



Ursa Operating Company, LLC

**Rockies Region
Valley Farms J
Valley Farms J9**

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 J9
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J9 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J9 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J9	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 J9, SHL LAT: 39.533723100 LONG: -107.620551200					
Well Position	+N/-S	-67.8 ft	Northing:	1,626,267.32 ft	Latitude:	39° 32' 1.403 N
	+E/-W	-21.7 ft	Easting:	2,401,954.49 ft	Longitude:	107° 37' 13.984 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	207.93

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	
1,871.4	23.14	207.93	1,850.6	-135.8	-72.0	3.00	3.00	0.00	207.93	
3,884.2	23.14	207.93	3,701.4	-834.7	-442.4	0.00	0.00	0.00	0.00	
4,655.6	0.00	0.00	4,452.0	-970.5	-514.4	3.00	-3.00	0.00	180.00	J9 TGT
7,439.6	0.00	0.00	7,236.0	-970.5	-514.4	0.00	0.00	0.00	0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J9	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	207.93	1,200.0	-2.3	-1.2	2.6	3.00	3.00	0.00
1,300.0	6.00	207.93	1,299.6	-9.2	-4.9	10.5	3.00	3.00	0.00
1,400.0	9.00	207.93	1,398.8	-20.8	-11.0	23.5	3.00	3.00	0.00
1,500.0	12.00	207.93	1,497.1	-36.9	-19.5	41.7	3.00	3.00	0.00
1,600.0	15.00	207.93	1,594.3	-57.5	-30.5	65.1	3.00	3.00	0.00
1,700.0	18.00	207.93	1,690.2	-82.6	-43.8	93.5	3.00	3.00	0.00
1,800.0	21.00	207.93	1,784.4	-112.1	-59.4	126.9	3.00	3.00	0.00
1,871.4	23.14	207.93	1,850.6	-135.8	-72.0	153.7	3.00	3.00	0.00
Start 2012.7 hold at 1871.4 MD									
1,900.0	23.14	207.93	1,876.9	-145.7	-77.2	164.9	0.00	0.00	0.00
2,000.0	23.14	207.93	1,968.8	-180.4	-95.6	204.2	0.00	0.00	0.00
2,100.0	23.14	207.93	2,060.8	-215.2	-114.0	243.5	0.00	0.00	0.00
2,200.0	23.14	207.93	2,152.8	-249.9	-132.5	282.8	0.00	0.00	0.00
2,300.0	23.14	207.93	2,244.7	-284.6	-150.9	322.1	0.00	0.00	0.00
2,400.0	23.14	207.93	2,336.7	-319.3	-169.3	361.4	0.00	0.00	0.00
2,500.0	23.14	207.93	2,428.6	-354.1	-187.7	400.7	0.00	0.00	0.00
2,600.0	23.14	207.93	2,520.6	-388.8	-206.1	440.0	0.00	0.00	0.00
2,700.0	23.14	207.93	2,612.5	-423.5	-224.5	479.3	0.00	0.00	0.00
2,800.0	23.14	207.93	2,704.5	-458.2	-242.9	518.6	0.00	0.00	0.00
2,900.0	23.14	207.93	2,796.4	-493.0	-261.3	557.9	0.00	0.00	0.00
3,000.0	23.14	207.93	2,888.4	-527.7	-279.7	597.2	0.00	0.00	0.00
3,100.0	23.14	207.93	2,980.3	-562.4	-298.1	636.5	0.00	0.00	0.00
3,200.0	23.14	207.93	3,072.3	-597.1	-316.5	675.8	0.00	0.00	0.00
3,300.0	23.14	207.93	3,164.2	-631.9	-334.9	715.1	0.00	0.00	0.00
3,400.0	23.14	207.93	3,256.2	-666.6	-353.3	754.5	0.00	0.00	0.00
3,470.9	23.14	207.93	3,321.4	-691.2	-366.4	782.3	0.00	0.00	0.00
WF									
3,500.0	23.14	207.93	3,348.1	-701.3	-371.7	793.8	0.00	0.00	0.00
3,600.0	23.14	207.93	3,440.1	-736.0	-390.1	833.1	0.00	0.00	0.00
3,700.0	23.14	207.93	3,532.0	-770.8	-408.5	872.4	0.00	0.00	0.00
3,800.0	23.14	207.93	3,624.0	-805.5	-427.0	911.7	0.00	0.00	0.00
3,884.2	23.14	207.93	3,701.4	-834.7	-442.4	944.7	0.00	0.00	0.00
Start Drop -3.00									
3,900.0	22.67	207.93	3,716.0	-840.2	-445.3	950.9	3.00	-3.00	0.00
4,000.0	19.67	207.93	3,809.2	-872.1	-462.2	987.0	3.00	-3.00	0.00
4,100.0	16.67	207.93	3,904.2	-899.6	-476.8	1,018.2	3.00	-3.00	0.00
4,200.0	13.67	207.93	4,000.7	-922.7	-489.1	1,044.3	3.00	-3.00	0.00
4,300.0	10.67	207.93	4,098.5	-941.4	-499.0	1,065.4	3.00	-3.00	0.00
4,400.0	7.67	207.93	4,197.2	-955.4	-506.4	1,081.3	3.00	-3.00	0.00

