



Ursa Operating Company, LLC

**Rockies Region
Valley Farms J
Valley Farms J5**

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 J5
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J5 @ 5552.4ft (PAD Est KB)
Project:	Rockies Region	MD Reference:	Valley Farms J5 @ 5552.4ft (PAD Est KB)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J5	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 J5, SHL LAT: 39.533860400 LONG: -107.620553300					
Well Position	+N/-S	-17.7 ft	Northing:	1,626,317.33 ft	Latitude:	39° 32' 1.897 N
	+E/-W	-22.3 ft	Easting:	2,401,955.07 ft	Longitude:	107° 37' 13.992 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)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	268.15

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	
1,440.0	10.20	268.15	1,438.2	-1.0	-30.2	3.00	3.00	0.00	268.15	
4,121.0	10.20	268.15	4,076.8	-16.3	-504.7	0.00	0.00	0.00	0.00	
4,461.0	0.00	0.00	4,415.0	-17.3	-534.8	3.00	-3.00	0.00	180.00	J5 TGT
7,245.0	0.00	0.00	7,199.0	-17.3	-534.8	0.00	0.00	0.00	0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J5	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	268.15	1,200.0	-0.1	-2.6	2.6	3.00	3.00	0.00
1,300.0	6.00	268.15	1,299.6	-0.3	-10.5	10.5	3.00	3.00	0.00
1,400.0	9.00	268.15	1,398.8	-0.8	-23.5	23.5	3.00	3.00	0.00
1,440.0	10.20	268.15	1,438.2	-1.0	-30.2	30.2	3.00	3.00	0.00
Start 2681.0 hold at 1440.0 MD									
1,500.0	10.20	268.15	1,497.3	-1.3	-40.8	40.8	0.00	0.00	0.00
1,600.0	10.20	268.15	1,595.7	-1.9	-58.5	58.5	0.00	0.00	0.00
1,700.0	10.20	268.15	1,694.1	-2.5	-76.2	76.2	0.00	0.00	0.00
1,800.0	10.20	268.15	1,792.5	-3.0	-93.9	93.9	0.00	0.00	0.00
1,900.0	10.20	268.15	1,890.9	-3.6	-111.6	111.6	0.00	0.00	0.00
2,000.0	10.20	268.15	1,989.4	-4.2	-129.3	129.3	0.00	0.00	0.00
2,100.0	10.20	268.15	2,087.8	-4.7	-147.0	147.1	0.00	0.00	0.00
2,200.0	10.20	268.15	2,186.2	-5.3	-164.7	164.8	0.00	0.00	0.00
2,300.0	10.20	268.15	2,284.6	-5.9	-182.4	182.5	0.00	0.00	0.00
2,400.0	10.20	268.15	2,383.0	-6.5	-200.1	200.2	0.00	0.00	0.00
2,500.0	10.20	268.15	2,481.5	-7.0	-217.8	217.9	0.00	0.00	0.00
2,600.0	10.20	268.15	2,579.9	-7.6	-235.5	235.6	0.00	0.00	0.00
2,700.0	10.20	268.15	2,678.3	-8.2	-253.2	253.3	0.00	0.00	0.00
2,800.0	10.20	268.15	2,776.7	-8.7	-270.9	271.0	0.00	0.00	0.00
2,900.0	10.20	268.15	2,875.1	-9.3	-288.6	288.7	0.00	0.00	0.00
3,000.0	10.20	268.15	2,973.6	-9.9	-306.3	306.4	0.00	0.00	0.00
3,100.0	10.20	268.15	3,072.0	-10.4	-324.0	324.1	0.00	0.00	0.00
3,200.0	10.20	268.15	3,170.4	-11.0	-341.7	341.8	0.00	0.00	0.00
3,300.0	10.20	268.15	3,268.8	-11.6	-359.4	359.5	0.00	0.00	0.00
3,315.8	10.20	268.15	3,284.4	-11.7	-362.2	362.3	0.00	0.00	0.00
WF									
3,400.0	10.20	268.15	3,367.2	-12.2	-377.1	377.3	0.00	0.00	0.00
3,500.0	10.20	268.15	3,465.7	-12.7	-394.8	395.0	0.00	0.00	0.00
3,600.0	10.20	268.15	3,564.1	-13.3	-412.5	412.7	0.00	0.00	0.00
3,700.0	10.20	268.15	3,662.5	-13.9	-430.2	430.4	0.00	0.00	0.00
3,800.0	10.20	268.15	3,760.9	-14.4	-447.9	448.1	0.00	0.00	0.00
3,900.0	10.20	268.15	3,859.3	-15.0	-465.5	465.8	0.00	0.00	0.00
4,000.0	10.20	268.15	3,957.8	-15.6	-483.2	483.5	0.00	0.00	0.00
4,100.0	10.20	268.15	4,056.2	-16.2	-500.9	501.2	0.00	0.00	0.00
4,121.0	10.20	268.15	4,076.8	-16.3	-504.7	504.9	0.00	0.00	0.00
Start Drop -3.00									
4,200.0	7.83	268.15	4,154.9	-16.7	-517.0	517.3	3.00	-3.00	0.00
4,300.0	4.83	268.15	4,254.2	-17.0	-528.0	528.3	3.00	-3.00	0.00
4,400.0	1.83	268.15	4,354.1	-17.2	-533.9	534.1	3.00	-3.00	0.00
4,461.0	0.00	0.00	4,415.0	-17.3	-534.8	535.1	3.00	-3.00	0.00

