



Ursa Operating Company, LLC

**Rockies Region
Valley Farms J
Valley Farms J16**

Wellbore #1

Plan: Design #1

Standard Planning Report

08 September, 2013



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Valley Farms J16
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J16	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 J16, SHL LAT: 39.533620200 LONG: -107.620549500					
Well Position	+N/-S	-105.2 ft	Northing:	1,626,229.84 ft	Latitude:	39° 32' 1.033 N
	+E/-W	-21.2 ft	Easting:	2,401,954.10 ft	Longitude:	107° 37' 13.978 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	135.36	

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	
2,841.2	52.24	135.36	2,609.8	-526.7	520.2	3.00	3.00	0.00	135.36	
3,192.9	52.24	135.36	2,825.2	-724.5	715.5	0.00	0.00	0.00	0.00	
4,934.1	0.00	0.00	4,335.0	-1,251.1	1,235.7	3.00	-3.00	0.00	180.00	J16 TGT
7,718.1	0.00	0.00	7,119.0	-1,251.1	1,235.7	0.00	0.00	0.00	0.00	

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Valley Farms J16
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J16	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	135.36	1,200.0	-1.9	1.8	2.6	3.00	3.00	0.00	
1,300.0	6.00	135.36	1,299.6	-7.4	7.4	10.5	3.00	3.00	0.00	
1,400.0	9.00	135.36	1,398.8	-16.7	16.5	23.5	3.00	3.00	0.00	
1,500.0	12.00	135.36	1,497.1	-29.7	29.3	41.7	3.00	3.00	0.00	
1,600.0	15.00	135.36	1,594.3	-46.3	45.7	65.1	3.00	3.00	0.00	
1,700.0	18.00	135.36	1,690.2	-66.5	65.7	93.5	3.00	3.00	0.00	
1,800.0	21.00	135.36	1,784.4	-90.3	89.1	126.9	3.00	3.00	0.00	
1,900.0	24.00	135.36	1,876.8	-117.5	116.0	165.1	3.00	3.00	0.00	
2,000.0	27.00	135.36	1,967.1	-148.1	146.3	208.2	3.00	3.00	0.00	
2,100.0	30.00	135.36	2,054.9	-182.1	179.8	255.9	3.00	3.00	0.00	
2,200.0	33.00	135.36	2,140.2	-219.2	216.5	308.1	3.00	3.00	0.00	
2,300.0	36.00	135.36	2,222.6	-259.5	256.3	364.7	3.00	3.00	0.00	
2,400.0	39.00	135.36	2,301.9	-302.8	299.1	425.6	3.00	3.00	0.00	
2,500.0	42.00	135.36	2,377.9	-349.0	344.7	490.6	3.00	3.00	0.00	
2,600.0	45.00	135.36	2,450.5	-398.0	393.1	559.4	3.00	3.00	0.00	
2,700.0	48.00	135.36	2,519.3	-449.6	444.0	631.9	3.00	3.00	0.00	
2,800.0	51.00	135.36	2,584.2	-503.7	497.5	707.9	3.00	3.00	0.00	
2,841.2	52.24	135.36	2,609.8	-526.7	520.2	740.2	3.00	3.00	0.00	
Start 351.7 hold at 2841.2 MD										
2,900.0	52.24	135.36	2,645.8	-559.7	552.8	786.7	0.00	0.00	0.00	
3,000.0	52.24	135.36	2,707.1	-616.0	608.4	865.8	0.00	0.00	0.00	
3,100.0	52.24	135.36	2,768.3	-672.2	663.9	944.8	0.00	0.00	0.00	
3,192.9	52.24	135.36	2,825.2	-724.5	715.5	1,018.2	0.00	0.00	0.00	
Start Drop -3.00										
3,200.0	52.02	135.36	2,829.6	-728.5	719.5	1,023.9	3.00	-3.00	0.00	
3,300.0	49.02	135.36	2,893.1	-783.4	773.7	1,101.1	3.00	-3.00	0.00	
3,400.0	46.02	135.36	2,960.7	-835.9	825.5	1,174.8	3.00	-3.00	0.00	
3,500.0	43.02	135.36	3,032.0	-885.7	874.8	1,244.9	3.00	-3.00	0.00	
3,600.0	40.02	135.36	3,106.8	-932.9	921.4	1,311.2	3.00	-3.00	0.00	
3,700.0	37.02	135.36	3,185.0	-977.2	965.1	1,373.5	3.00	-3.00	0.00	
3,724.1	36.30	135.36	3,204.4	-987.5	975.2	1,387.9	3.00	-3.00	0.00	
WF										
3,800.0	34.02	135.36	3,266.4	-1,018.5	1,005.9	1,431.6	3.00	-3.00	0.00	
3,900.0	31.02	135.36	3,350.7	-1,056.8	1,043.7	1,485.3	3.00	-3.00	0.00	
4,000.0	28.02	135.36	3,437.7	-1,091.8	1,078.3	1,534.6	3.00	-3.00	0.00	
4,100.0	25.02	135.36	3,527.2	-1,123.6	1,109.7	1,579.2	3.00	-3.00	0.00	
4,200.0	22.02	135.36	3,618.9	-1,152.0	1,137.8	1,619.1	3.00	-3.00	0.00	
4,300.0	19.02	135.36	3,712.5	-1,176.9	1,162.4	1,654.2	3.00	-3.00	0.00	
4,400.0	16.02	135.36	3,807.9	-1,198.4	1,183.5	1,684.3	3.00	-3.00	0.00	

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Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J16	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	13.02	135.36	3,904.7	-1,216.2	1,201.2	1,709.4	3.00	-3.00	0.00	
4,600.0	10.02	135.36	4,002.6	-1,230.4	1,215.2	1,729.3	3.00	-3.00	0.00	
4,700.0	7.02	135.36	4,101.5	-1,240.9	1,225.6	1,744.1	3.00	-3.00	0.00	
4,800.0	4.02	135.36	4,201.1	-1,247.8	1,232.4	1,753.8	3.00	-3.00	0.00	
4,900.0	1.02	135.36	4,301.0	-1,250.9	1,235.5	1,758.2	3.00	-3.00	0.00	
4,934.1	0.00	0.00	4,335.0	-1,251.1	1,235.7	1,758.5	3.00	-3.00	0.00	
Start 2784.0 hold at 4934.1 MD										
4,934.5	0.00	0.00	4,335.4	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
Top of Gas										
5,000.0	0.00	0.00	4,400.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,100.0	0.00	0.00	4,500.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,200.0	0.00	0.00	4,600.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,300.0	0.00	0.00	4,700.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,400.0	0.00	0.00	4,800.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,500.0	0.00	0.00	4,900.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,000.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,100.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,200.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,300.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,400.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,500.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,200.0	0.00	0.00	5,600.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,232.5	0.00	0.00	5,633.4	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
Cameo										
6,300.0	0.00	0.00	5,700.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,400.0	0.00	0.00	5,800.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,500.0	0.00	0.00	5,900.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,000.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,100.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,200.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,300.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,400.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,500.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,200.0	0.00	0.00	6,600.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,300.0	0.00	0.00	6,700.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,400.0	0.00	0.00	6,800.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,418.5	0.00	0.00	6,819.4	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
Rollins										
7,500.0	0.00	0.00	6,900.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,000.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,100.9	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
7,718.1	0.00	0.00	7,119.0	-1,251.1	1,235.7	1,758.5	0.00	0.00	0.00	
TD at 7718.1										

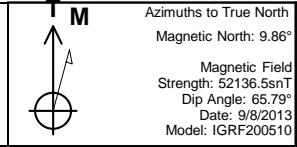
Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Valley Farms J16
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,724.1	3,204.4	WF		0.00	
4,934.5	4,335.4	Top of Gas		0.00	
6,232.5	5,633.4	Cameo		0.00	
7,418.5	6,819.4	Rollins		0.00	

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	
2,841.2	2,609.8	-526.7	520.2	Start 351.7 hold at 2841.2 MD	
3,192.9	2,825.2	-724.5	715.5	Start Drop -3.00	
4,934.1	4,335.0	-1,251.1	1,235.7	Start 2784.0 hold at 4934.1 MD	
7,718.1	7,119.0	-1,251.1	1,235.7	TD at 7718.1	



Well Name: Valley Farms J16
 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 1626229.84 2401954.10 39° 32' 1.033 N 107° 37' 13.978 W
 Original Well Elev Valley Farms J16 @ 5552.4ft (Original Well Elev)



Valley Farms J
 Valley Farms J16
 Design #1
 23:53, September 08 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J16 TGT	4335.0	-1251.1	1235.7	1624950.20	2403160.22	39° 31' 48.667 N	107° 36' 58.207 W	Rectangle (Sides: L40.0 W100.0)

SECTION DETAILS

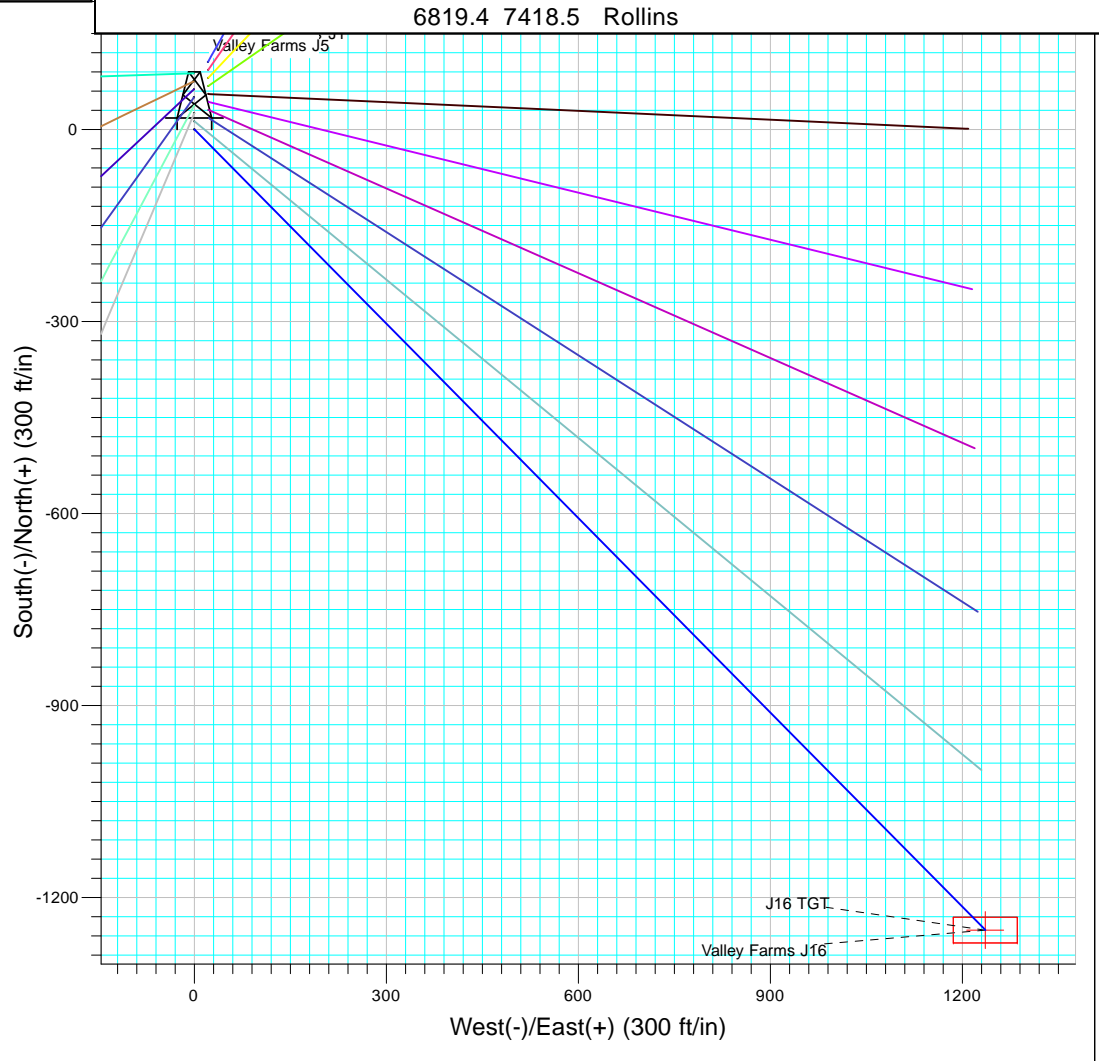
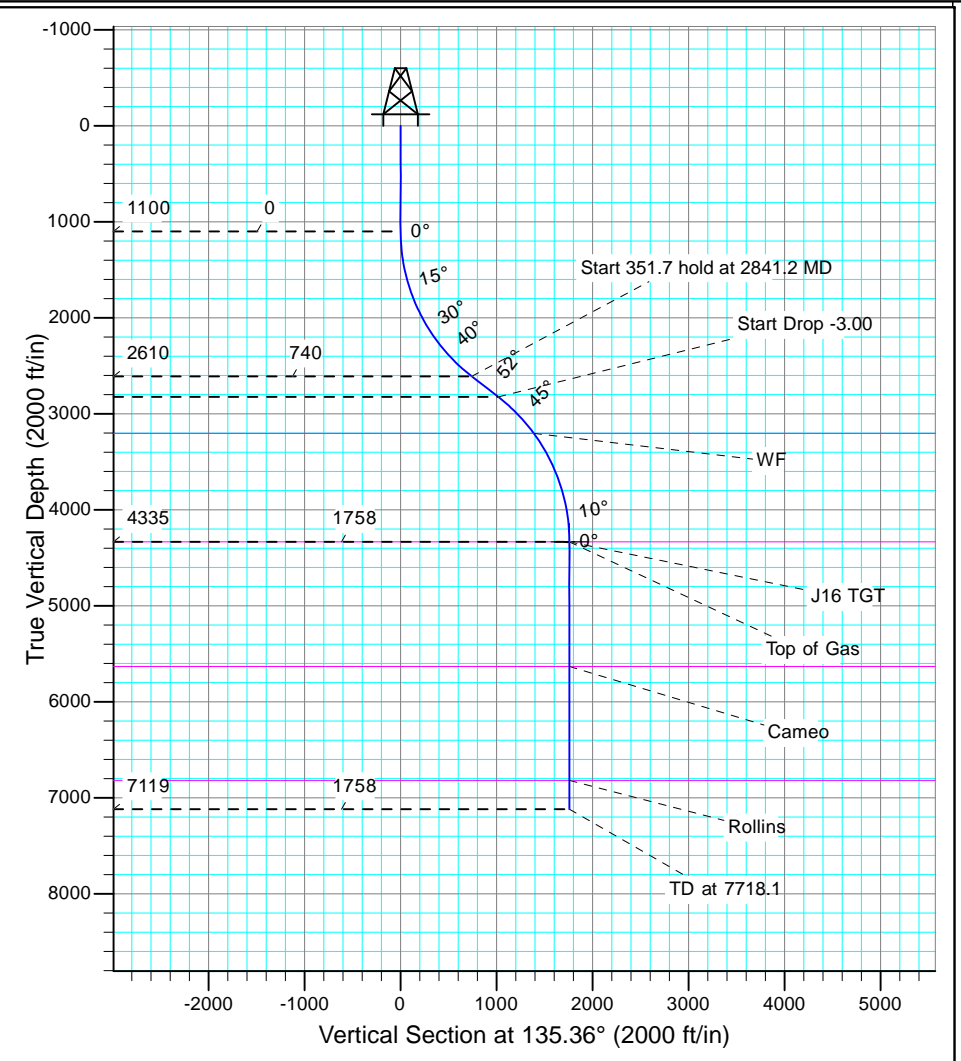
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1100.0	0.00	0.00	1100.0	0.0	0.0	0.00	0.00	0.0	
3	2841.2	52.24	135.36	2609.8	-526.7	520.2	3.00	135.36	740.2	
4	3192.9	52.24	135.36	2825.2	-724.5	715.5	0.00	0.00	1018.2	
5	4934.1	0.00	0.00	4335.0	-1251.1	1235.7	3.00	180.00	1758.5	J16 TGT
6	7718.1	0.00	0.00	7119.0	-1251.1	1235.7	0.00	0.00	1758.5	

