21.35	43.28	2,995.3	436.8	411.4	600.0	0.00	0.00	0.00
3,200.0	21.35	43.28	3,088.4	463.3	436.3	636.4	0.00	0.00	0.00
3,254.8	21.35	43.28	3,139.4	477.8	450.0	656.3	0.00	0.00	0.00
WF									
3,300.0	21.35	43.28	3,181.5	489.8	461.3	672.8	0.00	0.00	0.00
3,400.0	21.35	43.28	3,274.7	516.3	486.3	709.2	0.00	0.00	0.00
3,500.0	21.35	43.28	3,367.8	542.8	511.2	745.6	0.00	0.00	0.00
3,600.0	21.35	43.28	3,461.0	569.3	536.2	782.0	0.00	0.00	0.00
3,700.0	21.35	43.28	3,554.1	595.8	561.1	818.4	0.00	0.00	0.00
3,722.2	21.35	43.28	3,574.8	601.7	566.7	826.5	0.00	0.00	0.00
Start Drop -3.00									
3,800.0	19.01	43.28	3,647.8	621.2	585.1	853.3	3.00	-3.00	0.00
3,900.0	16.01	43.28	3,743.2	643.1	605.7	883.4	3.00	-3.00	0.00
4,000.0	13.01	43.28	3,840.0	661.3	622.9	908.5	3.00	-3.00	0.00
4,100.0	10.01	43.28	3,937.9	675.9	636.6	928.4	3.00	-3.00	0.00
4,200.0	7.01	43.28	4,036.8	686.6	646.7	943.2	3.00	-3.00	0.00
4,300.0	4.01	43.28	4,136.3	693.6	653.3	952.8	3.00	-3.00	0.00
4,400.0	1.01	43.28	4,236.2	696.8	656.3	957.2	3.00	-3.00	0.00
4,433.8	0.00	0.00	4,270.0	697.0	656.5	957.5	3.00	-3.00	0.00

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<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)
<b>Start 2784.0 hold at 4433.8 MD</b>									
4,434.2	0.00	0.00	4,270.4	697.0	656.5	957.5	0.00	0.00	0.00
<b>Top of Gas</b>									
4,500.0	0.00	0.00	4,336.2	697.0	656.5	957.5	0.00	0.00	0.00
4,600.0	0.00	0.00	4,436.2	697.0	656.5	957.5	0.00	0.00	0.00
4,700.0	0.00	0.00	4,536.2	697.0	656.5	957.5	0.00	0.00	0.00
4,800.0	0.00	0.00	4,636.2	697.0	656.5	957.5	0.00	0.00	0.00
4,900.0	0.00	0.00	4,736.2	697.0	656.5	957.5	0.00	0.00	0.00
5,000.0	0.00	0.00	4,836.2	697.0	656.5	957.5	0.00	0.00	0.00
5,100.0	0.00	0.00	4,936.2	697.0	656.5	957.5	0.00	0.00	0.00
5,200.0	0.00	0.00	5,036.2	697.0	656.5	957.5	0.00	0.00	0.00
5,300.0	0.00	0.00	5,136.2	697.0	656.5	957.5	0.00	0.00	0.00
5,400.0	0.00	0.00	5,236.2	697.0	656.5	957.5	0.00	0.00	0.00
5,500.0	0.00	0.00	5,336.2	697.0	656.5	957.5	0.00	0.00	0.00
5,600.0	0.00	0.00	5,436.2	697.0	656.5	957.5	0.00	0.00	0.00
5,700.0	0.00	0.00	5,536.2	697.0	656.5	957.5	0.00	0.00	0.00
5,732.2	0.00	0.00	5,568.4	697.0	656.5	957.5	0.00	0.00	0.00
<b>Cameo</b>									
5,800.0	0.00	0.00	5,636.2	697.0	656.5	957.5	0.00	0.00	0.00
5,900.0	0.00	0.00	5,736.2	697.0	656.5	957.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,836.2	697.0	656.5	957.5	0.00	0.00	0.00
6,100.0	0.00	0.00	5,936.2	697.0	656.5	957.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,036.2	697.0	656.5	957.5	0.00	0.00	0.00
6,300.0	0.00	0.00	6,136.2	697.0	656.5	957.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,236.2	697.0	656.5	957.5	0.00	0.00	0.00
6,500.0	0.00	0.00	6,336.2	697.0	656.5	957.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,436.2	697.0	656.5	957.5	0.00	0.00	0.00
6,700.0	0.00	0.00	6,536.2	697.0	656.5	957.5	0.00	0.00	0.00
6,800.0	0.00	0.00	6,636.2	697.0	656.5	957.5	0.00	0.00	0.00
6,900.0	0.00	0.00	6,736.2	697.0	656.5	957.5	0.00	0.00	0.00
6,918.2	0.00	0.00	6,754.4	697.0	656.5	957.5	0.00	0.00	0.00
<b>Rollins</b>									
7,000.0	0.00	0.00	6,836.2	697.0	656.5	957.5	0.00	0.00	0.00
7,100.0	0.00	0.00	6,936.2	697.0	656.5	957.5	0.00	0.00	0.00
7,200.0	0.00	0.00	7,036.2	697.0	656.5	957.5	0.00	0.00	0.00
7,217.8	0.00	0.00	7,054.0	697.0	656.5	957.5	0.00	0.00	0.00
<b>TD at 7217.8</b>									

