



Ursa Operating Company, LLC

**Rockies Region
Valley Farms J
Valley Farms J7**

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 J7
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J7 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J7 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J7	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 J7, SHL LAT: 39.533791700 LONG: -107.620552300					
Well Position	+N/-S	-42.8 ft	Northing:	1,626,292.31 ft	Latitude:	39° 32' 1.650 N
	+E/-W	-22.0 ft	Easting:	2,401,954.77 ft	Longitude:	107° 37' 13.988 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	9/8/2013	9.86	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	226.94

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	
1,568.3	14.05	226.94	1,563.6	-39.0	-41.7	3.00	3.00	0.00	226.94	
4,051.3	14.05	226.94	3,972.4	-450.6	-482.1	0.00	0.00	0.00	0.00	
4,519.6	0.00	0.00	4,436.0	-489.6	-523.9	3.00	-3.00	0.00	180.00	J7 TGT
7,303.6	0.00	0.00	7,220.0	-489.6	-523.9	0.00	0.00	0.00	0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J7	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	226.94	1,200.0	-1.8	-1.9	2.6	3.00	3.00	0.00
1,300.0	6.00	226.94	1,299.6	-7.1	-7.6	10.5	3.00	3.00	0.00
1,400.0	9.00	226.94	1,398.8	-16.1	-17.2	23.5	3.00	3.00	0.00
1,500.0	12.00	226.94	1,497.1	-28.5	-30.5	41.7	3.00	3.00	0.00
1,568.3	14.05	226.94	1,563.6	-39.0	-41.7	57.1	3.00	3.00	0.00
Start 2483.0 hold at 1568.3 MD									
1,600.0	14.05	226.94	1,594.4	-44.3	-47.4	64.8	0.00	0.00	0.00
1,700.0	14.05	226.94	1,691.4	-60.8	-65.1	89.1	0.00	0.00	0.00
1,800.0	14.05	226.94	1,788.4	-77.4	-82.8	113.4	0.00	0.00	0.00
1,900.0	14.05	226.94	1,885.4	-94.0	-100.6	137.6	0.00	0.00	0.00
2,000.0	14.05	226.94	1,982.4	-110.6	-118.3	161.9	0.00	0.00	0.00
2,100.0	14.05	226.94	2,079.4	-127.1	-136.0	186.2	0.00	0.00	0.00
2,200.0	14.05	226.94	2,176.4	-143.7	-153.8	210.5	0.00	0.00	0.00
2,300.0	14.05	226.94	2,273.4	-160.3	-171.5	234.8	0.00	0.00	0.00
2,400.0	14.05	226.94	2,370.4	-176.9	-189.3	259.0	0.00	0.00	0.00
2,500.0	14.05	226.94	2,467.5	-193.4	-207.0	283.3	0.00	0.00	0.00
2,600.0	14.05	226.94	2,564.5	-210.0	-224.7	307.6	0.00	0.00	0.00
2,700.0	14.05	226.94	2,661.5	-226.6	-242.5	331.9	0.00	0.00	0.00
2,800.0	14.05	226.94	2,758.5	-243.2	-260.2	356.1	0.00	0.00	0.00
2,900.0	14.05	226.94	2,855.5	-259.7	-277.9	380.4	0.00	0.00	0.00
3,000.0	14.05	226.94	2,952.5	-276.3	-295.7	404.7	0.00	0.00	0.00
3,100.0	14.05	226.94	3,049.5	-292.9	-313.4	429.0	0.00	0.00	0.00
3,200.0	14.05	226.94	3,146.5	-309.5	-331.2	453.2	0.00	0.00	0.00
3,300.0	14.05	226.94	3,243.5	-326.0	-348.9	477.5	0.00	0.00	0.00
3,363.8	14.05	226.94	3,305.4	-336.6	-360.2	493.0	0.00	0.00	0.00
WF									
3,400.0	14.05	226.94	3,340.5	-342.6	-366.6	501.8	0.00	0.00	0.00
3,500.0	14.05	226.94	3,437.5	-359.2	-384.4	526.1	0.00	0.00	0.00
3,600.0	14.05	226.94	3,534.5	-375.8	-402.1	550.3	0.00	0.00	0.00
3,700.0	14.05	226.94	3,631.6	-392.3	-419.8	574.6	0.00	0.00	0.00
3,800.0	14.05	226.94	3,728.6	-408.9	-437.6	598.9	0.00	0.00	0.00
3,900.0	14.05	226.94	3,825.6	-425.5	-455.3	623.2	0.00	0.00	0.00
4,000.0	14.05	226.94	3,922.6	-442.1	-473.0	647.4	0.00	0.00	0.00
4,051.3	14.05	226.94	3,972.4	-450.6	-482.1	659.9	0.00	0.00	0.00
Start Drop -3.00									
4,100.0	12.59	226.94	4,019.7	-458.2	-490.3	671.1	3.00	-3.00	0.00
4,200.0	9.59	226.94	4,117.9	-471.3	-504.4	690.3	3.00	-3.00	0.00
4,300.0	6.59	226.94	4,216.9	-481.0	-514.7	704.4	3.00	-3.00	0.00
4,400.0	3.59	226.94	4,316.4	-487.0	-521.2	713.3	3.00	-3.00	0.00