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
2609.8	2841.2	Start 351.7 hold at 2841.2 MD
2825.2	3192.9	Start Drop -3.00
4335.0	4934.1	Start 2784.0 hold at 4934.1 MD
7119.0	7718.1	TD at 7718.1

FORMATION TOP DETAILS

TVDPATH	MDPATH	FORMATION
3204.4	3724.1	WF
4335.4	4934.5	Top of Gas
5633.4	6232.5	Cameo
6819.4	7418.5	Rollins





Ursa Operating Company, LLC

Rockies Region

Valley Farms J

Valley Farms J16

Wellbore #1

Design #1

Anticollision Report

08 September, 2013



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.0ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program	Date	9/8/2013
From (ft)	To (ft)	Survey (Wellbore)
0.0	7,718.1	Design #1 (Wellbore #1)
		Tool Name
		MWD
		Description
		MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance		Separation Factor	Warning
			Between Centres (ft)	Between Ellipses (ft)		
Valley Farms I						
Valley Farms I2 - Wellbore #1 - Actual	3,472.9	3,294.4	1,481.0	1,453.7	54.195	CC
Valley Farms I2 - Wellbore #1 - Actual	3,500.0	3,300.9	1,481.3	1,453.6	53.437	ES
Valley Farms I2 - Wellbore #1 - Actual	4,100.0	3,578.5	1,587.6	1,553.6	46.775	SF
Valley Farms I7 - Wellbore #1 - Actual	3,379.7	3,439.2	1,357.7	1,331.7	52.237	CC
Valley Farms I7 - Wellbore #1 - Actual	3,400.0	3,441.1	1,357.8	1,331.5	51.639	ES
Valley Farms I7 - Wellbore #1 - Actual	3,900.0	3,609.0	1,444.2	1,412.2	45.114	SF
Valley Farms J						
Valley Farms J1 - Wellbore #1 - Design #1	1,100.0	1,100.0	107.3	102.7	22.911	CC, ES
Valley Farms J1 - Wellbore #1 - Design #1	1,200.0	1,194.8	111.2	106.1	21.800	SF
Valley Farms J10 - Wellbore #1 - Design #1	1,225.0	1,226.3	24.6	19.4	4.747	CC, ES
Valley Farms J10 - Wellbore #1 - Design #1	1,300.0	1,301.7	25.6	20.1	4.708	SF
Valley Farms J11 - Wellbore #1 - Design #1	1,100.0	1,100.0	59.4	54.7	12.678	CC, ES
Valley Farms J11 - Wellbore #1 - Design #1	1,200.0	1,199.0	61.3	56.2	12.027	SF
Valley Farms J12 - Wellbore #1 - Design #1	1,100.0	1,100.0	48.1	43.4	10.261	CC, ES
Valley Farms J12 - Wellbore #1 - Design #1	1,200.0	1,199.4	49.5	44.4	9.715	SF
Valley Farms J13 - Wellbore #1 - Design #1	1,100.0	1,100.0	37.5	32.8	8.000	CC, ES
Valley Farms J13 - Wellbore #1 - Design #1	1,200.0	1,199.6	38.5	33.4	7.553	SF
Valley Farms J14 - Wellbore #1 - Design #1	1,100.0	1,100.0	28.5	23.8	6.083	CC, ES
Valley Farms J14 - Wellbore #1 - Design #1	1,300.0	1,299.0	30.7	25.3	5.621	SF
Valley Farms J15 - Wellbore #1 - Design #1	1,100.0	1,100.0	12.5	7.8	2.667	CC
Valley Farms J15 - Wellbore #1 - Design #1	1,200.0	1,200.4	12.7	7.6	2.493	ES
Valley Farms J15 - Wellbore #1 - Design #1	1,300.0	1,300.8	13.3	7.8	2.430	SF
Valley Farms J2 - Wellbore #1 - Design #1	1,100.0	1,100.0	95.2	90.5	20.310	CC, ES
Valley Farms J2 - Wellbore #1 - Design #1	1,200.0	1,195.4	98.9	93.8	19.386	SF
Valley Farms J3 - Wellbore #1 - Design #1	1,100.0	1,100.0	83.1	78.4	17.730	CC, ES
Valley Farms J3 - Wellbore #1 - Design #1	1,200.0	1,196.2	86.6	81.5	16.979	SF
Valley Farms J4 - Wellbore #1 - Design #1	1,100.0	1,100.0	71.1	66.4	15.181	CC, ES
Valley Farms J4 - Wellbore #1 - Design #1	1,200.0	1,197.0	74.4	69.3	14.577	SF
Valley Farms J5 - Wellbore #1 - Design #1	1,100.0	1,100.0	87.5	82.8	18.674	CC, ES
Valley Farms J5 - Wellbore #1 - Design #1	1,200.0	1,199.9	89.4	84.3	17.546	SF
Valley Farms J6 - Wellbore #1 - Design #1	1,100.0	1,100.0	75.0	70.3	16.008	CC, ES
Valley Farms J6 - Wellbore #1 - Design #1	1,300.0	1,301.9	79.9	74.4	14.603	SF
Valley Farms J7 - Wellbore #1 - Design #1	1,100.0	1,100.0	62.5	57.8	13.333	CC
Valley Farms J7 - Wellbore #1 - Design #1	1,200.0	1,202.1	62.7	57.6	12.312	ES

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Summary						
Offset Well - Wellbore - Design						
Valley Farms J						
Valley Farms J7 - Wellbore #1 - Design #1	1,300.0	1,303.3	64.6	59.2	11.847	SF
Valley Farms J8 - Wellbore #1 - Design #1	1,207.4	1,209.5	49.8	44.7	9.739	CC, ES
Valley Farms J8 - Wellbore #1 - Design #1	1,300.0	1,303.4	50.8	45.3	9.320	SF
Valley Farms J9 - Wellbore #1 - Design #1	1,230.6	1,232.7	37.1	31.9	7.137	CC, ES
Valley Farms J9 - Wellbore #1 - Design #1	1,300.0	1,302.7	37.8	32.3	6.946	SF

