



Ursa Operating Company, LLC

**Rockies Region
Valley Farms J
Valley Farms J8**

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 J8
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J8 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J8 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J8	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 J8, SHL LAT: 39.533757400 LONG: -107.620551700					
Well Position	+N/-S	-55.3 ft	Northing:	1,626,279.81 ft	Latitude:	39° 32' 1.527 N
	+E/-W	-21.8 ft	Easting:	2,401,954.64 ft	Longitude:	107° 37' 13.986 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	215.49

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	
1,704.8	18.14	215.49	1,694.7	-77.3	-55.1	3.00	3.00	0.00	215.49	
3,972.1	18.14	215.49	3,849.3	-652.2	-465.0	0.00	0.00	0.00	0.00	
4,576.8	0.00	0.00	4,444.0	-729.5	-520.1	3.00	-3.00	0.00	180.00	J8 TGT
7,360.8	0.00	0.00	7,228.0	-729.5	-520.1	0.00	0.00	0.00	0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J8	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	215.49	1,200.0	-2.1	-1.5	2.6	3.00	3.00	0.00
1,300.0	6.00	215.49	1,299.6	-8.5	-6.1	10.5	3.00	3.00	0.00
1,400.0	9.00	215.49	1,398.8	-19.1	-13.7	23.5	3.00	3.00	0.00
1,500.0	12.00	215.49	1,497.1	-34.0	-24.2	41.7	3.00	3.00	0.00
1,600.0	15.00	215.49	1,594.3	-53.0	-37.8	65.1	3.00	3.00	0.00
1,704.8	18.14	215.49	1,694.7	-77.3	-55.1	95.0	3.00	3.00	0.00
Start 2267.3 hold at 1704.8 MD									
1,800.0	18.14	215.49	1,785.2	-101.5	-72.3	124.6	0.00	0.00	0.00
1,900.0	18.14	215.49	1,880.2	-126.8	-90.4	155.7	0.00	0.00	0.00
2,000.0	18.14	215.49	1,975.3	-152.2	-108.5	186.9	0.00	0.00	0.00
2,100.0	18.14	215.49	2,070.3	-177.5	-126.6	218.0	0.00	0.00	0.00
2,200.0	18.14	215.49	2,165.3	-202.9	-144.6	249.2	0.00	0.00	0.00
2,300.0	18.14	215.49	2,260.4	-228.2	-162.7	280.3	0.00	0.00	0.00
2,400.0	18.14	215.49	2,355.4	-253.6	-180.8	311.4	0.00	0.00	0.00
2,500.0	18.14	215.49	2,450.4	-278.9	-198.9	342.6	0.00	0.00	0.00
2,600.0	18.14	215.49	2,545.4	-304.3	-217.0	373.7	0.00	0.00	0.00
2,700.0	18.14	215.49	2,640.5	-329.7	-235.0	404.9	0.00	0.00	0.00
2,800.0	18.14	215.49	2,735.5	-355.0	-253.1	436.0	0.00	0.00	0.00
2,900.0	18.14	215.49	2,830.5	-380.4	-271.2	467.1	0.00	0.00	0.00
3,000.0	18.14	215.49	2,925.5	-405.7	-289.3	498.3	0.00	0.00	0.00
3,100.0	18.14	215.49	3,020.6	-431.1	-307.3	529.4	0.00	0.00	0.00
3,200.0	18.14	215.49	3,115.6	-456.4	-325.4	560.6	0.00	0.00	0.00
3,300.0	18.14	215.49	3,210.6	-481.8	-343.5	591.7	0.00	0.00	0.00
3,400.0	18.14	215.49	3,305.7	-507.1	-361.6	622.8	0.00	0.00	0.00
3,408.1	18.14	215.49	3,313.4	-509.2	-363.0	625.4	0.00	0.00	0.00
WF									
3,500.0	18.14	215.49	3,400.7	-532.5	-379.7	654.0	0.00	0.00	0.00
3,600.0	18.14	215.49	3,495.7	-557.8	-397.7	685.1	0.00	0.00	0.00
3,700.0	18.14	215.49	3,590.7	-583.2	-415.8	716.3	0.00	0.00	0.00
3,800.0	18.14	215.49	3,685.8	-608.6	-433.9	747.4	0.00	0.00	0.00
3,900.0	18.14	215.49	3,780.8	-633.9	-452.0	778.5	0.00	0.00	0.00
3,972.1	18.14	215.49	3,849.3	-652.2	-465.0	801.0	0.00	0.00	0.00
Start Drop -3.00									
4,000.0	17.31	215.49	3,875.9	-659.1	-469.9	809.5	3.00	-3.00	0.00
4,100.0	14.31	215.49	3,972.1	-681.3	-485.7	836.7	3.00	-3.00	0.00
4,200.0	11.31	215.49	4,069.6	-699.3	-498.6	858.9	3.00	-3.00	0.00
4,300.0	8.31	215.49	4,168.1	-713.2	-508.5	875.9	3.00	-3.00	0.00
4,400.0	5.31	215.49	4,267.4	-722.8	-515.4	887.7	3.00	-3.00	0.00
4,500.0	2.31	215.49	4,367.2	-728.2	-519.2	894.4	3.00	-3.00	0.00