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J9	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	4.67	207.93	4,296.6	-964.9	-511.5	1,092.1	3.00	-3.00	0.00
4,600.0	1.67	207.93	4,396.4	-969.8	-514.0	1,097.6	3.00	-3.00	0.00
4,655.6	0.00	0.00	4,452.0	-970.5	-514.4	1,098.4	3.00	-3.00	0.00
Start 2784.0 hold at 4655.6 MD									
4,656.0	0.00	0.00	4,452.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
Top of Gas									
4,700.0	0.00	0.00	4,496.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
4,800.0	0.00	0.00	4,596.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
4,900.0	0.00	0.00	4,696.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,000.0	0.00	0.00	4,796.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,100.0	0.00	0.00	4,896.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,200.0	0.00	0.00	4,996.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,300.0	0.00	0.00	5,096.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,400.0	0.00	0.00	5,196.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,500.0	0.00	0.00	5,296.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,396.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,700.0	0.00	0.00	5,496.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,596.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,900.0	0.00	0.00	5,696.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
5,954.0	0.00	0.00	5,750.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
Cameo									
6,000.0	0.00	0.00	5,796.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,100.0	0.00	0.00	5,896.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,200.0	0.00	0.00	5,996.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,300.0	0.00	0.00	6,096.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,196.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,500.0	0.00	0.00	6,296.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,396.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,700.0	0.00	0.00	6,496.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,596.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
6,900.0	0.00	0.00	6,696.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,796.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
7,100.0	0.00	0.00	6,896.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
7,140.0	0.00	0.00	6,936.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
Rollins									
7,200.0	0.00	0.00	6,996.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
7,300.0	0.00	0.00	7,096.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
7,400.0	0.00	0.00	7,196.4	-970.5	-514.4	1,098.4	0.00	0.00	0.00
7,439.6	0.00	0.00	7,236.0	-970.5	-514.4	1,098.4	0.00	0.00	0.00
TD at 7439.6									

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J9	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,470.9	3,321.4	WF		0.00	
4,656.0	4,452.4	Top of Gas		0.00	
5,954.0	5,750.4	Cameo		0.00	
7,140.0	6,936.4	Rollins		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,100.0	1,100.0	0.0	0.0	Start Build 3.00	
1,871.4	1,850.6	-135.8	-72.0	Start 2012.7 hold at 1871.4 MD	
3,884.2	3,701.4	-834.7	-442.4	Start Drop -3.00	
4,655.6	4,452.0	-970.5	-514.4	Start 2784.0 hold at 4655.6 MD	
7,439.6	7,236.0	-970.5	-514.4	TD at 7439.6	



Well Name: Valley Farms J9
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 1626267.32 2401954.49 39° 32' 1.403 N 107° 37' 13.984 W
Original Well Elev Valley Farms J9 @ 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 J9
Design #1
0:48, September 09 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J9 TGT	4452.0	-970.5	-514.4	1625309.08	2401417.56	39° 31' 51.811 N	107° 37' 20.550 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	1871.4	23.14	207.93	1850.6	-135.8	-72.0	3.00	207.93	153.7	
4	3884.2	23.14	207.93	3701.4	-834.7	-442.4	0.00	0.00	944.7	
5	4655.6	0.00	0.00	4452.0	-970.5	-514.4	3.00	180.00	1098.4	J9 TGT
6	7236.0	0.00	0.00	7236.0	-970.5	-514.4	0.00	0.00	1098.4	

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
1850.6	1871.4	Start 2012.7 hold at 1871.4 MD
3701.4	3884.2	Start Drop -3.00
4452.0	4655.6	Start 2784.0 hold at 4655.6 MD
7236.0	7439.6	TD at 7439.6

FORMATION TOP DETAILS

TVDPathMDPath	Formation
3321.4 3470.9	WF
4452.4 4656.0	Top of Gas
5750.4 5954.0	Cameo
6936.4 7140.0	Rollins