Offset Design													Offset Site Error:	0.0 ft	
Valley Farms I - Valley Farms I2 - Wellbore #1 - Actual													Offset Well Error:	0.0 ft	
Survey Program: 923-															
Reference		Offset		Semi Major Axis			Offset Wellbore Centre			Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	125.4	125.4	0.0	0.0	168.35	-2,526.8	520.9	2,580.0						
100.0	100.0	232.6	232.6	0.1	0.0	168.37	-2,526.5	520.1	2,579.5	2,579.4	0.10	N/A			
200.0	200.0	339.8	339.7	0.3	0.0	168.39	-2,525.9	518.8	2,578.7	2,578.4	0.32	8,060.706			
300.0	300.0	446.9	446.9	0.5	0.0	168.43	-2,525.2	517.1	2,577.7	2,577.2	0.54	4,732.335			
400.0	400.0	554.0	554.0	0.8	0.0	168.47	-2,524.2	514.8	2,576.4	2,575.7	0.77	3,348.212			
500.0	500.0	661.1	661.0	1.0	0.0	168.53	-2,523.0	512.1	2,574.9	2,573.9	0.99	2,589.661			
600.0	600.0	768.2	768.0	1.2	0.0	168.59	-2,521.7	508.8	2,573.0	2,571.8	1.22	2,110.629			
700.0	700.0	875.2	875.0	1.4	0.0	168.67	-2,520.1	505.1	2,570.9	2,569.4	1.44	1,780.565			
800.0	800.0	986.5	996.2	1.7	0.0	168.76	-2,517.9	500.4	2,568.3	2,566.7	1.67	1,539.186			
900.0	900.0	1,555.6	1,548.6	1.9	0.0	169.85	-2,468.7	442.1	2,563.7	2,561.8	1.89	1,353.993			
1,000.0	1,000.0	2,152.3	2,100.7	2.1	0.0	173.19	-2,320.3	277.2	2,535.4	2,533.3	2.12	1,196.978			
1,100.0	1,100.0	2,244.2	2,180.4	2.3	0.0	173.95	-2,290.1	242.9	2,496.4	2,494.0	2.34	1,065.496			
1,200.0	1,200.0	2,323.5	2,249.2	2.5	0.0	40.15	-2,264.7	212.7	2,456.4	2,453.9	2.54	965.811			
1,300.0	1,299.6	2,411.8	2,325.6	2.7	0.0	42.03	-2,236.1	179.1	2,413.0	2,410.3	2.73	885.097			
1,400.0	1,398.8	2,482.0	2,386.6	2.9	0.0	43.93	-2,213.4	152.6	2,366.9	2,364.0	2.92	809.561			
1,500.0	1,497.1	2,576.5	2,468.3	3.2	0.0	46.42	-2,182.8	116.4	2,318.0	2,314.9	3.15	736.064			
1,600.0	1,594.3	2,647.1	2,529.2	3.5	0.0	48.87	-2,159.8	89.1	2,266.7	2,263.2	3.42	662.624			
1,700.0	1,690.2	2,720.1	2,592.2	3.9	0.0	51.62	-2,135.9	61.0	2,213.4	2,209.6	3.76	588.272			
1,800.0	1,784.4	2,789.7	2,652.2	4.4	0.0	54.59	-2,113.0	34.1	2,158.3	2,154.1	4.20	513.888			
1,900.0	1,876.8	2,853.6	2,707.3	5.1	0.0	57.71	-2,091.9	9.5	2,102.0	2,097.3	4.76	441.923			
2,000.0	1,967.1	2,905.6	2,752.1	5.8	0.0	60.77	-2,074.6	-10.5	2,045.1	2,039.6	5.45	375.481			
2,100.0	2,054.9	2,954.5	2,794.3	6.7	0.0	63.93	-2,058.5	-29.3	1,988.0	1,981.7	6.28	316.371			
2,200.0	2,140.2	3,007.4	2,839.9	7.7	0.0	67.36	-2,041.1	-49.7	1,931.2	1,923.9	7.28	265.289			
2,300.0	2,222.6	3,055.9	2,881.5	8.8	0.0	70.78	-2,024.9	-68.4	1,875.0	1,866.6	8.43	222.555			
2,400.0	2,301.9	3,102.4	2,921.6	10.0	0.0	74.21	-2,009.2	-86.3	1,820.1	1,810.4	9.71	187.359			
2,500.0	2,377.9	3,139.0	2,952.9	11.4	0.0	77.30	-1,996.7	-100.3	1,767.1	1,756.0	11.13	158.819			
2,600.0	2,450.5	3,166.8	2,976.8	12.8	0.0	80.02	-1,987.2	-110.9	1,716.7	1,704.1	12.65	135.712			
2,700.0	2,519.3	3,187.4	2,994.5	14.4	0.0	82.36	-1,980.2	-118.8	1,669.6	1,655.4	14.28	116.959			
2,800.0	2,584.2	3,203.2	3,008.0	16.1	0.0	84.39	-1,974.8	-124.8	1,626.5	1,610.5	16.00	101.667			
2,841.2	2,609.8	3,208.3	3,012.4	16.8	0.0	85.12	-1,973.0	-126.8	1,610.0	1,593.3	16.73	96.209			
2,900.0	2,645.8	3,215.0	3,018.2	17.8	0.0	85.38	-1,970.7	-129.4	1,587.9	1,570.1	17.78	89.291			
3,000.0	2,707.1	3,226.4	3,028.0	19.6	0.0	85.82	-1,966.9	-133.7	1,554.7	1,535.1	19.58	79.400			
3,100.0	2,768.3	3,233.0	3,033.6	21.4	0.0	86.07	-1,964.6	-136.3	1,527.3	1,505.9	21.39	71.411			
3,192.9	2,825.2	3,247.0	3,045.6	23.1	0.0	86.61	-1,959.9	-141.6	1,507.2	1,484.1	23.08	65.302			
3,200.0	2,829.6	3,247.7	3,046.3	23.2	0.0	86.59	-1,959.6	-141.9	1,505.9	1,482.7	23.20	64.905			
3,300.0	2,893.1	3,260.8	3,057.5	24.8	0.0	86.64	-1,955.2	-146.9	1,491.0	1,466.2	24.76	60.207			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Valley Farms I - Valley Farms I2 - Wellbore #1 - Actual													Offset Well Error:	0.0 ft
Survey Program: 923-Reference														
Reference				Offset		Semi Major Axis			Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
3,400.0	2,960.7	3,278.5	3,072.8	26.3	0.0	87.07	-1,949.3	-153.7	1,482.8	1,456.5	26.28	56.433		
3,472.9	3,012.3	3,294.4	3,086.4	27.4	0.0	87.61	-1,944.0	-159.8	1,481.0	1,453.7	27.33	54.195	CC	
3,500.0	3,032.0	3,300.9	3,092.1	27.7	0.0	87.86	-1,941.9	-162.3	1,481.3	1,453.6	27.72	53.437	ES	
3,600.0	3,106.8	3,328.2	3,115.6	29.1	0.0	89.01	-1,932.9	-172.8	1,486.2	1,457.1	29.08	51.102		
3,700.0	3,185.0	3,371.6	3,153.2	30.3	0.0	90.90	-1,918.7	-189.3	1,497.1	1,466.8	30.35	49.334		
3,800.0	3,266.4	3,421.7	3,196.6	31.5	0.0	93.14	-1,902.3	-208.2	1,513.2	1,481.8	31.48	48.073		
3,900.0	3,350.7	3,465.7	3,234.8	32.6	0.0	95.26	-1,887.9	-224.5	1,534.1	1,501.6	32.47	47.245		
4,000.0	3,437.7	3,516.0	3,278.7	33.5	0.0	97.66	-1,871.8	-243.2	1,559.2	1,525.9	33.30	46.818		
4,100.0	3,527.2	3,578.5	3,333.3	34.4	0.0	100.45	-1,852.0	-266.2	1,587.6	1,553.6	33.94	46.775	SF	
4,200.0	3,618.9	3,650.9	3,396.9	35.2	0.0	103.47	-1,829.3	-292.4	1,618.3	1,583.9	34.37	47.087		
4,300.0	3,712.5	3,743.8	3,479.6	35.8	0.0	106.85	-1,801.8	-324.3	1,650.2	1,615.7	34.55	47.768		
4,400.0	3,807.9	3,873.3	3,597.7	36.4	0.0	110.67	-1,767.0	-364.5	1,681.3	1,646.9	34.42	48.841		
4,500.0	3,904.7	3,990.4	3,706.2	36.8	0.0	113.76	-1,737.3	-396.9	1,710.2	1,676.0	34.22	49.976		
4,600.0	4,002.6	4,106.3	3,815.1	37.2	0.0	116.38	-1,710.2	-426.1	1,736.9	1,703.0	33.94	51.178		
4,700.0	4,101.5	4,337.7	4,038.8	37.5	0.0	119.59	-1,671.2	-469.5	1,758.1	1,724.7	33.34	52.726		
4,800.0	4,201.1	4,539.4	4,238.6	37.7	0.0	121.12	-1,654.9	-489.5	1,771.1	1,738.0	33.06	53.575		
4,900.0	4,301.0	4,710.5	4,409.7	37.8	0.0	121.62	-1,650.7	-493.8	1,774.9	1,741.9	32.98	53.812		
4,934.1	4,335.0	4,748.6	4,447.8	37.8	0.0	-103.00	-1,650.4	-494.0	1,775.2	1,742.2	32.98	53.821		
5,000.0	4,400.9	4,817.1	4,516.2	37.9	0.0	-102.99	-1,650.1	-494.2	1,775.3	1,742.3	33.02	53.770		
5,100.0	4,500.9	4,927.7	4,626.9	37.9	0.0	-102.98	-1,649.8	-494.1	1,775.1	1,742.1	33.07	53.675		
5,200.0	4,600.9	5,036.7	4,735.8	38.0	0.0	-102.99	-1,649.9	-493.2	1,774.4	1,741.2	33.13	53.550		
5,300.0	4,700.9	5,131.3	4,830.4	38.0	0.0	-103.01	-1,650.5	-492.3	1,773.5	1,740.3	33.20	53.413		
5,400.0	4,800.9	5,232.8	4,931.9	38.1	0.0	-103.05	-1,651.4	-491.3	1,772.8	1,739.5	33.28	53.274		
5,500.0	4,900.9	5,340.0	5,031.9	38.1	0.0	-103.08	-1,652.1	-490.1	1,771.9	1,738.5	33.35	53.130		
5,600.0	5,000.9	5,452.4	5,151.5	38.2	0.0	-103.11	-1,652.6	-488.1	1,770.2	1,736.8	33.42	52.964		
5,700.0	5,100.9	5,547.5	5,246.6	38.3	0.0	-103.14	-1,653.0	-486.2	1,768.3	1,734.8	33.50	52.790		
5,800.0	5,200.9	5,644.0	5,343.0	38.3	0.0	-103.13	-1,652.6	-484.9	1,767.0	1,733.4	33.56	52.644		
5,900.0	5,300.9	5,747.2	5,446.2	38.4	0.0	-103.11	-1,651.5	-483.5	1,765.4	1,731.8	33.63	52.499		
6,000.0	5,400.9	5,848.4	5,547.4	38.4	0.0	-103.09	-1,650.5	-482.1	1,763.8	1,730.1	33.69	52.351		
6,100.0	5,500.9	5,944.9	5,643.9	38.5	0.0	-103.08	-1,649.8	-480.6	1,762.2	1,728.4	33.76	52.197		
6,200.0	5,600.9	6,035.5	5,734.4	38.6	0.0	-103.08	-1,649.8	-479.5	1,760.9	1,727.1	33.84	52.044		
6,300.0	5,700.9	6,136.2	5,835.1	38.6	0.0	-103.11	-1,650.4	-478.5	1,760.1	1,726.2	33.92	51.892		
6,400.0	5,800.9	6,239.0	5,937.9	38.7	0.0	-103.15	-1,651.4	-477.1	1,759.0	1,725.0	34.01	51.726		
6,500.0	5,900.9	6,342.0	6,040.9	38.8	0.0	-103.20	-1,652.5	-475.5	1,757.8	1,723.7	34.10	51.553		
6,600.0	6,000.9	6,448.5	6,147.4	38.9	0.0	-103.25	-1,653.6	-473.7	1,756.3	1,722.1	34.19	51.370		
6,700.0	6,100.9	6,547.3	6,246.2	38.9	0.0	-103.28	-1,654.1	-471.8	1,754.6	1,720.3	34.28	51.188		
6,800.0	6,200.9	6,632.0	6,330.9	39.0	0.0	-103.25	-1,653.0	-471.1	1,753.5	1,719.1	34.35	51.047		
6,890.8	6,291.7	6,709.8	6,408.7	39.1	0.0	-103.18	-1,650.9	-471.4	1,753.2	1,718.8	34.41	50.957		
6,900.0	6,300.9	6,717.9	6,416.8	39.1	0.0	-103.17	-1,650.6	-471.4	1,753.2	1,718.8	34.41	50.949		
7,000.0	6,400.9	6,814.6	6,513.4	39.1	0.0	-103.08	-1,648.0	-472.2	1,753.4	1,718.9	34.47	50.869		
7,100.0	6,500.9	6,924.3	6,623.1	39.2	0.0	-102.99	-1,645.3	-472.8	1,753.4	1,718.9	34.53	50.781		
7,200.0	6,600.9	7,027.2	6,725.9	39.3	0.0	-102.90	-1,642.5	-473.1	1,753.0	1,718.4	34.59	50.681		
7,300.0	6,700.9	7,122.1	6,820.9	39.4	0.0	-102.81	-1,639.7	-473.3	1,752.6	1,717.9	34.65	50.579		
7,314.2	6,715.2	7,133.5	6,832.2	39.4	0.0	-102.80	-1,639.4	-473.4	1,752.6	1,717.9	34.66	50.565		
7,400.0	6,800.9	7,202.4	6,901.1	39.5	0.0	-102.76	-1,638.3	-474.0	1,753.0	1,718.3	34.72	50.483		
7,500.0	6,900.9	7,301.5	7,000.2	39.5	0.0	-102.71	-1,637.2	-475.3	1,754.1	1,719.3	34.80	50.402		
7,600.0	7,000.9	7,449.9	7,148.5	39.6	0.0	-102.72	-1,637.1	-474.3	1,753.2	1,718.4	34.90	50.243		
7,700.0	7,100.9	7,569.4	7,268.0	39.7	0.0	-102.77	-1,637.9	-471.2	1,750.9	1,715.9	35.00	50.224		
7,718.1	7,119.0	7,587.4	7,286.0	39.7	0.0	-102.77	-1,638.0	-470.7	1,750.4	1,715.4	35.02	49.982		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:
Survey Program: 983- Valley Farms I - Valley Farms I7 - Wellbore #1 - Actual														Offset Well Error:
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	108.9	108.9	0.0	0.0	168.01	-2,524.6	536.1	2,580.9					
100.0	100.0	202.0	202.0	0.1	0.0	168.01	-2,524.9	536.3	2,581.3	2,581.2	0.10	N/A		
200.0	200.0	295.1	295.1	0.3	0.0	168.01	-2,525.6	536.5	2,582.0	2,581.7	0.32	8,071.295		
300.0	300.0	388.1	388.1	0.5	0.0	168.00	-2,526.4	536.8	2,583.0	2,582.5	0.54	4,742.189		
400.0	400.0	481.2	481.2	0.8	0.0	168.00	-2,527.5	537.2	2,584.3	2,583.5	0.77	3,358.486		
500.0	500.0	574.2	574.2	1.0	0.0	168.00	-2,528.9	537.7	2,585.8	2,584.8	0.99	2,600.717		
600.0	600.0	667.3	667.3	1.2	0.0	167.99	-2,530.5	538.3	2,587.6	2,586.4	1.22	2,122.626		
700.0	700.0	760.3	760.3	1.4	0.0	167.98	-2,532.3	539.0	2,589.6	2,588.2	1.44	1,793.585		
800.0	800.0	853.4	853.3	1.7	0.0	167.98	-2,534.3	539.7	2,592.0	2,590.3	1.67	1,553.358		
900.0	900.0	946.4	946.3	1.9	0.0	167.97	-2,536.6	540.6	2,594.5	2,592.6	1.89	1,370.311		
1,000.0	1,000.0	2,726.3	2,565.4	2.1	0.0	176.34	-2,096.4	134.2	2,551.7	2,549.6	2.12	1,204.657		
1,100.0	1,100.0	2,800.8	2,621.6	2.3	0.0	177.17	-2,059.7	101.7	2,495.1	2,492.8	2.34	1,064.961		
1,200.0	1,200.0	2,874.2	2,676.8	2.5	0.0	44.17	-2,023.7	69.6	2,437.5	2,435.0	2.54	958.320		
1,300.0	1,299.6	2,945.3	2,730.3	2.7	0.0	46.81	-1,988.7	38.2	2,377.4	2,374.7	2.73	871.602		
1,400.0	1,398.8	2,997.2	2,769.3	2.9	0.0	49.45	-1,963.4	15.3	2,315.3	2,312.4	2.93	790.484		
1,500.0	1,497.1	3,042.0	2,803.1	3.2	0.0	52.22	-1,941.8	-4.7	2,251.9	2,248.7	3.16	712.004		
1,600.0	1,594.3	3,096.0	2,843.9	3.5	0.0	55.45	-1,915.9	-28.7	2,187.2	2,183.8	3.45	633.791		
1,700.0	1,690.2	3,147.0	2,882.8	3.9	0.0	58.88	-1,891.6	-51.1	2,121.7	2,117.9	3.82	555.494		
1,800.0	1,784.4	3,216.5	2,935.7	4.4	0.0	63.10	-1,858.1	-81.4	2,055.3	2,051.0	4.30	477.919		
1,900.0	1,876.8	3,262.5	2,970.6	5.1	0.0	66.93	-1,835.7	-101.3	1,988.4	1,983.5	4.91	405.370		
2,000.0	1,967.1	3,299.0	2,998.2	5.8	0.0	70.62	-1,818.1	-117.2	1,921.9	1,916.3	5.65	340.410		
2,100.0	2,054.9	3,330.8	3,022.3	6.7	0.0	74.23	-1,802.7	-131.3	1,856.4	1,849.9	6.53	284.419		
2,200.0	2,140.2	3,359.4	3,044.0	7.7	0.0	77.72	-1,788.9	-143.8	1,792.4	1,784.9	7.55	237.553		
2,300.0	2,222.6	3,384.6	3,063.2	8.8	0.0	81.03	-1,776.8	-154.6	1,730.5	1,721.8	8.69	199.078		