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Well:	Valley Farms J7	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)
4,500.0	0.59	226.94	4,416.4	-489.5	-523.8	716.9	3.00	-3.00	0.00
4,519.6	0.00	0.00	4,436.0	-489.6	-523.9	717.0	3.00	-3.00	0.00
Start 2784.0 hold at 4519.6 MD									
4,520.0	0.00	0.00	4,436.4	-489.6	-523.9	717.0	0.00	0.00	0.00
Top of Gas									
4,600.0	0.00	0.00	4,516.4	-489.6	-523.9	717.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,616.4	-489.6	-523.9	717.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,716.4	-489.6	-523.9	717.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,816.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,916.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,016.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,116.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,216.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,316.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,416.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,516.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,616.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,716.4	-489.6	-523.9	717.0	0.00	0.00	0.00
5,818.0	0.00	0.00	5,734.4	-489.6	-523.9	717.0	0.00	0.00	0.00
Cameo									
5,900.0	0.00	0.00	5,816.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,916.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,016.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,116.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,216.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,316.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,416.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,516.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,616.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,716.4	-489.6	-523.9	717.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,816.4	-489.6	-523.9	717.0	0.00	0.00	0.00
7,000.0	0.00	0.00	6,916.4	-489.6	-523.9	717.0	0.00	0.00	0.00
7,004.0	0.00	0.00	6,920.4	-489.6	-523.9	717.0	0.00	0.00	0.00
Rollins									
7,100.0	0.00	0.00	7,016.4	-489.6	-523.9	717.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,116.4	-489.6	-523.9	717.0	0.00	0.00	0.00
7,303.6	0.00	0.00	7,220.0	-489.6	-523.9	717.0	0.00	0.00	0.00
TD at 7303.6									

Formations

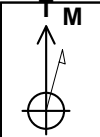
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,363.8	3,305.4	WF		0.00	
4,520.0	4,436.4	Top of Gas		0.00	
5,818.0	5,734.4	Cameo		0.00	
7,004.0	6,920.4	Rollins		0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J7	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
1,568.3	1,563.6	-39.0	-41.7	Start 2483.0 hold at 1568.3 MD
4,051.3	3,972.4	-450.6	-482.1	Start Drop -3.00
4,519.6	4,436.0	-489.6	-523.9	Start 2784.0 hold at 4519.6 MD
7,303.6	7,220.0	-489.6	-523.9	TD at 7303.6



Well Name: Valley Farms J7
 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 1626292.31 2401954.77 39° 32' 1.650 N 107° 37' 13.988 W
 Original Well Elev Valley Farms J7 @ 5552.4ft (Original Well Elev)



Azimuths to True North
 Magnetic North: 9.86°
 Magnetic Field
 Strength: 52136.6snT
 Dip Angle: 65.79°
 Date: 9/8/2013
 Model: IGRF200510

Valley Farms J
 Valley Farms J7
 Design #1
 0:37, September 09 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J7 TGT	4436.0	-489.6	-523.9	1625815.10	2401419.60	39° 31' 56.811 N	107° 37' 20.675 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	1568.3	14.05	226.94	1563.6	-39.0	-41.7	3.00	226.94	57.1	
4	4051.3	14.05	226.94	3972.4	-450.6	-482.1	0.00	0.00	659.9	
5	4519.6	0.00	0.00	4436.0	-489.6	-523.9	3.00	180.00	717.0	J7 TGT
6	7303.6	0.00	0.00	7220.0	-489.6	-523.9	0.00	0.00	717.0	

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1563.6	1568.3	Start 2483.0 hold at 1568.3 MD
3972.4	4051.3	Start Drop -3.00
4436.0	4519.6	Start 2784.0 hold at 4519.6 MD
7220.0	7303.6	TD at 7303.6

FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
3305.4	3363.8	WF
4436.4	4520.0	Top of Gas
5734.4	5818.0	Cameo
6920.4	7004.0	Rollins