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J8	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)
4,576.8	0.00	0.00	4,444.0	-729.5	-520.1	895.9	3.00	-3.00	0.00
Start 2784.0 hold at 4576.8 MD									
4,577.2	0.00	0.00	4,444.4	-729.5	-520.1	895.9	0.00	0.00	0.00
Top of Gas									
4,600.0	0.00	0.00	4,467.2	-729.5	-520.1	895.9	0.00	0.00	0.00
4,700.0	0.00	0.00	4,567.2	-729.5	-520.1	895.9	0.00	0.00	0.00
4,800.0	0.00	0.00	4,667.2	-729.5	-520.1	895.9	0.00	0.00	0.00
4,900.0	0.00	0.00	4,767.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,000.0	0.00	0.00	4,867.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,100.0	0.00	0.00	4,967.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,200.0	0.00	0.00	5,067.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,300.0	0.00	0.00	5,167.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,267.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,367.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,467.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,567.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,667.2	-729.5	-520.1	895.9	0.00	0.00	0.00
5,875.2	0.00	0.00	5,742.4	-729.5	-520.1	895.9	0.00	0.00	0.00
Cameo									
5,900.0	0.00	0.00	5,767.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,000.0	0.00	0.00	5,867.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,100.0	0.00	0.00	5,967.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,067.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,167.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,267.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,367.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,467.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,567.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,667.2	-729.5	-520.1	895.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,767.2	-729.5	-520.1	895.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,867.2	-729.5	-520.1	895.9	0.00	0.00	0.00
7,061.2	0.00	0.00	6,928.4	-729.5	-520.1	895.9	0.00	0.00	0.00
Rollins									
7,100.0	0.00	0.00	6,967.2	-729.5	-520.1	895.9	0.00	0.00	0.00
7,200.0	0.00	0.00	7,067.2	-729.5	-520.1	895.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,167.2	-729.5	-520.1	895.9	0.00	0.00	0.00
7,360.8	0.00	0.00	7,228.0	-729.5	-520.1	895.9	0.00	0.00	0.00
TD at 7360.8									

Formations

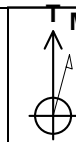
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,408.1	3,313.4	WF		0.00	
4,577.2	4,444.4	Top of Gas		0.00	
5,875.2	5,742.4	Cameo		0.00	
7,061.2	6,928.4	Rollins		0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J8	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
1,704.8	1,694.7	-77.3	-55.1	Start 2267.3 hold at 1704.8 MD
3,972.1	3,849.3	-652.2	-465.0	Start Drop -3.00
4,576.8	4,444.0	-729.5	-520.1	Start 2784.0 hold at 4576.8 MD
7,360.8	7,228.0	-729.5	-520.1	TD at 7360.8



Well Name: Valley Farms J8
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 1626279.81 2401954.64 39° 32' 1.527 N 107° 37' 13.986 W
Original Well Elev Valley Farms J8 @ 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 J8
Design #1
0:42, September 09 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J8 TGT	4444.0	-729.5	-520.1	1625562.66	2401417.65	39° 31' 54.317 N	107° 37' 20.625 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	1704.8	18.14	215.49	1694.7	-77.3	-55.1	3.00	215.49	95.0	
4	3972.1	18.14	215.49	3849.3	-652.2	-465.0	0.00	0.00	801.0	
5	4576.8	0.00	0.00	4444.0	-729.5	-520.1	3.00	180.00	895.9	J8 TGT
6	7360.8	0.00	0.00	7228.0	-729.5	-520.1	0.00	0.00	895.9	

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1694.7	1704.8	Start 2267.3 hold at 1704.8 MD
3849.3	3972.1	Start Drop -3.00
4444.0	4576.8	Start 2784.0 hold at 4576.8 MD
7228.0	7360.8	TD at 7360.8

FORMATION TOP DETAILS

TVDP	MD	Path	Formation
3313.4	3408.1	WF	
4444.4	4577.2	Top of Gas	
5742.4	5875.2	Cameo	
6928.4	7061.2	Rollins	