2,400.0	2,301.9	3,406.0	3,079.6	10.0	0.0	84.08	-1,766.5	-163.7	1,671.3	1,661.3	9.96	167.818		
2,500.0	2,377.9	3,420.0	3,090.4	11.4	0.0	86.67	-1,759.8	-169.6	1,615.4	1,604.0	11.33	142.532		
2,600.0	2,450.5	3,432.8	3,100.3	12.8	0.0	89.03	-1,753.6	-174.9	1,563.4	1,550.6	12.81	122.030		
2,700.0	2,519.3	3,439.3	3,105.4	14.4	0.0	90.91	-1,750.5	-177.6	1,516.2	1,501.8	14.39	105.375		
2,800.0	2,584.2	3,441.7	3,107.2	16.1	0.0	92.39	-1,749.4	-178.6	1,474.3	1,458.3	16.06	91.790		
2,841.2	2,609.8	3,441.3	3,106.9	16.8	0.0	92.88	-1,749.6	-178.4	1,458.8	1,442.0	16.78	86.941		
2,900.0	2,645.8	3,440.2	3,106.1	17.8	0.0	92.83	-1,750.1	-178.0	1,438.4	1,420.5	17.83	80.689		
3,000.0	2,707.1	3,438.2	3,104.5	19.6	0.0	92.75	-1,751.1	-177.2	1,408.6	1,389.0	19.62	71.801		
3,100.0	2,768.3	3,436.0	3,102.8	21.4	0.0	92.66	-1,752.1	-176.3	1,385.4	1,364.0	21.42	64.670		
3,192.9	2,825.2	3,433.9	3,101.1	23.1	0.0	92.57	-1,753.2	-175.4	1,370.1	1,347.0	23.11	59.292		
3,200.0	2,829.6	3,433.7	3,101.0	23.2	0.0	92.53	-1,753.2	-175.3	1,369.2	1,345.9	23.23	58.942		
3,300.0	2,893.1	3,434.4	3,101.6	24.8	0.0	92.28	-1,752.9	-175.6	1,359.9	1,335.1	24.80	54.847		
3,379.7	2,946.6	3,439.2	3,105.3	26.0	0.0	92.42	-1,750.6	-177.6	1,357.7	1,331.7	25.99	52.237	CC	
3,400.0	2,960.7	3,441.1	3,106.8	26.3	0.0	92.50	-1,749.7	-178.4	1,357.8	1,331.5	26.29	51.639	ES	
3,500.0	3,032.0	3,454.9	3,117.5	27.7	0.0	93.23	-1,743.2	-184.0	1,362.8	1,335.1	27.71	49.179		
3,600.0	3,106.8	3,476.6	3,134.5	29.1	0.0	94.48	-1,732.9	-192.8	1,374.5	1,345.5	29.02	47.359		
3,700.0	3,185.0	3,507.7	3,159.1	30.3	0.0	96.30	-1,718.4	-205.1	1,392.5	1,362.3	30.21	46.102		
3,800.0	3,266.4	3,552.8	3,195.2	31.5	0.0	98.82	-1,697.6	-222.4	1,416.1	1,384.9	31.21	45.369		
3,900.0	3,350.7	3,609.0	3,241.0	32.6	0.0	101.84	-1,672.3	-242.9	1,444.2	1,412.2	32.01	45.114	SF	
4,000.0	3,437.7	3,648.7	3,273.8	33.5	0.0	104.28	-1,655.0	-257.0	1,476.2	1,443.5	32.69	45.159		
4,100.0	3,527.2	3,692.9	3,310.9	34.4	0.0	106.90	-1,636.7	-272.7	1,511.7	1,478.6	33.17	45.569		
4,200.0	3,618.9	3,833.3	3,433.1	35.2	0.0	112.31	-1,583.9	-316.9	1,547.3	1,514.3	32.97	46.929		
4,300.0	3,712.5	3,893.0	3,486.2	35.8	0.0	114.99	-1,562.9	-334.4	1,583.4	1,550.4	33.02	47.953		
4,400.0	3,807.9	3,950.5	3,537.7	36.4	0.0	117.46	-1,543.8	-351.5	1,620.3	1,587.4	32.95	49.182		
4,500.0	3,904.7	4,105.7	3,679.2	36.8	0.0	121.61	-1,497.4	-395.1	1,656.6	1,624.3	32.25	51.373		
4,600.0	4,002.6	4,345.9	3,908.2	37.2	0.0	125.86	-1,443.6	-442.6	1,684.8	1,653.5	31.27	53.885		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 983- Valley Farms I - Valley Farms I7 - Wellbore #1 - Actual													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,700.0	4,101.5	4,573.6	4,133.0	37.5	0.0	128.22	-1,416.7	-466.1	1,702.9	1,672.2	30.69	55.484		
4,800.0	4,201.1	4,768.1	4,327.0	37.7	0.0	129.30	-1,405.6	-471.3	1,710.9	1,680.5	30.44	56.204		
4,900.0	4,301.0	4,877.7	4,436.6	37.8	0.0	129.57	-1,402.5	-470.4	1,712.6	1,682.2	30.39	56.351		
4,934.1	4,335.0	4,908.0	4,466.8	37.8	0.0	-95.06	-1,402.1	-470.1	1,712.5	1,682.1	30.39	56.357		
5,000.0	4,400.9	4,978.3	4,537.1	37.9	0.0	-95.05	-1,401.9	-469.5	1,711.9	1,681.5	30.42	56.268		
5,100.0	4,500.9	5,089.9	4,648.7	37.9	0.0	-95.05	-1,401.7	-467.8	1,710.4	1,679.9	30.49	56.104		
5,200.0	4,600.9	5,173.6	4,732.4	38.0	0.0	-95.05	-1,401.6	-466.5	1,708.9	1,678.3	30.55	55.939		
5,300.0	4,700.9	5,262.2	4,821.0	38.0	0.0	-95.04	-1,401.2	-466.3	1,708.6	1,678.0	30.61	55.817		
5,400.0	4,800.9	5,370.8	4,929.6	38.1	0.0	-95.02	-1,400.5	-466.0	1,708.2	1,677.5	30.67	55.698		
5,500.0	4,900.9	5,480.5	5,039.2	38.1	0.0	-94.99	-1,399.5	-465.0	1,707.2	1,676.5	30.73	55.561		
5,600.0	5,000.9	5,563.4	5,122.2	38.2	0.0	-94.97	-1,399.1	-464.3	1,706.4	1,675.6	30.79	55.413		
5,619.3	5,020.3	5,578.5	5,137.3	38.2	0.0	-94.98	-1,399.2	-464.2	1,706.3	1,675.5	30.81	55.387		
5,700.0	5,100.9	5,642.8	5,201.6	38.3	0.0	-94.99	-1,399.6	-464.5	1,706.7	1,675.9	30.87	55.286		
5,800.0	5,200.9	5,731.0	5,289.8	38.3	0.0	-95.02	-1,400.6	-465.7	1,708.2	1,677.2	30.95	55.184		
5,900.0	5,300.9	5,834.4	5,393.2	38.4	0.0	-95.06	-1,401.8	-467.3	1,709.8	1,678.8	31.04	55.083		
6,000.0	5,400.9	5,945.2	5,503.9	38.4	0.0	-95.11	-1,403.5	-468.4	1,711.0	1,679.8	31.13	54.953		
6,100.0	5,500.9	6,042.4	5,601.2	38.5	0.0	-95.13	-1,404.2	-469.1	1,711.8	1,680.5	31.22	54.831		
6,200.0	5,600.9	6,149.0	5,707.7	38.6	0.0	-95.11	-1,403.6	-470.1	1,712.6	1,681.4	31.29	54.736		
6,300.0	5,700.9	6,258.4	5,817.1	38.6	0.0	-95.07	-1,402.5	-470.6	1,713.0	1,681.6	31.36	54.629		
6,400.0	5,800.9	6,363.4	5,922.0	38.7	0.0	-95.05	-1,401.9	-470.5	1,712.9	1,681.4	31.43	54.497		
6,500.0	5,900.9	6,465.3	6,024.0	38.8	0.0	-95.04	-1,401.7	-470.2	1,712.5	1,681.0	31.51	54.347		
6,600.0	6,000.9	6,561.7	6,120.4	38.9	0.0	-95.03	-1,401.2	-470.0	1,712.2	1,680.7	31.59	54.202		
6,629.4	6,030.4	6,588.7	6,147.4	38.9	0.0	-95.03	-1,401.2	-470.0	1,712.2	1,680.6	31.61	54.159		
6,700.0	6,100.9	6,654.5	6,213.2	38.9	0.0	-95.03	-1,401.4	-470.1	1,712.3	1,680.7	31.68	54.055		
6,800.0	6,200.9	6,753.0	6,311.7	39.0	0.0	-95.06	-1,402.1	-470.4	1,712.7	1,680.9	31.77	53.906		
6,900.0	6,300.9	6,857.8	6,416.5	39.1	0.0	-95.07	-1,402.7	-470.6	1,712.9	1,681.1	31.87	53.753		
7,000.0	6,400.9	6,960.7	6,519.3	39.1	0.0	-95.09	-1,403.2	-470.5	1,712.9	1,680.9	31.96	53.591		
7,100.0	6,500.9	7,064.0	6,622.6	39.2	0.0	-95.12	-1,403.9	-470.3	1,712.8	1,680.7	32.06	53.422		
7,200.0	6,600.9	7,179.0	6,737.7	39.3	0.0	-95.13	-1,404.2	-469.5	1,712.1	1,680.0	32.16	53.242		
7,300.0	6,700.9	7,261.9	6,820.6	39.4	0.0	-95.10	-1,403.4	-468.9	1,711.3	1,679.1	32.24	53.076		
7,310.8	6,711.8	7,270.1	6,828.8	39.4	0.0	-95.10	-1,403.2	-468.9	1,711.3	1,679.1	32.25	53.062		
7,400.0	6,800.9	7,340.8	6,899.5	39.5	0.0	-95.04	-1,401.4	-469.4	1,711.8	1,679.5	32.31	52.974		
7,500.0	6,900.9	7,433.7	6,992.3	39.5	0.0	-94.99	-1,400.0	-471.0	1,713.3	1,680.9	32.39	52.890		
7,600.0	7,000.9	7,540.2	7,098.8	39.6	0.0	-94.96	-1,399.5	-472.4	1,714.6	1,682.1	32.48	52.782		
7,700.0	7,100.9	7,656.7	7,215.3	39.7	0.0	-94.95	-1,399.1	-473.3	1,715.3	1,682.8	32.58	52.654		
7,718.1	7,119.0	7,676.6	7,235.2	39.7	0.0	-94.94	-1,399.0	-473.3	1,715.3	1,682.8	32.59	52.628		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:
Survey Program: 0-MWD													Offset Well Error:
Reference													
Offset													
Semi Major Axis													
Distance													
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	11.38	105.2	21.2	107.3				
100.0	100.0	100.0	100.0	0.1	0.1	11.38	105.2	21.2	107.3	107.2	0.19	564.545	
200.0	200.0	200.0	200.0	0.3	0.3	11.38	105.2	21.2	107.3	106.7	0.64	167.816	
300.0	300.0	300.0	300.0	0.5	0.5	11.38	105.2	21.2	107.3	106.3	1.09	98.557	
400.0	400.0	400.0	400.0	0.8	0.8	11.38	105.2	21.2	107.3	105.8	1.54	69.764	
500.0	500.0	500.0	500.0	1.0	1.0	11.38	105.2	21.2	107.3	105.4	1.99	53.991	
600.0	600.0	600.0	600.0	1.2	1.2	11.38	105.2	21.2	107.3	104.9	2.44	44.035	
700.0	700.0	700.0	700.0	1.4	1.4	11.38	105.2	21.2	107.3	104.5	2.89	37.179	
800.0	800.0	800.0	800.0	1.7	1.7	11.38	105.2	21.2	107.3	104.0	3.34	32.171	
900.0	900.0	900.0	900.0	1.9	1.9	11.38	105.2	21.2	107.3	103.6	3.79	28.351	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	11.38	105.2	21.2	107.3	103.1	4.24	25.343	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	11.38	105.2	21.2	107.3	102.7	4.69	22.911	CC, ES
1,200.0	1,200.0	1,194.8	1,194.7	2.5	2.6	-124.58	107.3	22.3	111.2	106.1	5.10	21.800	SF
1,300.0	1,299.6	1,288.6	1,288.3	2.7	2.8	-126.12	113.4	25.7	122.7	117.2	5.50	22.295	
1,400.0	1,398.8	1,380.6	1,379.6	2.9	3.0	-128.07	123.2	31.2	142.0	136.1	5.93	23.961	
1,500.0	1,497.1	1,470.0	1,467.7	3.2	3.2	-129.93	136.5	38.5	169.0	162.6	6.37	26.519	
1,600.0	1,594.3	1,556.1	1,551.8	3.5	3.5	-131.44	152.6	47.5	203.4	196.6	6.85	29.703	
1,700.0	1,690.2	1,638.2	1,631.1	3.9	3.8	-132.51	171.1	57.7	245.0	237.6	7.36	33.265	
1,800.0	1,784.4	1,716.0	1,705.4	4.4	4.1	-133.14	191.4	69.0	293.2	285.3	7.93	36.980	
1,900.0	1,876.8	1,789.1	1,774.3	5.1	4.4	-133.37	212.8	80.8	347.6	339.1	8.55	40.646	
2,000.0	1,967.1	1,857.3	1,837.6	5.8	4.8	-133.22	234.8	93.1	407.7	398.5	9.24	44.102	
2,100.0	2,054.9	1,920.6	1,895.5	6.7	5.2	-132.74	257.0	105.4	473.0	463.0	10.02	47.206	
2,200.0	2,140.2	1,978.8	1,948.1	7.7	5.6	-131.91	278.9	117.5	543.0	532.1	10.89	49.855	
2,300.0	2,222.6	2,032.0	1,995.5	8.8	6.0	-130.73	300.2	129.3	617.2	605.4	11.86	52.037	
2,400.0	2,301.9	2,080.4	2,037.9	10.0	6.3	-129.18	320.5	140.6	695.2	682.3	12.96	53.626	
2,500.0	2,377.9	2,124.2	2,075.8	11.4	6.7	-127.22	339.7	151.2	776.6	762.3	14.22	54.594	
2,600.0	2,450.5	2,163.4	2,109.3	12.8	7.1	-124.78	357.5	161.1	860.8	845.1	15.67	54.925	
2,700.0	2,519.3	2,200.0	2,140.2	14.4	7.4	-121.88	374.7	170.6	947.6	930.3	17.33	54.668	
2,800.0	2,584.2	2,229.0	2,164.4	16.1	7.6	-118.19	388.6	178.4	1,036.5	1,017.3	19.27	53.790	
2,841.2	2,609.8	2,246.2	2,178.6	16.8	7.8	-116.80	397.1	183.1	1,073.7	1,053.6	20.12	53.375	
2,900.0	2,645.8	2,260.5	2,190.4	17.8	7.9	-117.54	404.1	187.0	1,127.1	1,106.1	20.98	53.716	
3,000.0	2,707.1	2,298.5	2,221.8	19.6	8.3	-119.33	422.9	197.4	1,218.1	1,195.7	22.37	54.454	
3,100.0	2,768.3	2,336.4	2,253.1	21.4	8.7	-120.91	441.7	207.8	1,309.3	1,285.6	23.74	55.141	
3,192.9	2,825.2	2,371.7	2,282.2	23.1	9.0	-122.22	459.1	217.5	1,394.2	1,369.2	25.01	55.748	
3,200.0	2,829.6	2,374.4	2,284.4	23.2	9.1	-122.72	460.4	218.2	1,400.7	1,375.7	25.02	55.981	
3,300.0	2,893.1	2,414.6	2,317.6	24.8	9.5	-129.05	480.3	229.2	1,491.5	1,466.4	25.12	59.368	
3,400.0	2,960.7	2,458.6	2,353.9	26.3	9.9	-134.17	502.0	241.3	1,580.9	1,555.6	25.34	62.399	
3,500.0	3,032.0	2,506.3	2,393.3	27.7	10.4	-138.28	525.6	254.3	1,668.7	1,643.0	25.70	64.940	
3,600.0	3,106.8	2,557.6	2,435.6	29.1	10.9	-141.56	550.9	268.4	1,754.6	1,728.4	26.21	66.942	
3,700.0	3,185.0	2,612.2	2,480.7	30.3	11.5	-144.18	577.9	283.3	1,838.3	1,811.4	26.85	68.467	
3,800.0	3,266.4	2,670.2	2,528.5	31.5	12.1	-146.27	606.5	299.2	1,919.6	1,892.0	27.59	69.571	
3,900.0	3,350.7	2,731.2	2,578.9	32.6	12.7	-147.94	636.6	315.9	1,998.3	1,969.9	28.41	70.337	
4,000.0	3,437.7	2,795.2	2,631.7	33.5	13.4	-149.27	668.2	333.5	2,074.2	2,045.0	29.28	70.833	
4,100.0	3,527.2	2,861.9	2,686.7	34.4	14.1	-150.32	701.2	351.7	2,147.3	2,117.1	30.19	71.116	
4,200.0	3,618.9	2,931.2	2,743.9	35.2	14.9	-151.14	735.4	370.7	2,217.3	2,186.1	31.12	71.242	
4,300.0	3,712.5	3,002.9	2,803.1	35.8	15.6	-151.78	770.8	390.4	2,284.0	2,252.0	32.06	71.252	
4,400.0	3,807.9	3,076.8	2,864.1	36.4	16.4	-152.24	807.3	410.6	2,347.5	2,314.6	32.98	71.177	
4,500.0	3,904.7	3,152.7	2,926.7	36.8	17.2	-152.57	844.8	431.4	2,407.6	2,373.7	33.89	71.049	
4,600.0	4,002.6	3,230.4	2,990.8	37.2	18.1	-152.78	883.2	452.7	2,464.2	2,429.5	34.76	70.889	
4,700.0	4,101.5	3,309.7	3,056.2	37.5	18.9	-152.87	922.3	474.4	2,517.3	2,481.7	35.60	70.716	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference													Warning	
Reference				Offset			Semi Major Axis			Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.0	4,201.1	3,390.3	3,122.8	37.7	19.8	-152.87	962.1	496.5	2,566.7	2,530.3	36.38	70.544		
