



Ursa Operating Company, LLC

Rockies Region

Valley Farms J

Valley Farms J3

Wellbore #1

Plan: Design #2

Standard Planning Report

03 March, 2014



Database:	MasterDB	Local Co-ordinate Reference:	Well Valley Farms J3
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J3 @ 5552.4usft (PAD Est KB)
Project:	Rockies Region	MD Reference:	Valley Farms J3 @ 5552.4usft (PAD Est KB)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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		Valley Farms J			
Site Position:		Northing:	1,626,334.55 usft	Latitude:	39° 32' 2.073 N
From:	Lat/Long	Easting:	2,401,977.73 usft	Longitude:	107° 37' 13.708 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.34 °

Well	Valley Farms J3, SHL LAT: 39.533840500 LONG: -107.620473300					
Well Position	+N/-S	-25.0 usft	Northing:	1,626,309.55 usft	Latitude:	39° 32' 1.826 N
	+E/-W	0.3 usft	Easting:	2,401,977.46 usft	Longitude:	107° 37' 13.704 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,552.4 usft	Ground Level:	5,537.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/5/2013	9.87	65.79	52,137

Design	Design #2			
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	42.82

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	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,821.3	21.64	42.82	1,804.3	98.7	91.5	3.00	3.00	0.00	42.82	
3,716.3	21.64	42.82	3,565.7	611.3	566.4	0.00	0.00	0.00	0.00	
4,437.6	0.00	0.00	4,270.0	710.0	657.9	3.00	-3.00	0.00	180.00	J3 TGT
7,221.6	0.00	0.00	7,054.0	710.0	657.9	0.00	0.00	0.00	0.00	

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Project:	Rockies Region	MD Reference:	Valley Farms J3 @ 5552.4usft (PAD Est KB)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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 3.00									
1,200.0	3.00	42.82	1,200.0	1.9	1.8	2.6	3.00	3.00	0.00
1,300.0	6.00	42.82	1,299.6	7.7	7.1	10.5	3.00	3.00	0.00
1,400.0	9.00	42.82	1,398.8	17.2	16.0	23.5	3.00	3.00	0.00
1,500.0	12.00	42.82	1,497.1	30.6	28.4	41.7	3.00	3.00	0.00
1,600.0	15.00	42.82	1,594.3	47.7	44.2	65.1	3.00	3.00	0.00
1,700.0	18.00	42.82	1,690.2	68.6	63.5	93.5	3.00	3.00	0.00
1,800.0	21.00	42.82	1,784.4	93.0	86.2	126.9	3.00	3.00	0.00
1,821.3	21.64	42.82	1,804.3	98.7	91.5	134.6	3.00	3.00	0.00
Start 1895.0 hold at 1821.3 MD									
1,900.0	21.64	42.82	1,877.4	120.0	111.2	163.6	0.00	0.00	0.00
2,000.0	21.64	42.82	1,970.4	147.1	136.3	200.5	0.00	0.00	0.00
2,100.0	21.64	42.82	2,063.3	174.1	161.3	237.4	0.00	0.00	0.00
2,200.0	21.64	42.82	2,156.3	201.2	186.4	274.2	0.00	0.00	0.00
2,300.0	21.64	42.82	2,249.2	228.2	211.5	311.1	0.00	0.00	0.00
2,400.0	21.64	42.82	2,342.2	255.3	236.5	348.0	0.00	0.00	0.00
2,500.0	21.64	42.82	2,435.1	282.3	261.6	384.9	0.00	0.00	0.00
2,600.0	21.64	42.82	2,528.1	309.4	286.6	421.7	0.00	0.00	0.00
2,700.0	21.64	42.82	2,621.1	336.4	311.7	458.6	0.00	0.00	0.00
2,800.0	21.64	42.82	2,714.0	363.5	336.8	495.5	0.00	0.00	0.00
2,900.0	21.64	42.82	2,807.0	390.5	361.8	532.4	0.00	0.00	0.00
3,000.0	21.64	42.82	2,899.9	417.6	386.9	569.2	0.00	0.00	0.00
3,100.0	21.64	42.82	2,992.9	444.6	412.0	606.1	0.00	0.00	0.00
3,200.0	21.64	42.82	3,085.8	471.6	437.0	643.0	0.00	0.00	0.00
3,257.6	21.64	42.82	3,139.4	487.2	451.5	664.2	0.00	0.00	0.00
WF									
3,300.0	21.64	42.82	3,178.8	498.7	462.1	679.9	0.00	0.00	0.00
3,400.0	21.64	42.82	3,271.7	525.7	487.1	716.7	0.00	0.00	0.00
3,500.0	21.64	42.82	3,364.7	552.8	512.2	753.6	0.00	0.00	0.00
3,600.0	21.64	42.82	3,457.6	579.8	537.3	790.5	0.00	0.00	0.00
3,700.0	21.64	42.82	3,550.6	606.9	562.3	827.4	0.00	0.00	0.00
3,716.3	21.64	42.82	3,565.7	611.3	566.4	833.4	0.00	0.00	0.00
Start Drop -3.00									
3,800.0	19.13	42.82	3,644.2	632.7	586.2	862.5	3.00	-3.00	0.00
3,900.0	16.13	42.82	3,739.5	654.9	606.8	892.8	3.00	-3.00	0.00
4,000.0	13.13	42.82	3,836.2	673.4	624.0	918.1	3.00	-3.00	0.00
4,100.0	10.13	42.82	3,934.2	688.2	637.7	938.2	3.00	-3.00	0.00
4,200.0	7.13	42.82	4,033.0	699.2	647.9	953.2	3.00	-3.00	0.00
4,300.0	4.13	42.82	4,132.5	706.4	654.5	963.0	3.00	-3.00	0.00
4,400.0	1.13	42.82	4,232.4	709.8	657.6	967.6	3.00	-3.00	0.00
4,437.6	0.00	0.00	4,270.0	710.0	657.9	968.0	3.00	-3.00	0.00
Start 2784.0 hold at 4437.6 MD - J3 TGT									

