



Ursa Operating Company, LLC

**Rockies Region
Valley Farms J
Valley Farms J4**

Wellbore #1

Plan: Design #1

Standard Planning Report

09 September, 2013



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Valley Farms J4
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J4 @ 5552.4ft (PAD Est KB)
Project:	Rockies Region	MD Reference:	Valley Farms J4 @ 5552.4ft (PAD Est KB)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

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 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 J4, SHL LAT: 39.533806200 LONG: -107.620472700					
Well Position	+N/-S	-37.5 ft	Northing:	1,626,297.06 ft	Latitude:	39° 32' 1.702 N
	+E/-W	0.5 ft	Easting:	2,401,977.34 ft	Longitude:	107° 37' 13.702 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	5,552.4 ft	Ground Level:	5,537.0 ft

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 #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	55.14

Plan Sections										
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	
1,670.5	17.11	55.14	1,662.0	48.3	69.4	3.00	3.00	0.00	55.14	
3,827.9	17.11	55.14	3,724.0	411.3	590.3	0.00	0.00	0.00	0.00	
4,398.4	0.00	0.00	4,286.0	459.6	659.7	3.00	-3.00	0.00	180.00	J4 TGT
7,182.4	0.00	0.00	7,070.0	459.6	659.7	0.00	0.00	0.00	0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	55.14	1,200.0	1.5	2.1	2.6	3.00	3.00	0.00
1,300.0	6.00	55.14	1,299.6	6.0	8.6	10.5	3.00	3.00	0.00
1,400.0	9.00	55.14	1,398.8	13.4	19.3	23.5	3.00	3.00	0.00
1,500.0	12.00	55.14	1,497.1	23.9	34.2	41.7	3.00	3.00	0.00
1,600.0	15.00	55.14	1,594.3	37.2	53.4	65.1	3.00	3.00	0.00
1,670.5	17.11	55.14	1,662.0	48.3	69.4	84.6	3.00	3.00	0.00
Start 2157.5 hold at 1670.5 MD									
1,700.0	17.11	55.14	1,690.2	53.3	76.5	93.3	0.00	0.00	0.00
1,800.0	17.11	55.14	1,785.8	70.1	100.7	122.7	0.00	0.00	0.00
1,900.0	17.11	55.14	1,881.4	87.0	124.8	152.1	0.00	0.00	0.00
2,000.0	17.11	55.14	1,977.0	103.8	149.0	181.5	0.00	0.00	0.00
2,100.0	17.11	55.14	2,072.5	120.6	173.1	211.0	0.00	0.00	0.00
2,200.0	17.11	55.14	2,168.1	137.4	197.3	240.4	0.00	0.00	0.00
2,300.0	17.11	55.14	2,263.7	154.2	221.4	269.8	0.00	0.00	0.00
2,400.0	17.11	55.14	2,359.2	171.1	245.5	299.3	0.00	0.00	0.00
2,500.0	17.11	55.14	2,454.8	187.9	269.7	328.7	0.00	0.00	0.00
2,600.0	17.11	55.14	2,550.4	204.7	293.8	358.1	0.00	0.00	0.00
2,700.0	17.11	55.14	2,646.0	221.5	318.0	387.5	0.00	0.00	0.00
2,800.0	17.11	55.14	2,741.5	238.4	342.1	417.0	0.00	0.00	0.00
2,900.0	17.11	55.14	2,837.1	255.2	366.3	446.4	0.00	0.00	0.00
3,000.0	17.11	55.14	2,932.7	272.0	390.4	475.8	0.00	0.00	0.00
3,100.0	17.11	55.14	3,028.3	288.8	414.6	505.3	0.00	0.00	0.00
3,200.0	17.11	55.14	3,123.8	305.6	438.7	534.7	0.00	0.00	0.00
3,233.0	17.11	55.14	3,155.4	311.2	446.7	544.4	0.00	0.00	0.00
WF									
3,300.0	17.11	55.14	3,219.4	322.5	462.9	564.1	0.00	0.00	0.00
3,400.0	17.11	55.14	3,315.0	339.3	487.0	593.5	0.00	0.00	0.00
3,500.0	17.11	55.14	3,410.5	356.1	511.2	623.0	0.00	0.00	0.00
3,600.0	17.11	55.14	3,506.1	372.9	535.3	652.4	0.00	0.00	0.00
3,700.0	17.11	55.14	3,601.7	389.8	559.4	681.8	0.00	0.00	0.00
3,800.0	17.11	55.14	3,697.3	406.6	583.6	711.3	0.00	0.00	0.00
3,827.9	17.11	55.14	3,724.0	411.3	590.3	719.5	0.00	0.00	0.00
Start Drop -3.00									
3,900.0	14.95	55.14	3,793.2	422.7	606.7	739.4	3.00	-3.00	0.00
4,000.0	11.95	55.14	3,890.5	436.0	625.8	762.6	3.00	-3.00	0.00
4,100.0	8.95	55.14	3,988.8	446.3	640.6	780.8	3.00	-3.00	0.00
4,200.0	5.95	55.14	4,087.9	453.7	651.3	793.8	3.00	-3.00	0.00
4,300.0	2.95	55.14	4,187.6	458.2	657.6	801.5	3.00	-3.00	0.00
4,398.4	0.00	0.00	4,286.0	459.6	659.7	804.0	3.00	-3.00	0.00
Start 2784.0 hold at 4398.4 MD									