4,900.0	4,301.0	4,644.2	4,301.0	37.8	26.0	-147.93	1,277.1	671.2	2,590.2	2,547.9	42.36	61.150		
4,934.1	4,335.0	4,678.3	4,335.0	37.8	26.0	-12.59	1,277.1	671.2	2,590.5	2,548.1	42.40	61.090		
5,000.0	4,400.9	4,744.2	4,400.9	37.9	26.0	-12.59	1,277.1	671.2	2,590.5	2,548.0	42.52	60.923		
5,100.0	4,500.9	4,844.2	4,500.9	37.9	26.1	-12.59	1,277.1	671.2	2,590.5	2,547.8	42.70	60.662		
5,200.0	4,600.9	4,944.2	4,600.9	38.0	26.2	-12.59	1,277.1	671.2	2,590.5	2,547.6	42.89	60.398		
5,300.0	4,700.9	5,044.2	4,700.9	38.0	26.3	-12.59	1,277.1	671.2	2,590.5	2,547.4	43.08	60.131		
5,400.0	4,800.9	5,144.2	4,800.9	38.1	26.4	-12.59	1,277.1	671.2	2,590.5	2,547.2	43.28	59.860		
5,500.0	4,900.9	5,244.2	4,900.9	38.1	26.4	-12.59	1,277.1	671.2	2,590.5	2,547.0	43.47	59.587		
5,600.0	5,000.9	5,344.2	5,000.9	38.2	26.5	-12.59	1,277.1	671.2	2,590.5	2,546.8	43.68	59.311		
5,700.0	5,100.9	5,444.2	5,100.9	38.3	26.6	-12.59	1,277.1	671.2	2,590.5	2,546.6	43.88	59.033		
5,800.0	5,200.9	5,544.2	5,200.9	38.3	26.7	-12.59	1,277.1	671.2	2,590.5	2,546.4	44.09	58.753		
5,900.0	5,300.9	5,644.2	5,300.9	38.4	26.8	-12.59	1,277.1	671.2	2,590.5	2,546.2	44.30	58.471		
6,000.0	5,400.9	5,744.2	5,400.9	38.4	26.9	-12.59	1,277.1	671.2	2,590.5	2,546.0	44.52	58.186		
6,100.0	5,500.9	5,844.2	5,500.9	38.5	27.0	-12.59	1,277.1	671.2	2,590.5	2,545.7	44.74	57.900		
6,200.0	5,600.9	5,944.2	5,600.9	38.6	27.1	-12.59	1,277.1	671.2	2,590.5	2,545.5	44.96	57.613		
6,300.0	5,700.9	6,044.2	5,700.9	38.6	27.2	-12.59	1,277.1	671.2	2,590.5	2,545.3	45.19	57.324		
6,400.0	5,800.9	6,144.2	5,800.9	38.7	27.3	-12.59	1,277.1	671.2	2,590.5	2,545.1	45.42	57.033		
6,500.0	5,900.9	6,244.2	5,900.9	38.8	27.4	-12.59	1,277.1	671.2	2,590.5	2,544.8	45.65	56.742		
6,600.0	6,000.9	6,344.2	6,000.9	38.9	27.5	-12.59	1,277.1	671.2	2,590.5	2,544.6	45.89	56.450		
6,700.0	6,100.9	6,444.2	6,100.9	38.9	27.6	-12.59	1,277.1	671.2	2,590.5	2,544.4	46.13	56.156		
6,800.0	6,200.9	6,544.2	6,200.9	39.0	27.7	-12.59	1,277.1	671.2	2,590.5	2,544.1	46.37	55.863		
6,900.0	6,300.9	6,644.2	6,300.9	39.1	27.8	-12.59	1,277.1	671.2	2,590.5	2,543.9	46.62	55.568		
7,000.0	6,400.9	6,744.2	6,400.9	39.1	27.9	-12.59	1,277.1	671.2	2,590.5	2,543.6	46.87	55.273		
7,100.0	6,500.9	6,844.2	6,500.9	39.2	28.0	-12.59	1,277.1	671.2	2,590.5	2,543.4	47.12	54.978		
7,200.0	6,600.9	6,944.2	6,600.9	39.3	28.1	-12.59	1,277.1	671.2	2,590.5	2,543.1	47.37	54.682		
7,300.0	6,700.9	7,044.2	6,700.9	39.4	28.2	-12.59	1,277.1	671.2	2,590.5	2,542.9	47.63	54.386		
7,400.0	6,800.9	7,144.2	6,800.9	39.5	28.3	-12.59	1,277.1	671.2	2,590.5	2,542.6	47.89	54.091		
7,500.0	6,900.9	7,244.2	6,900.9	39.5	28.4	-12.59	1,277.1	671.2	2,590.5	2,542.3	48.15	53.795		
7,600.0	7,000.9	7,344.2	7,000.9	39.6	28.5	-12.59	1,277.1	671.2	2,590.5	2,542.1	48.42	53.500		
7,700.0	7,100.9	7,367.3	7,024.0	39.7	28.6	-12.59	1,277.1	671.2	2,591.6	2,543.0	48.58	53.350		
7,718.1	7,119.0	7,367.3	7,024.0	39.7	28.6	-12.59	1,277.1	671.2	2,592.2	2,543.6	48.60	53.337		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:	0.0 ft	
Reference															
Offset															
Semi Major Axis															
Distance															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-0.71	25.0	-0.3	25.0						
100.0	100.0	100.0	100.0	0.1	0.1	-0.71	25.0	-0.3	25.0	24.8	0.19	131.416			
200.0	200.0	200.0	200.0	0.3	0.3	-0.71	25.0	-0.3	25.0	24.3	0.64	39.065			
300.0	300.0	300.0	300.0	0.5	0.5	-0.71	25.0	-0.3	25.0	23.9	1.09	22.942			
400.0	400.0	400.0	400.0	0.8	0.8	-0.71	25.0	-0.3	25.0	23.5	1.54	16.240			
500.0	500.0	500.0	500.0	1.0	1.0	-0.71	25.0	-0.3	25.0	23.0	1.99	12.568			
600.0	600.0	600.0	600.0	1.2	1.2	-0.71	25.0	-0.3	25.0	22.6	2.44	10.251			
700.0	700.0	700.0	700.0	1.4	1.4	-0.71	25.0	-0.3	25.0	22.1	2.89	8.655			
800.0	800.0	800.0	800.0	1.7	1.7	-0.71	25.0	-0.3	25.0	21.7	3.34	7.489			
900.0	900.0	900.0	900.0	1.9	1.9	-0.71	25.0	-0.3	25.0	21.2	3.79	6.600			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.71	25.0	-0.3	25.0	20.8	4.24	5.899			
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.71	25.0	-0.3	25.0	20.3	4.69	5.333			
1,200.0	1,200.0	1,201.1	1,201.1	2.5	2.5	-142.86	22.5	-1.4	24.6	19.5	5.08	4.842			
1,225.0	1,224.9	1,226.3	1,226.3	2.6	2.6	-146.73	21.1	-1.9	24.6	19.4	5.17	4.747	CC, ES		
1,300.0	1,299.6	1,301.7	1,301.4	2.7	2.7	-162.95	15.2	-4.5	25.6	20.1	5.43	4.708	SF		
1,400.0	1,398.8	1,401.3	1,400.1	2.9	2.9	171.91	3.1	-9.6	32.8	27.0	5.80	5.658			
1,500.0	1,497.1	1,499.4	1,496.5	3.2	3.2	153.72	-13.3	-16.5	48.7	42.5	6.24	7.807			
1,600.0	1,594.3	1,595.5	1,590.0	3.5	3.5	143.08	-33.9	-25.2	72.2	65.4	6.77	10.659			
1,700.0	1,690.2	1,689.4	1,680.1	3.9	3.8	136.72	-58.1	-35.5	102.0	94.6	7.41	13.764			
1,800.0	1,784.4	1,780.6	1,766.3	4.4	4.3	132.58	-85.5	-47.1	137.5	129.3	8.17	16.826			
1,900.0	1,876.8	1,868.9	1,848.3	5.1	4.7	129.61	-115.7	-59.8	178.1	169.1	9.06	19.667			
2,000.0	1,967.1	1,954.2	1,926.0	5.8	5.3	127.29	-148.0	-73.5	223.6	213.5	10.07	22.193			
2,100.0	2,054.9	2,036.2	1,999.2	6.7	5.9	125.32	-182.2	-88.0	273.5	262.3	11.21	24.389			
2,200.0	2,140.2	2,118.9	2,071.6	7.7	6.5	123.68	-218.8	-103.5	327.2	314.7	12.49	26.191			
2,300.0	2,222.6	2,201.5	2,143.9	8.8	7.2	122.67	-255.5	-119.0	383.5	369.6	13.86	27.660			
2,400.0	2,301.9	2,282.1	2,214.6	10.0	7.9	122.05	-291.4	-134.2	442.1	426.8	15.32	28.862			
2,500.0	2,377.9	2,360.7	2,283.3	11.4	8.6	121.63	-326.3	-149.0	503.2	486.3	16.85	29.869			
2,600.0	2,450.5	2,436.9	2,350.1	12.8	9.3	121.29	-360.2	-163.3	566.6	548.2	18.44	30.725			
2,700.0	2,519.3	2,510.5	2,414.5	14.4	9.9	120.95	-393.0	-177.2	632.5	612.4	20.11	31.458			
2,800.0	2,584.2	2,581.3	2,476.6	16.1	10.6	120.55	-424.5	-190.5	700.8	679.0	21.84	32.083			
2,841.2	2,609.8	2,609.7	2,501.4	16.8	10.8	120.35	-437.1	-195.8	729.7	707.1	22.58	32.314			
2,900.0	2,645.8	2,649.8	2,536.5	17.8	11.2	121.51	-455.0	-203.4	771.2	747.6	23.58	32.703			
3,000.0	2,707.1	2,718.0	2,596.2	19.6	11.8	123.23	-485.3	-216.2	842.2	816.9	25.28	33.313			
3,100.0	2,768.3	2,786.2	2,655.9	21.4	12.4	124.70	-515.6	-229.1	913.6	886.6	26.98	33.864			
3,192.9	2,825.2	2,849.5	2,711.4	23.1	13.0	125.88	-543.8	-241.0	980.0	951.5	28.55	34.329			
3,200.0	2,829.6	2,854.4	2,715.6	23.2	13.0	126.14	-546.0	-241.9	985.2	956.5	28.65	34.386			
3,300.0	2,893.1	2,924.2	2,776.8	24.8	13.7	129.42	-577.0	-255.1	1,055.7	1,025.7	30.00	35.192			
3,400.0	2,960.7	2,997.0	2,840.5	26.3	14.3	132.08	-609.4	-268.7	1,123.9	1,092.5	31.39	35.801			
3,500.0	3,032.0	3,072.3	2,906.4	27.7	15.0	134.22	-642.9	-282.9	1,189.5	1,156.7	32.84	36.228			
3,600.0	3,106.8	3,150.1	2,974.5	29.1	15.7	135.91	-677.5	-297.6	1,252.4	1,218.1	34.32	36.496			
3,700.0	3,185.0	3,230.0	3,044.5	30.3	16.5	137.24	-713.1	-312.6	1,312.3	1,276.5	35.83	36.628			
3,800.0	3,266.4	3,312.0	3,116.3	31.5	17.2	138.25	-749.5	-328.0	1,369.1	1,331.7	37.36	36.646			
3,900.0	3,350.7	3,395.7	3,189.6	32.6	18.0	138.99	-786.8	-343.8	1,422.7	1,383.8	38.90	36.573			
4,000.0	3,437.7	3,481.0	3,264.3	33.5	18.8	139.50	-824.7	-359.9	1,473.0	1,432.6	40.44	36.425			
4,100.0	3,527.2	3,567.5	3,340.1	34.4	19.6	139.81	-863.2	-376.1	1,520.1	1,478.1	41.97	36.221			
4,200.0	3,618.9	3,655.2	3,416.8	35.2	20.4	139.93	-902.2	-392.6	1,563.8	1,520.3	43.47	35.974			
4,300.0	3,712.5	3,743.6	3,494.2	35.8	21.3	139.89	-941.6	-409.3	1,604.1	1,559.2	44.94	35.695			
4,400.0	3,807.9	3,846.6	3,584.8	36.4	22.1	139.58	-986.8	-428.4	1,641.0	1,594.6	46.40	35.368			
4,500.0	3,904.7	3,971.0	3,697.2	36.8	22.9	139.07	-1,035.8	-449.2	1,673.1	1,625.3	47.78	35.017			
4,600.0	4,002.6	4,101.5	3,818.5	37.2	23.6	138.59	-1,080.0	-467.9	1,699.8	1,650.8	49.01	34.682			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 0-MWD													Valley Farms J - Valley Farms J10 - Wellbore #1 - Design #1		Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
4,700.0	4,101.5	4,237.4	3,948.1	37.5	24.2	138.13	-1,117.7	-483.8	1,720.7	1,670.7	50.05	34.383				
4,800.0	4,201.1	4,378.1	4,084.9	37.7	24.8	137.70	-1,147.7	-496.5	1,735.7	1,684.8	50.88	34.114				
4,900.0	4,301.0	4,522.3	4,227.3	37.8	25.2	137.31	-1,168.8	-505.5	1,744.4	1,692.9	51.47	33.889				
4,934.1	4,335.0	4,572.0	4,276.7	37.8	25.3	-87.46	-1,173.8	-507.6	1,745.9	1,694.3	51.62	33.824				
5,000.0	4,400.9	4,669.0	4,373.3	37.9	25.5	-87.67	-1,180.0	-510.2	1,747.5	1,695.7	51.88	33.685				
5,100.0	4,500.9	4,796.6	4,500.9	37.9	25.6	-87.73	-1,181.8	-511.0	1,748.0	1,695.9	52.09	33.555				
5,200.0	4,600.9	4,896.6	4,600.9	38.0	25.7	-87.73	-1,181.8	-511.0	1,748.0	1,695.8	52.24	33.462				
5,300.0	4,700.9	4,996.6	4,700.9	38.0	25.8	-87.73	-1,181.8	-511.0	1,748.0	1,695.6	52.39	33.368				
5,400.0	4,800.9	5,096.6	4,800.9	38.1	25.8	-87.73	-1,181.8	-511.0	1,748.0	1,695.5	52.54	33.272				
5,500.0	4,900.9	5,196.6	4,900.9	38.1	25.9	-87.73	-1,181.8	-511.0	1,748.0	1,695.3	52.69	33.174				
5,600.0	5,000.9	5,296.6	5,000.9	38.2	26.0	-87.73	-1,181.8	-511.0	1,748.0	1,695.1	52.85	33.075				
5,700.0	5,100.9	5,396.6	5,100.9	38.3	26.1	-87.73	-1,181.8	-511.0	1,748.0	1,695.0	53.01	32.975				
5,800.0	5,200.9	5,496.6	5,200.9	38.3	26.2	-87.73	-1,181.8	-511.0	1,748.0	1,694.8	53.17	32.873				
5,900.0	5,300.9	5,596.6	5,300.9	38.4	26.2	-87.73	-1,181.8	-511.0	1,748.0	1,694.7	53.34	32.769				
6,000.0	5,400.9	5,696.6	5,400.9	38.4	26.3	-87.73	-1,181.8	-511.0	1,748.0	1,694.5	53.51	32.665				
6,100.0	5,500.9	5,796.6	5,500.9	38.5	26.4	-87.73	-1,181.8	-511.0	1,748.0	1,694.3	53.69	32.559				
6,200.0	5,600.9	5,896.6	5,600.9	38.6	26.5	-87.73	-1,181.8	-511.0	1,748.0	1,694.1	53.87	32.451				
6,300.0	5,700.9	5,996.6	5,700.9	38.6	26.6	-87.73	-1,181.8	-511.0	1,748.0	1,694.0	54.05	32.343				
6,400.0	5,800.9	6,096.6	5,800.9	38.7	26.7	-87.73	-1,181.8	-511.0	1,748.0	1,693.8	54.23	32.233				
6,500.0	5,900.9	6,196.6	5,900.9	38.8	26.8	-87.73	-1,181.8	-511.0	1,748.0	1,693.6	54.42	32.122				
6,600.0	6,000.9	6,296.6	6,000.9	38.9	26.9	-87.73	-1,181.8	-511.0	1,748.0	1,693.4	54.61	32.011				
6,700.0	6,100.9	6,396.6	6,100.9	38.9	27.0	-87.73	-1,181.8	-511.0	1,748.0	1,693.2	54.80	31.898				
6,800.0	6,200.9	6,496.6	6,200.9	39.0	27.1	-87.73	-1,181.8	-511.0	1,748.0	1,693.0	55.00	31.784				
6,900.0	6,300.9	6,596.6	6,300.9	39.1	27.2	-87.73	-1,181.8	-511.0	1,748.0	1,692.8	55.19	31.670				
7,000.0	6,400.9	6,696.6	6,400.9	39.1	27.3	-87.73	-1,181.8	-511.0	1,748.0	1,692.6	55.40	31.554				
7,100.0	6,500.9	6,796.6	6,500.9	39.2	27.4	-87.73	-1,181.8	-511.0	1,748.0	1,692.4	55.60	31.438				
7,200.0	6,600.9	6,896.6	6,600.9	39.3	27.5	-87.73	-1,181.8	-511.0	1,748.0	1,692.2	55.81	31.321				
7,300.0	6,700.9	6,996.6	6,700.9	39.4	27.6	-87.73	-1,181.8	-511.0	1,748.0	1,692.0	56.02	31.203				
7,400.0	6,800.9	7,096.6	6,800.9	39.5	27.7	-87.73	-1,181.8	-511.0	1,748.0	1,691.8	56.23	31.085				
7,500.0	6,900.9	7,196.6	6,900.9	39.5	27.8	-87.73	-1,181.8	-511.0	1,748.0	1,691.5	56.45	30.966				
7,600.0	7,000.9	7,296.6	7,000.9	39.6	27.9	-87.73	-1,181.8	-511.0	1,748.0	1,691.3	56.67	30.846				
7,700.0	7,100.9	7,396.6	7,100.9	39.7	28.0	-87.73	-1,181.8	-511.0	1,748.0	1,691.1	56.89	30.726				
7,718.1	7,119.0	7,414.6	7,119.0	39.7	28.0	-87.73	-1,181.8	-511.0	1,748.0	1,691.1	56.93	30.704				