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

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)
4,438.0	0.00	0.00	4,270.4	710.0	657.9	968.0	0.00	0.00	0.00
Top of Gas									
4,500.0	0.00	0.00	4,332.4	710.0	657.9	968.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,432.4	710.0	657.9	968.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,532.4	710.0	657.9	968.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,632.4	710.0	657.9	968.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,732.4	710.0	657.9	968.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,832.4	710.0	657.9	968.0	0.00	0.00	0.00
5,100.0	0.00	0.00	4,932.4	710.0	657.9	968.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,032.4	710.0	657.9	968.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,132.4	710.0	657.9	968.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,232.4	710.0	657.9	968.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,332.4	710.0	657.9	968.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,432.4	710.0	657.9	968.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,532.4	710.0	657.9	968.0	0.00	0.00	0.00
5,736.0	0.00	0.00	5,568.4	710.0	657.9	968.0	0.00	0.00	0.00
Cameo									
5,800.0	0.00	0.00	5,632.4	710.0	657.9	968.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,732.4	710.0	657.9	968.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,832.4	710.0	657.9	968.0	0.00	0.00	0.00
6,100.0	0.00	0.00	5,932.4	710.0	657.9	968.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,032.4	710.0	657.9	968.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,132.4	710.0	657.9	968.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,232.4	710.0	657.9	968.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,332.4	710.0	657.9	968.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,432.4	710.0	657.9	968.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,532.4	710.0	657.9	968.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,632.4	710.0	657.9	968.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,732.4	710.0	657.9	968.0	0.00	0.00	0.00
6,922.0	0.00	0.00	6,754.4	710.0	657.9	968.0	0.00	0.00	0.00
Rollins									
7,000.0	0.00	0.00	6,832.4	710.0	657.9	968.0	0.00	0.00	0.00
7,100.0	0.00	0.00	6,932.4	710.0	657.9	968.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,032.4	710.0	657.9	968.0	0.00	0.00	0.00
7,221.6	0.00	0.00	7,054.0	710.0	657.9	968.0	0.00	0.00	0.00
TD at 7221.6									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
J3 TGT	0.00	0.00	4,270.0	710.0	657.9	1,627,004.03	2,402,651.74	39° 32' 8.843 N	107° 37' 5.307 W
- hit/miss target									
- Shape									
- plan hits target center									
- Rectangle (sides W100.0 H40.0 D2,784.0)									

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,257.6	3,139.4	WF		0.00	
4,438.0	4,270.4	Top of Gas		0.00	
5,736.0	5,568.4	Cameo		0.00	
6,922.0	6,754.4	Rollins		0.00	

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 3.00
1,821.3	1,804.3	98.7	91.5	Start 1895.0 hold at 1821.3 MD
3,716.3	3,565.7	611.3	566.4	Start Drop -3.00
4,437.6	4,270.0	710.0	657.9	Start 2784.0 hold at 4437.6 MD
7,221.6	7,054.0	710.0	657.9	TD at 7221.6



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 @ 5552.4usft (PAD Est KB)



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

Valley Farms J
Valley Farms J3
Design #2
12:20, March 03 2014

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J3 TGT	4270.0	710.0	657.9	1627004.04	2402651.74	39° 32' 8.843 N	107° 37' 5.307 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	1821.3	21.64	42.82	1804.3	98.7	91.5	3.00	42.82	134.6	
4	3716.3	21.64	42.82	3565.7	611.3	566.4	0.00	0.00	833.4	
5	4437.6	0.00	0.00	4270.0	710.0	657.9	3.00	180.00	968.0	J3 TGT
6	7221.6	0.00	0.00	7054.0	710.0	657.9	0.00	0.00	968.0	

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1804.3	1821.3	Start 1895.0 hold at 1821.3 MD
3565.7	3716.3	Start Drop -3.00
4270.0	4437.6	Start 2784.0 hold at 4437.6 MD
7054.0	7221.6	TD at 7221.6

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
3139.4	3257.6	WF	0.00	
4270.4	4438.0	Top of Gas	0.00	
5568.4	5736.0	Cameo	0.00	
6754.4	6922.0	Rollins	0.00	