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J5	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)
Start 2784.0 hold at 4461.0 MD									
4,461.4	0.00	0.00	4,415.4	-17.3	-534.8	535.1	0.00	0.00	0.00
Top of Gas									
4,500.0	0.00	0.00	4,454.0	-17.3	-534.8	535.1	0.00	0.00	0.00
4,600.0	0.00	0.00	4,554.0	-17.3	-534.8	535.1	0.00	0.00	0.00
4,700.0	0.00	0.00	4,654.0	-17.3	-534.8	535.1	0.00	0.00	0.00
4,800.0	0.00	0.00	4,754.0	-17.3	-534.8	535.1	0.00	0.00	0.00
4,900.0	0.00	0.00	4,854.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,000.0	0.00	0.00	4,954.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,100.0	0.00	0.00	5,054.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,154.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,300.0	0.00	0.00	5,254.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,354.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,500.0	0.00	0.00	5,454.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,554.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,654.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,759.4	0.00	0.00	5,713.4	-17.3	-534.8	535.1	0.00	0.00	0.00
Cameo									
5,800.0	0.00	0.00	5,754.0	-17.3	-534.8	535.1	0.00	0.00	0.00
5,900.0	0.00	0.00	5,854.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,000.0	0.00	0.00	5,954.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,100.0	0.00	0.00	6,054.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,200.0	0.00	0.00	6,154.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,300.0	0.00	0.00	6,254.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,400.0	0.00	0.00	6,354.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,500.0	0.00	0.00	6,454.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,600.0	0.00	0.00	6,554.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,700.0	0.00	0.00	6,654.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,800.0	0.00	0.00	6,754.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,900.0	0.00	0.00	6,854.0	-17.3	-534.8	535.1	0.00	0.00	0.00
6,945.4	0.00	0.00	6,899.4	-17.3	-534.8	535.1	0.00	0.00	0.00
Rollins									
7,000.0	0.00	0.00	6,954.0	-17.3	-534.8	535.1	0.00	0.00	0.00
7,100.0	0.00	0.00	7,054.0	-17.3	-534.8	535.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,154.0	-17.3	-534.8	535.1	0.00	0.00	0.00
7,245.0	0.00	0.00	7,199.0	-17.3	-534.8	535.1	0.00	0.00	0.00
TD at 7245.0									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,315.8	3,284.4	WF		0.00	
4,461.4	4,415.4	Top of Gas		0.00	
5,759.4	5,713.4	Cameo		0.00	
6,945.4	6,899.4	Rollins		0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J5	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
1,440.0	1,438.2	-1.0	-30.2	Start 2681.0 hold at 1440.0 MD
4,121.0	4,076.8	-16.3	-504.7	Start Drop -3.00
4,461.0	4,415.0	-17.3	-534.8	Start 2784.0 hold at 4461.0 MD
7,245.0	7,199.0	-17.3	-534.8	TD at 7245.0



Well Name: Valley Farms J5
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 1626317.33 2401955.07 39° 32' 1.897 N 107° 37' 13.992 W
PAD Est KB Valley Farms J5 @ 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 J5
Design #1
0:27, September 09 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J5 TGT	4415.0	-17.3	-534.8	1626312.57	2401419.99	39° 32' 1.727 N	107° 37' 20.818 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	1440.0	10.20	268.15	1438.2	-1.0	-30.2	3.00	268.15	30.2	
4	4121.0	10.20	268.15	4076.8	-16.3	-504.7	0.00	0.00	504.9	
5	4461.0	0.00	0.00	4415.0	-17.3	-534.8	3.00	180.00	535.1	J5 TGT
6	7245.0	0.00	0.00	7199.0	-17.3	-534.8	0.00	0.00	535.1	

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1438.2	1440.0	Start 2681.0 hold at 1440.0 MD
4076.8	4121.0	Start Drop -3.00
4415.0	4461.0	Start 2784.0 hold at 4461.0 MD
7199.0	7245.0	TD at 7245.0

FORMATION TOP DETAILS

TVDPathMDPath	Formation
3284.4 3315.8	WF
4415.4 4461.4	Top of Gas
5713.4 5759.4	Cameo
6899.4 6945.4	Rollins