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft					
Survey Program: 0-MWD													Offset Well Error:	0.0 ft					
Reference													Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
0.0	0.0	0.0	0.0	0.0	0.0	21.53	55.3	21.8	59.4										
100.0	100.0	100.0	100.0	0.1	0.1	21.53	55.3	21.8	59.4	59.2	0.19	312.390							
200.0	200.0	200.0	200.0	0.3	0.3	21.53	55.3	21.8	59.4	58.8	0.64	92.861							
300.0	300.0	300.0	300.0	0.5	0.5	21.53	55.3	21.8	59.4	58.3	1.09	54.536							
400.0	400.0	400.0	400.0	0.8	0.8	21.53	55.3	21.8	59.4	57.9	1.54	38.604							
500.0	500.0	500.0	500.0	1.0	1.0	21.53	55.3	21.8	59.4	57.4	1.99	29.876							
600.0	600.0	600.0	600.0	1.2	1.2	21.53	55.3	21.8	59.4	57.0	2.44	24.367							
700.0	700.0	700.0	700.0	1.4	1.4	21.53	55.3	21.8	59.4	56.5	2.89	20.573							
800.0	800.0	800.0	800.0	1.7	1.7	21.53	55.3	21.8	59.4	56.1	3.34	17.802							
900.0	900.0	900.0	900.0	1.9	1.9	21.53	55.3	21.8	59.4	55.6	3.79	15.688							
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	21.53	55.3	21.8	59.4	55.2	4.24	14.023							
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	21.53	55.3	21.8	59.4	54.7	4.69	12.678	CC, ES						
1,200.0	1,200.0	1,199.0	1,198.9	2.5	2.6	-113.72	55.1	24.4	61.3	56.2	5.10	12.027	SF						
1,300.0	1,299.6	1,297.7	1,297.4	2.7	2.8	-113.43	54.8	32.0	67.0	61.5	5.49	12.197							
1,400.0	1,398.8	1,396.1	1,394.9	2.9	3.0	-113.03	54.2	44.7	76.4	70.5	5.93	12.888							
1,500.0	1,497.1	1,493.8	1,491.0	3.2	3.3	-112.55	53.4	62.2	89.6	83.1	6.44	13.912							
1,600.0	1,594.3	1,590.7	1,585.3	3.5	3.6	-112.05	52.4	84.4	106.4	99.3	7.05	15.086							
1,700.0	1,690.2	1,686.7	1,677.5	3.9	4.0	-111.52	51.2	111.1	126.8	119.0	7.80	16.254							
1,800.0	1,784.4	1,781.5	1,767.1	4.4	4.4	-110.98	49.8	142.0	150.7	141.9	8.71	17.303							
1,900.0	1,876.8	1,875.1	1,854.0	5.1	5.0	-110.41	48.2	176.8	177.9	168.1	9.79	18.169							
2,000.0	1,967.1	1,967.3	1,937.8	5.8	5.7	-109.81	46.4	215.2	208.4	197.4	11.06	18.837							
2,100.0	2,054.9	2,058.6	2,018.8	6.7	6.4	-109.19	44.5	257.1	242.1	229.5	12.52	19.338							
2,200.0	2,140.2	2,151.8	2,100.9	7.7	7.3	-109.14	42.5	301.3	277.9	263.7	14.15	19.635							
2,300.0	2,222.6	2,244.1	2,182.1	8.8	8.1	-109.75	40.5	345.1	315.5	299.6	15.89	19.850							
2,400.0	2,301.9	2,335.1	2,262.2	10.0	9.0	-110.76	38.5	388.3	355.0	337.3	17.72	20.035							
2,500.0	2,377.9	2,424.7	2,341.0	11.4	9.9	-112.00	36.5	430.8	396.8	377.2	19.61	20.231							
2,600.0	2,450.5	2,512.5	2,418.3	12.8	10.7	-113.33	34.6	472.5	441.0	419.5	21.55	20.463							
2,700.0	2,519.3	2,598.4	2,493.9	14.4	11.6	-114.66	32.8	513.3	488.0	464.5	23.52	20.746							
2,800.0	2,584.2	2,682.1	2,567.5	16.1	12.4	-115.93	31.0	553.0	537.8	512.3	25.51	21.081							
2,841.2	2,609.8	2,715.8	2,597.2	16.8	12.8	-116.42	30.2	569.0	559.2	532.8	26.33	21.235							
2,900.0	2,645.8	2,763.8	2,639.4	17.8	13.2	-118.00	29.2	591.7	590.3	562.8	27.48	21.482							
3,000.0	2,707.1	2,845.2	2,711.1	19.6	14.1	-120.36	27.4	630.4	643.8	614.4	29.40	21.900							
3,100.0	2,768.3	2,926.7	2,782.8	21.4	14.9	-122.38	25.7	669.1	698.1	666.8	31.29	22.309							
3,192.9	2,825.2	3,002.4	2,849.3	23.1	15.7	-124.01	24.0	705.0	749.0	715.9	33.03	22.673							
3,200.0	2,829.6	3,008.2	2,854.5	23.2	15.7	-124.24	23.9	707.7	752.9	719.7	33.15	22.710							
3,300.0	2,893.1	3,091.1	2,927.4	24.8	16.6	-127.12	22.1	747.0	806.6	771.9	34.75	23.211							
3,400.0	2,960.7	3,176.2	3,002.3	26.3	17.4	-129.38	20.2	787.5	858.0	821.5	36.41	23.564							
3,500.0	3,032.0	3,263.4	3,079.0	27.7	18.3	-131.12	18.3	828.8	906.5	868.4	38.12	23.778							
3,600.0	3,106.8	3,352.4	3,157.4	29.1	19.3	-132.42	16.4	871.1	952.0	912.1	39.89	23.866							
3,700.0	3,185.0	3,443.0	3,237.0	30.3	20.2	-133.34	14.4	914.1	994.3	952.6	41.70	23.845							
3,800.0	3,266.4	3,534.8	3,317.9	31.5	21.1	-133.93	12.5	957.7	1,033.4	989.9	43.55	23.731							
3,900.0	3,350.7	3,625.5	3,397.9	32.6	22.0	-134.28	10.5	1,000.2	1,069.2	1,023.9	45.32	23.595							
4,000.0	3,437.7	3,714.8	3,478.4	33.5	22.7	-134.59	8.7	1,039.0	1,102.0	1,055.2	46.86	23.515							
4,100.0	3,527.2	3,805.4	3,561.8	34.4	23.3	-134.88	7.1	1,074.4	1,131.8	1,083.5	48.26	23.450							
4,200.0	3,618.9	3,897.2	3,647.8	35.2	23.9	-135.14	5.7	1,106.2	1,158.5	1,109.0	49.50	23.401							
4,300.0	3,712.5	3,990.0	3,736.3	35.8	24.4	-135.39	4.4	1,134.1	1,181.9	1,131.3	50.57	23.370							
4,400.0	3,807.9	4,083.7	3,826.9	36.4	24.8	-135.62	3.3	1,157.9	1,202.1	1,150.6	51.47	23.354							
4,500.0	3,904.7	4,178.2	3,919.4	36.8	25.2	-135.84	2.4	1,177.4	1,218.9	1,166.7	52.20	23.351							
4,600.0	4,002.6	4,273.3	4,013.3	37.2	25.4	-136.04	1.7	1,192.3	1,232.4	1,179.6	52.75	23.361							
4,700.0	4,101.5	4,368.8	4,108.2	37.5	25.7	-136.23	1.2	1,202.6	1,242.4	1,189.3	53.14	23.381							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 0-MWD													Valley Farms J - Valley Farms J11 - Wellbore #1 - Design #1		Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
4,800.0	4,201.1	4,464.5	4,203.8	37.7	25.8	-136.40	1.0	1,208.2	1,249.0	1,195.7	53.36	23.408				
4,900.0	4,301.0	4,561.7	4,301.0	37.8	25.9	-136.55	0.9	1,209.2	1,252.1	1,198.7	53.44	23.432				
4,934.1	4,335.0	4,595.8	4,335.0	37.8	25.9	-1.21	0.9	1,209.2	1,252.4	1,198.9	53.45	23.430				
5,000.0	4,400.9	4,661.7	4,400.9	37.9	26.0	-1.21	0.9	1,209.2	1,252.4	1,198.8	53.55	23.389				
5,100.0	4,500.9	4,761.7	4,500.9	37.9	26.0	-1.21	0.9	1,209.2	1,252.4	1,198.7	53.70	23.323				
5,200.0	4,600.9	4,861.7	4,600.9	38.0	26.1	-1.21	0.9	1,209.2	1,252.4	1,198.5	53.85	23.257				
5,300.0	4,700.9	4,961.7	4,700.9	38.0	26.2	-1.21	0.9	1,209.2	1,252.4	1,198.4	54.01	23.190				
5,400.0	4,800.9	5,061.7	4,800.9	38.1	26.3	-1.21	0.9	1,209.2	1,252.4	1,198.2	54.17	23.121				
5,500.0	4,900.9	5,161.7	4,900.9	38.1	26.4	-1.21	0.9	1,209.2	1,252.4	1,198.0	54.33	23.052				
5,600.0	5,000.9	5,261.7	5,000.9	38.2	26.5	-1.21	0.9	1,209.2	1,252.4	1,197.9	54.49	22.982				
5,700.0	5,100.9	5,361.7	5,100.9	38.3	26.6	-1.21	0.9	1,209.2	1,252.4	1,197.7	54.66	22.910				
5,800.0	5,200.9	5,461.7	5,200.9	38.3	26.6	-1.21	0.9	1,209.2	1,252.4	1,197.5	54.84	22.838				
5,900.0	5,300.9	5,561.7	5,300.9	38.4	26.7	-1.21	0.9	1,209.2	1,252.4	1,197.4	55.01	22.765				
6,000.0	5,400.9	5,661.7	5,400.9	38.4	26.8	-1.21	0.9	1,209.2	1,252.4	1,197.2	55.19	22.691				
6,100.0	5,500.9	5,761.7	5,500.9	38.5	26.9	-1.21	0.9	1,209.2	1,252.4	1,197.0	55.37	22.617				
6,200.0	5,600.9	5,861.7	5,600.9	38.6	27.0	-1.21	0.9	1,209.2	1,252.4	1,196.8	55.56	22.542				
6,300.0	5,700.9	5,961.7	5,700.9	38.6	27.1	-1.21	0.9	1,209.2	1,252.4	1,196.6	55.75	22.466				
6,400.0	5,800.9	6,061.7	5,800.9	38.7	27.2	-1.21	0.9	1,209.2	1,252.4	1,196.4	55.94	22.389				
6,500.0	5,900.9	6,161.7	5,900.9	38.8	27.3	-1.21	0.9	1,209.2	1,252.4	1,196.2	56.13	22.312				
6,600.0	6,000.9	6,261.7	6,000.9	38.9	27.4	-1.21	0.9	1,209.2	1,252.4	1,196.0	56.33	22.234				
6,700.0	6,100.9	6,361.7	6,100.9	38.9	27.5	-1.21	0.9	1,209.2	1,252.4	1,195.8	56.53	22.155				
6,800.0	6,200.9	6,461.7	6,200.9	39.0	27.7	-1.21	0.9	1,209.2	1,252.4	1,195.6	56.73	22.076				
6,900.0	6,300.9	6,561.7	6,300.9	39.1	27.8	-1.21	0.9	1,209.2	1,252.4	1,195.4	56.94	21.996				
7,000.0	6,400.9	6,661.7	6,400.9	39.1	27.9	-1.21	0.9	1,209.2	1,252.4	1,195.2	57.14	21.916				
7,100.0	6,500.9	6,761.7	6,500.9	39.2	28.0	-1.21	0.9	1,209.2	1,252.4	1,195.0	57.35	21.836				
7,200.0	6,600.9	6,861.7	6,600.9	39.3	28.1	-1.21	0.9	1,209.2	1,252.4	1,194.8	57.57	21.755				
7,300.0	6,700.9	6,961.7	6,700.9	39.4	28.2	-1.21	0.9	1,209.2	1,252.4	1,194.6	57.78	21.673				
7,400.0	6,800.9	7,061.7	6,800.9	39.5	28.3	-1.21	0.9	1,209.2	1,252.4	1,194.4	58.00	21.591				
7,500.0	6,900.9	7,161.7	6,900.9	39.5	28.4	-1.21	0.9	1,209.2	1,252.4	1,194.1	58.22	21.509				
7,600.0	7,000.9	7,261.7	7,000.9	39.6	28.6	-1.21	0.9	1,209.2	1,252.4	1,193.9	58.45	21.427				
7,633.4	7,034.3	7,295.1	7,034.3	39.7	28.6	-1.21	0.9	1,209.2	1,252.4	1,193.8	58.52	21.399				
7,700.0	7,100.9	7,311.8	7,051.0	39.7	28.6	-1.21	0.9	1,209.2	1,253.4	1,194.7	58.62	21.383				
7,718.1	7,119.0	7,311.8	7,051.0	39.7	28.6	-1.21	0.9	1,209.2	1,254.2	1,195.6	58.64	21.390				