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)	
4,398.8	0.00	0.00	4,286.4	459.6	659.7	804.0	0.00	0.00	0.00	
Top of Gas										
4,400.0	0.00	0.00	4,287.6	459.6	659.7	804.0	0.00	0.00	0.00	
4,500.0	0.00	0.00	4,387.6	459.6	659.7	804.0	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,487.6	459.6	659.7	804.0	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,587.6	459.6	659.7	804.0	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,687.6	459.6	659.7	804.0	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,787.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,887.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,100.0	0.00	0.00	4,987.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,087.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,187.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,287.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,387.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,487.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,696.8	0.00	0.00	5,584.4	459.6	659.7	804.0	0.00	0.00	0.00	
Cameo										
5,700.0	0.00	0.00	5,587.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,687.6	459.6	659.7	804.0	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,787.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,887.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,987.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,087.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,187.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,287.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,387.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,487.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,587.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,687.6	459.6	659.7	804.0	0.00	0.00	0.00	
6,882.8	0.00	0.00	6,770.4	459.6	659.7	804.0	0.00	0.00	0.00	
Rollins										
6,900.0	0.00	0.00	6,787.6	459.6	659.7	804.0	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,887.6	459.6	659.7	804.0	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,987.6	459.6	659.7	804.0	0.00	0.00	0.00	
7,182.4	0.00	0.00	7,070.0	459.6	659.7	804.0	0.00	0.00	0.00	
TD at 7182.4										

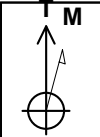
Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,233.0	3,155.4	WF		0.00		
4,398.8	4,286.4	Top of Gas		0.00		
5,696.8	5,584.4	Cameo		0.00		
6,882.8	6,770.4	Rollins		0.00		

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J4	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
1,670.5	1,662.0	48.3	69.4	Start 2157.5 hold at 1670.5 MD
3,827.9	3,724.0	411.3	590.3	Start Drop -3.00
4,398.4	4,286.0	459.6	659.7	Start 2784.0 hold at 4398.4 MD
7,182.4	7,070.0	459.6	659.7	TD at 7182.4



Well Name: Valley Farms J4
 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 1626297.06 2401977.34 39° 32' 1.702 N 107° 37' 13.702 W
 PAD Est KB Valley Farms J4 @ 5552.4ft (PAD Est KB)



Azimuths to True North
 Magnetic North: 9.87°
 Magnetic Field
 Strength: 52137.4snT
 Dip Angle: 65.79°
 Date: 9/5/2013
 Model: IGRF200510

Valley Farms J
 Valley Farms J4
 Design #1
 0:19, September 09 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J4 TGT	4286.0	459.6	659.7	1626741.16	2402647.61	39° 32' 6.245 N	107° 37' 5.281 W	Rectangle (Sides: L40.0 W100.0)

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1662.0	1670.5	Start 2157.5 hold at 1670.5 MD
3724.0	3827.9	Start Drop -3.00
4286.0	4398.4	Start 2784.0 hold at 4398.4 MD
7070.0	7182.4	TD at 7182.4

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	1670.5	17.11	55.14	1662.0	48.3	69.4	3.00	55.14	84.6	
4	3827.9	17.11	55.14	3724.0	411.3	590.3	0.00	0.00	719.5	
5	4398.4	0.00	0.00	4286.0	459.6	659.7	3.00	180.00	804.0	J4 TGT
6	7182.4	0.00	0.00	7070.0	459.6	659.7	0.00	0.00	804.0	

FORMATION TOP DETAILS

TVDPathMDPath	Formation
3155.4 3233.0	WF
4286.4 4398.8	Top of Gas
5584.4 5696.8	Cameo
6770.4 6882.8	Rollins