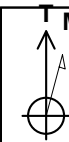
Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,254.8	3,139.4	WF		0.00	
4,434.2	4,270.4	Top of Gas		0.00	
5,732.2	5,568.4	Cameo		0.00	
6,918.2	6,754.4	Rollins		0.00	

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<b>Site:</b>	Valley Farms J	<b>North Reference:</b>	True
<b>Well:</b>	Valley Farms J3	<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
1,811.5	1,795.2	95.4	89.8	Start 1910.7 hold at 1811.5 MD
3,722.2	3,574.8	601.7	566.7	Start Drop -3.00
4,433.8	4,270.0	697.0	656.5	Start 2784.0 hold at 4433.8 MD
7,217.8	7,054.0	697.0	656.5	TD at 7217.8



Well Name: Valley Farms J3  
Surface Location: Valley Farms J  
North American Datum 1983 , US State Plane 1983, Colorado Central Zone  
Ground Elevation: 5537.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1626309.56 2401977.46 39° 32' 1.826 N 107° 37' 13.704 W  
PAD Est KB Valley Farms J3 @ 5552.4ft (PAD Est KB)



Azimuths to True North  
Magnetic North: 9.87°  
Magnetic Field  
Strength: 52137.5snT  
Dip Angle: 65.79°  
Date: 9/5/2013  
Model: IGRF200510

Valley Farms J  
Valley Farms J3  
Design #1  
0:12, September 09 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J3 TGT	4270.0	697.0	656.5	1626991.08	2402650.05	39° 32' 8.715 N	107° 37' 5.324 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	1811.5	21.35	43.28	1795.2	95.4	89.8	3.00	43.28	131.0	
4	3722.2	21.35	43.28	3574.8	601.7	566.7	0.00	0.00	826.5	
5	4433.8	0.00	0.00	4270.0	697.0	656.5	3.00	180.00	957.5	J3 TGT
6	7217.8	0.00	0.00	7054.0	697.0	656.5	0.00	0.00	957.5	

#### ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1795.2	1811.5	Start 1910.7 hold at 1811.5 MD
3574.8	3722.2	Start Drop -3.00
4270.0	4433.8	Start 2784.0 hold at 4433.8 MD
7054.0	7217.8	TD at 7217.8

#### FORMATION TOP DETAILS

TVDP	MD	Path	Formation
3139.4	3254.8	WF	WF
4270.4	4434.2	Top of Gas	Top of Gas
5568.4	5732.2	Cameo	Cameo
6754.4	6918.2	Rollins	Rollins