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:	0.0 ft	
Valley Farms J - Valley Farms J12 - Wellbore #1 - Design #1															
Reference				Offset			Semi Major Axis			Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	27.19	42.8	22.0	48.1						
100.0	100.0	100.0	100.0	0.1	0.1	27.19	42.8	22.0	48.1	47.9	0.19	252.833			
200.0	200.0	200.0	200.0	0.3	0.3	27.19	42.8	22.0	48.1	47.4	0.64	75.157			
300.0	300.0	300.0	300.0	0.5	0.5	27.19	42.8	22.0	48.1	47.0	1.09	44.139			
400.0	400.0	400.0	400.0	0.8	0.8	27.19	42.8	22.0	48.1	46.5	1.54	31.244			
500.0	500.0	500.0	500.0	1.0	1.0	27.19	42.8	22.0	48.1	46.1	1.99	24.180			
600.0	600.0	600.0	600.0	1.2	1.2	27.19	42.8	22.0	48.1	45.6	2.44	19.721			
700.0	700.0	700.0	700.0	1.4	1.4	27.19	42.8	22.0	48.1	45.2	2.89	16.651			
800.0	800.0	800.0	800.0	1.7	1.7	27.19	42.8	22.0	48.1	44.7	3.34	14.408			
900.0	900.0	900.0	900.0	1.9	1.9	27.19	42.8	22.0	48.1	44.3	3.79	12.697			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	27.19	42.8	22.0	48.1	43.8	4.24	11.350			
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	27.19	42.8	22.0	48.1	43.4	4.69	10.261	CC, ES		
1,200.0	1,200.0	1,199.4	1,199.4	2.5	2.6	-108.07	42.1	24.5	49.5	44.4	5.09	9.715	SF		
1,300.0	1,298.6	1,298.7	1,298.3	2.7	2.8	-107.82	40.3	32.0	53.8	48.3	5.49	9.799			
1,400.0	1,398.8	1,397.7	1,396.5	2.9	3.0	-107.46	37.2	44.5	60.8	54.9	5.92	10.268			
1,500.0	1,497.1	1,496.4	1,493.6	3.2	3.2	-107.05	33.0	61.8	70.7	64.2	6.44	10.975			
1,600.0	1,594.3	1,594.7	1,589.2	3.5	3.6	-106.61	27.6	83.8	83.3	76.2	7.07	11.780			
1,700.0	1,690.2	1,692.4	1,682.9	3.9	4.0	-106.16	21.1	110.5	98.6	90.8	7.85	12.562			
1,800.0	1,784.4	1,789.4	1,774.5	4.4	4.5	-105.71	13.5	141.5	116.6	107.8	8.81	13.235			
1,900.0	1,876.8	1,885.8	1,863.8	5.1	5.1	-105.25	4.8	176.8	137.2	127.2	9.97	13.761			
2,000.0	1,967.1	1,981.3	1,950.4	5.8	5.8	-104.77	-4.8	216.0	160.2	148.9	11.34	14.133			
2,100.0	2,054.9	2,076.6	2,034.6	6.7	6.6	-104.27	-15.4	259.2	185.7	172.8	12.92	14.379			
2,200.0	2,140.2	2,172.1	2,117.9	7.7	7.5	-104.41	-26.5	304.6	213.1	198.4	14.69	14.501			
2,300.0	2,222.6	2,267.6	2,201.2	8.8	8.4	-105.53	-37.6	350.0	241.8	225.2	16.59	14.578			
2,400.0	2,301.9	2,362.1	2,283.6	10.0	9.4	-107.26	-48.7	395.0	272.3	253.7	18.57	14.664			
2,500.0	2,377.9	2,455.5	2,365.1	11.4	10.3	-109.34	-59.5	439.3	304.8	284.2	20.60	14.799			
2,600.0	2,450.5	2,547.5	2,445.2	12.8	11.3	-111.59	-70.3	483.0	339.9	317.3	22.65	15.009			
2,700.0	2,519.3	2,637.7	2,523.9	14.4	12.2	-113.88	-80.8	525.9	377.8	353.2	24.69	15.305			
2,800.0	2,584.2	2,726.0	2,601.0	16.1	13.1	-116.10	-91.1	567.9	418.9	392.2	26.70	15.691			
2,841.2	2,609.8	2,761.8	2,632.2	16.8	13.5	-116.98	-95.2	584.9	436.8	409.3	27.52	15.875			
2,900.0	2,645.8	2,812.6	2,676.5	17.8	14.0	-118.88	-101.1	609.0	463.1	434.4	28.64	16.168			
3,000.0	2,707.1	2,899.0	2,751.8	19.6	14.9	-121.69	-111.2	650.1	508.5	478.0	30.51	16.665			
3,100.0	2,768.3	2,985.3	2,827.1	21.4	15.9	-124.06	-121.3	691.1	554.8	522.4	32.35	17.150			
3,192.9	2,825.2	3,065.5	2,897.0	23.1	16.7	-125.94	-130.6	729.2	598.4	564.3	34.03	17.583			
3,200.0	2,829.6	3,071.7	2,902.4	23.2	16.8	-126.17	-131.3	732.2	601.7	567.6	34.14	17.622			
3,300.0	2,893.1	3,159.3	2,978.8	24.8	17.7	-128.91	-141.5	773.8	647.6	611.9	35.70	18.137			
3,400.0	2,960.7	3,248.9	3,057.0	26.3	18.7	-130.97	-152.0	816.4	690.7	653.3	37.35	18.491			
3,500.0	3,032.0	3,340.3	3,136.7	27.7	19.6	-132.46	-162.6	859.8	730.8	691.7	39.09	18.695			
3,600.0	3,106.8	3,433.2	3,217.7	29.1	20.6	-133.49	-173.4	904.0	767.7	726.8	40.91	18.765			
3,700.0	3,185.0	3,527.4	3,299.9	30.3	21.6	-134.10	-184.4	948.8	801.2	758.4	42.81	18.717			
3,800.0	3,266.4	3,618.9	3,379.7	31.5	22.6	-134.41	-195.0	992.0	831.4	786.7	44.67	18.612			
3,900.0	3,350.7	3,700.0	3,451.9	32.6	23.3	-134.68	-203.8	1,028.0	859.1	812.8	46.24	18.578			
4,000.0	3,437.7	3,789.9	3,533.6	33.5	23.9	-134.91	-212.7	1,064.4	884.4	836.7	47.73	18.531			
4,100.0	3,527.2	3,876.1	3,613.5	34.4	24.5	-135.14	-220.4	1,095.7	907.4	858.4	49.02	18.510			
4,200.0	3,618.9	3,962.7	3,695.2	35.2	25.0	-135.36	-227.3	1,123.6	928.0	877.8	50.16	18.500			
4,300.0	3,712.5	4,049.8	3,778.6	35.8	25.5	-135.56	-233.3	1,148.0	946.1	895.0	51.14	18.501			
4,400.0	3,807.9	4,137.1	3,863.3	36.4	25.9	-135.75	-238.3	1,168.8	961.7	909.8	51.96	18.510			
4,500.0	3,904.7	4,224.8	3,949.2	36.8	26.2	-135.93	-242.5	1,185.8	974.8	922.2	52.62	18.527			
4,600.0	4,002.6	4,312.6	4,036.0	37.2	26.4	-136.09	-245.7	1,199.0	985.4	932.2	53.12	18.550			
4,700.0	4,101.5	4,400.0	4,122.8	37.5	26.6	-136.25	-248.0	1,208.3	993.3	939.8	53.46	18.579			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Valley Farms J - Valley Farms J12 - Wellbore #1 - Design #1														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.0	4,201.1	4,488.7	4,211.3	37.7	26.8	-136.38	-249.4	1,213.7	998.7	945.0	53.66	18.612		
4,900.0	4,301.0	4,578.4	4,301.0	37.8	26.8	-136.51	-249.7	1,215.2	1,001.4	947.7	53.71	18.643		
4,934.1	4,335.0	4,612.4	4,335.0	37.8	26.9	-1.17	-249.7	1,215.2	1,001.6	947.9	53.72	18.645		
5,000.0	4,400.9	4,678.4	4,400.9	37.9	26.9	-1.17	-249.7	1,215.2	1,001.6	947.8	53.81	18.613		
5,100.0	4,500.9	4,778.4	4,500.9	37.9	27.0	-1.17	-249.7	1,215.2	1,001.6	947.7	53.96	18.561		
5,200.0	4,600.9	4,878.4	4,600.9	38.0	27.1	-1.17	-249.7	1,215.2	1,001.6	947.5	54.11	18.509		
5,300.0	4,700.9	4,978.4	4,700.9	38.0	27.2	-1.17	-249.7	1,215.2	1,001.6	947.4	54.27	18.457		
5,400.0	4,800.9	5,078.4	4,800.9	38.1	27.2	-1.17	-249.7	1,215.2	1,001.6	947.2	54.43	18.403		
5,500.0	4,900.9	5,178.4	4,900.9	38.1	27.3	-1.17	-249.7	1,215.2	1,001.6	947.0	54.59	18.349		
5,600.0	5,000.9	5,278.4	5,000.9	38.2	27.4	-1.17	-249.7	1,215.2	1,001.6	946.9	54.75	18.294		
5,700.0	5,100.9	5,378.4	5,100.9	38.3	27.5	-1.17	-249.7	1,215.2	1,001.6	946.7	54.92	18.238		
5,800.0	5,200.9	5,478.4	5,200.9	38.3	27.6	-1.17	-249.7	1,215.2	1,001.6	946.5	55.09	18.181		
5,900.0	5,300.9	5,578.4	5,300.9	38.4	27.7	-1.17	-249.7	1,215.2	1,001.6	946.4	55.27	18.124		
6,000.0	5,400.9	5,678.4	5,400.9	38.4	27.8	-1.17	-249.7	1,215.2	1,001.6	946.2	55.44	18.066		
6,100.0	5,500.9	5,778.4	5,500.9	38.5	27.9	-1.17	-249.7	1,215.2	1,001.6	946.0	55.62	18.007		
6,200.0	5,600.9	5,878.4	5,600.9	38.6	27.9	-1.17	-249.7	1,215.2	1,001.6	945.8	55.81	17.948		
6,300.0	5,700.9	5,978.4	5,700.9	38.6	28.0	-1.17	-249.7	1,215.2	1,001.6	945.6	55.99	17.889		
6,400.0	5,800.9	6,078.4	5,800.9	38.7	28.1	-1.17	-249.7	1,215.2	1,001.6	945.4	56.18	17.828		
6,500.0	5,900.9	6,178.4	5,900.9	38.8	28.2	-1.17	-249.7	1,215.2	1,001.6	945.3	56.37	17.768		
6,600.0	6,000.9	6,278.4	6,000.9	38.9	28.3	-1.17	-249.7	1,215.2	1,001.6	945.1	56.57	17.706		
6,700.0	6,100.9	6,378.4	6,100.9	38.9	28.4	-1.17	-249.7	1,215.2	1,001.6	944.9	56.77	17.645		
6,800.0	6,200.9	6,478.4	6,200.9	39.0	28.5	-1.17	-249.7	1,215.2	1,001.6	944.7	56.97	17.582		
6,900.0	6,300.9	6,578.4	6,300.9	39.1	28.6	-1.17	-249.7	1,215.2	1,001.6	944.5	57.17	17.520		
7,000.0	6,400.9	6,678.4	6,400.9	39.1	28.8	-1.17	-249.7	1,215.2	1,001.6	944.2	57.38	17.457		
7,100.0	6,500.9	6,778.4	6,500.9	39.2	28.9	-1.17	-249.7	1,215.2	1,001.6	944.0	57.59	17.393		
7,200.0	6,600.9	6,878.4	6,600.9	39.3	29.0	-1.17	-249.7	1,215.2	1,001.6	943.8	57.80	17.330		
7,300.0	6,700.9	6,978.4	6,700.9	39.4	29.1	-1.17	-249.7	1,215.2	1,001.6	943.6	58.01	17.266		
7,400.0	6,800.9	7,078.4	6,800.9	39.5	29.2	-1.17	-249.7	1,215.2	1,001.6	943.4	58.23	17.201		
7,500.0	6,900.9	7,178.4	6,900.9	39.5	29.3	-1.17	-249.7	1,215.2	1,001.6	943.2	58.45	17.136		
7,600.0	7,000.9	7,278.4	7,000.9	39.6	29.4	-1.17	-249.7	1,215.2	1,001.6	943.0	58.67	17.071		
7,653.1	7,054.0	7,331.5	7,054.0	39.7	29.5	-1.17	-249.7	1,215.2	1,001.6	942.8	58.79	17.037		
7,700.0	7,100.9	7,349.4	7,072.0	39.7	29.5	-1.17	-249.7	1,215.2	1,002.0	943.2	58.86	17.023		
7,718.1	7,119.0	7,349.4	7,072.0	39.7	29.5	-1.17	-249.7	1,215.2	1,002.7	943.8	58.88	17.029		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft					
Survey Program: 0-MWD													Offset Well Error:	0.0 ft					
Reference													Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
0.0	0.0	0.0	0.0	0.0	0.0	36.15	30.3	22.1	37.5										
100.0	100.0	100.0	100.0	0.1	0.1	36.15	30.3	22.1	37.5	37.3	0.19	197.134							
200.0	200.0	200.0	200.0	0.3	0.3	36.15	30.3	22.1	37.5	36.8	0.64	58.600							
300.0	300.0	300.0	300.0	0.5	0.5	36.15	30.3	22.1	37.5	36.4	1.09	34.415							
400.0	400.0	400.0	400.0	0.8	0.8	36.15	30.3	22.1	37.5	35.9	1.54	24.361							
500.0	500.0	500.0	500.0	1.0	1.0	36.15	30.3	22.1	37.5	35.5	1.99	18.853							
600.0	600.0	600.0	600.0	1.2	1.2	36.15	30.3	22.1	37.5	35.0	2.44	15.377							
700.0	700.0	700.0	700.0	1.4	1.4	36.15	30.3	22.1	37.5	34.6	2.89	12.983							
800.0	800.0	800.0	800.0	1.7	1.7	36.15	30.3	22.1	37.5	34.1	3.34	11.234							
900.0	900.0	900.0	900.0	1.9	1.9	36.15	30.3	22.1	37.5	33.7	3.79	9.900							
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	36.15	30.3	22.1	37.5	33.2	4.24	8.849							
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	36.15	30.3	22.1	37.5	32.8	4.69	8.000 CC, ES							
1,200.0	1,200.0	1,199.6	1,199.5	2.5	2.5	-99.23	29.2	24.5	38.5	33.4	5.09	7.553 SF							
1,300.0	1,299.6	1,299.1	1,298.7	2.7	2.7	-99.30	26.1	31.6	41.4	35.9	5.48	7.553							
1,400.0	1,398.8	1,398.5	1,397.3	2.9	3.0	-99.39	20.9	43.4	46.2	40.3	5.92	7.817							
1,500.0	1,497.1	1,497.7	1,494.9	3.2	3.2	-99.45	13.6	59.9	53.0	46.6	6.44	8.239							
1,600.0	1,594.3	1,596.8	1,591.2	3.5	3.6	-99.49	4.3	80.9	61.7	54.6	7.08	8.718							
1,700.0	1,690.2	1,695.5	1,685.9	3.9	4.0	-99.47	-6.9	106.4	72.3	64.4	7.88	9.170							
1,800.0	1,784.4	1,794.0	1,778.8	4.4	4.5	-99.41	-20.1	136.2	84.7	75.8	8.87	9.542							
1,900.0	1,876.8	1,892.1	1,869.6	5.1	5.1	-99.30	-35.1	170.2	98.9	88.8	10.08	9.808							
2,000.0	1,967.1	1,989.9	1,958.0	5.8	5.8	-99.14	-52.0	208.4	114.8	103.3	11.51	9.972							
2,100.0	2,054.9	2,087.2	2,043.8	6.7	6.7	-98.94	-70.5	250.4	132.5	119.3	13.18	10.051							
2,200.0	2,140.2	2,184.5	2,127.2	7.7	7.6	-98.78	-90.7	296.1	151.7	136.7	15.08	10.065							
2,300.0	2,222.6	2,282.3	2,210.4	8.8	8.7	-99.81	-111.5	343.2	172.1	154.9	17.15	10.034							
2,400.0	2,301.9	2,379.5	2,293.1	10.0	9.7	-102.00	-132.1	390.0	193.6	174.3	19.33	10.017							
2,500.0	2,377.9	2,475.9	2,375.2	11.4	10.8	-104.92	-152.6	436.3	216.8	195.2	21.55	10.061							
2,600.0	2,450.5	2,571.3	2,456.3	12.8	11.9	-108.25	-172.8	482.2	242.2	218.5	23.75	10.199							
2,700.0	2,519.3	2,665.3	2,536.2	14.4	12.9	-111.74	-192.8	527.4	270.5	244.6	25.89	10.451							
2,800.0	2,584.2	2,757.7	2,614.9	16.1	14.0	-115.21	-212.4	571.9	302.2	274.3	27.91	10.825							
2,841.2	2,609.8	2,795.3	2,646.8	16.8	14.4	-116.60	-220.4	590.0	316.3	287.6	28.71	11.015							
2,900.0	2,645.8	2,848.7	2,692.2	17.8	15.0	-119.00	-231.7	615.6	337.2	307.4	29.79	11.317							
3,000.0	2,707.1	2,939.4	2,769.4	19.6	16.1	-122.49	-251.0	659.3	373.8	342.2	31.57	11.839							
3,100.0	2,768.3	3,030.2	2,846.6	21.4	17.1	-125.37	-270.3	702.9	411.4	378.1	33.30	12.353							
3,192.9	2,825.2	3,114.5	2,918.3	23.1	18.1	-127.63	-288.2	743.5	447.0	412.1	34.88	12.816							
3,200.0	2,829.6	3,120.9	2,923.8	23.2	18.1	-127.86	-289.6	746.6	449.7	414.8	34.99	12.855							
3,300.0	2,893.1	3,212.8	3,001.9	24.8	19.2	-130.55	-309.1	790.8	486.9	450.5	36.48	13.349							
3,400.0	2,960.7	3,306.3	3,081.4	26.3	20.3	-132.44	-328.9	835.7	521.2	483.1	38.12	13.673							
3,500.0	3,032.0	3,401.2	3,162.2	27.7	21.4	-133.68	-349.1	881.4	552.3	512.4	39.91	13.839							
3,600.0	3,106.8	3,497.3	3,243.9	29.1	22.5	-134.38	-369.5	927.6	579.9	538.1	41.83	13.863							
3,700.0	3,185.0	3,590.1	3,323.0	30.3	23.6	-134.66	-389.1	972.1	604.1	560.3	43.79	13.794							
3,800.0	3,266.4	3,675.4	3,397.2	31.5	24.4	-134.87	-406.1	1,010.6	626.3	580.8	45.48	13.771							
3,900.0	3,350.7	3,760.8	3,473.2	32.6	25.1	-135.07	-421.7	1,046.0	646.8	599.8	47.01	13.757							
4,000.0	3,437.7	3,846.2	3,551.0	33.5	25.7	-135.26	-436.0	1,078.4	665.5	617.1	48.40	13.752							
4,100.0	3,527.2	3,931.7	3,630.3	34.4	26.3	-135.45	-448.9	1,107.5	682.6	633.0	49.63	13.754							
4,200.0	3,618.9	4,017.2	3,711.1	35.2	26.8	-135.63	-460.3	1,133.4	697.8	647.1	50.70	13.763							
4,300.0	3,712.5	4,100.0	3,790.3	35.8	27.2	-135.80	-469.9	1,155.2	711.3	659.7	51.61	13.783							
4,400.0	3,807.9	4,188.5	3,876.1	36.4	27.6	-135.96	-478.7	1,175.1	722.9	670.5	52.38	13.802							
4,500.0	3,904.7	4,274.2	3,960.1	36.8	27.9	-136.10	-485.7	1,190.9	732.7	679.7	52.98	13.830							
4,600.0	4,002.6	4,360.0	4,044.7	37.2	28.2	-136.24	-491.1	1,203.2	740.6	687.2	53.43	13.860							
4,700.0	4,101.5	4,445.7	4,129.9	37.5	28.4	-136.37	-495.0	1,212.0	746.6	692.9	53.74	13.893							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference															
Offset															
Semi Major Axis															
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Distance		Minimum Separation	Separation Factor	Warning			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	(ft)				
4,800.0	4,201.1	4,531.4	4,215.4	37.7	28.5	-136.49	-497.3	1,217.3	750.7	696.8	53.91	13.925			
4,900.0	4,301.0	4,618.0	4,302.0	37.8	28.6	-136.60	-498.1	1,219.1	753.0	699.0	53.95	13.956			
4,934.1	4,335.0	4,651.0	4,335.0	37.8	28.6	-1.26	-498.1	1,219.1	753.2	699.2	53.95	13.960			
5,000.0	4,400.9	4,717.0	4,400.9	37.9	28.7	-1.26	-498.1	1,219.1	753.2	699.1	54.04	13.937			
5,100.0	4,500.9	4,817.0	4,500.9	37.9	28.7	-1.26	-498.1	1,219.1	753.2	699.0	54.19	13.900			
5,200.0	4,600.9	4,917.0	4,600.9	38.0	28.8	-1.26	-498.1	1,219.1	753.2	698.8	54.34	13.861			
5,300.0	4,700.9	5,017.0	4,700.9	38.0	28.9	-1.26	-498.1	1,219.1	753.2	698.7	54.49	13.822			
5,400.0	4,800.9	5,117.0	4,800.9	38.1	29.0	-1.26	-498.1	1,219.1	753.2	698.5	54.65	13.783			
5,500.0	4,900.9	5,217.0	4,900.9	38.1	29.0	-1.26	-498.1	1,219.1	753.2	698.4	54.81	13.743			
5,600.0	5,000.9	5,317.0	5,000.9	38.2	29.1	-1.26	-498.1	1,219.1	753.2	698.2	54.97	13.702			
5,700.0	5,100.9	5,417.0	5,100.9	38.3	29.2	-1.26	-498.1	1,219.1	753.2	698.0	55.13	13.661			
5,800.0	5,200.9	5,517.0	5,200.9	38.3	29.3	-1.26	-498.1	1,219.1	753.2	697.9	55.30	13.619			
5,900.0	5,300.9	5,617.0	5,300.9	38.4	29.4	-1.26	-498.1	1,219.1	753.2	697.7	55.47	13.577			
6,000.0	5,400.9	5,717.0	5,400.9	38.4	29.4	-1.26	-498.1	1,219.1	753.2	697.5	55.65	13.534			
6,100.0	5,500.9	5,817.0	5,500.9	38.5	29.5	-1.26	-498.1	1,219.1	753.2	697.4	55.83	13.491			
6,200.0	5,600.9	5,917.0	5,600.9	38.6	29.6	-1.26	-498.1	1,219.1	753.2	697.2	56.01	13.448			
6,300.0	5,700.9	6,017.0	5,700.9	38.6	29.7	-1.26	-498.1	1,219.1	753.2	697.0	56.19	13.404			
6,400.0	5,800.9	6,117.0	5,800.9	38.7	29.8	-1.26	-498.1	1,219.1	753.2	696.8	56.38	13.359			
6,500.0	5,900.9	6,217.0	5,900.9	38.8	29.9	-1.26	-498.1	1,219.1	753.2	696.6	56.57	13.314			
6,600.0	6,000.9	6,317.0	6,000.9	38.9	30.0	-1.26	-498.1	1,219.1	753.2	696.4	56.76	13.269			
6,700.0	6,100.9	6,417.0	6,100.9	38.9	30.1	-1.26	-498.1	1,219.1	753.2	696.2	56.96	13.223			
6,800.0	6,200.9	6,517.0	6,200.9	39.0	30.2	-1.26	-498.1	1,219.1	753.2	696.0	57.16	13.177			
6,900.0	6,300.9	6,617.0	6,300.9	39.1	30.3	-1.26	-498.1	1,219.1	753.2	695.8	57.36	13.131			
7,000.0	6,400.9	6,717.0	6,400.9	39.1	30.4	-1.26	-498.1	1,219.1	753.2	695.6	57.56	13.084			
7,100.0	6,500.9	6,817.0	6,500.9	39.2	30.5	-1.26	-498.1	1,219.1	753.2	695.4	57.77	13.037			
7,200.0	6,600.9	6,917.0	6,600.9	39.3	30.6	-1.26	-498.1	1,219.1	753.2	695.2	57.98	12.990			
7,300.0	6,700.9	7,017.0	6,700.9	39.4	30.7	-1.26	-498.1	1,219.1	753.2	695.0	58.19	12.943			
7,400.0	6,800.9	7,117.0	6,800.9	39.5	30.8	-1.26	-498.1	1,219.1	753.2	694.8	58.41	12.895			
7,500.0	6,900.9	7,217.0	6,900.9	39.5	30.9	-1.26	-498.1	1,219.1	753.2	694.6	58.63	12.847			
7,600.0	7,000.9	7,317.0	7,000.9	39.6	31.0	-1.26	-498.1	1,219.1	753.2	694.3	58.85	12.799			
7,660.8	7,061.8	7,377.8	7,061.8	39.7	31.1	-1.26	-498.1	1,219.1	753.2	694.2	58.98	12.769			
7,700.0	7,100.9	7,402.0	7,086.0	39.7	31.1	-1.26	-498.1	1,219.1	753.3	694.3	59.05	12.757			
7,718.1	7,119.0	7,402.0	7,086.0	39.7	31.1	-1.26	-498.1	1,219.1	753.9	694.8	59.07	12.762			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Valley Farms J - Valley Farms J14 - Wellbore #1 - Design #1													Offset Well Error:	0.0 ft	
Survey Program: 0-MWD															
Reference				Offset			Semi Major Axis			Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	51.42	17.8	22.3	28.5						
100.0	100.0	100.0	100.0	0.1	0.1	51.42	17.8	22.3	28.5	28.3	0.19	149.897			
200.0	200.0	200.0	200.0	0.3	0.3	51.42	17.8	22.3	28.5	27.9	0.64	44.558			
300.0	300.0	300.0	300.0	0.5	0.5	51.42	17.8	22.3	28.5	27.4	1.09	26.169			
400.0	400.0	400.0	400.0	0.8	0.8	51.42	17.8	22.3	28.5	27.0	1.54	18.524			
500.0	500.0	500.0	500.0	1.0	1.0	51.42	17.8	22.3	28.5	26.5	1.99	14.336			
600.0	600.0	600.0	600.0	1.2	1.2	51.42	17.8	22.3	28.5	26.1	2.44	11.692			
700.0	700.0	700.0	700.0	1.4	1.4	51.42	17.8	22.3	28.5	25.6	2.89	9.872			
800.0	800.0	800.0	800.0	1.7	1.7	51.42	17.8	22.3	28.5	25.2	3.34	8.542			
900.0	900.0	900.0	900.0	1.9	1.9	51.42	17.8	22.3	28.5	24.7	3.79	7.528			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	51.42	17.8	22.3	28.5	24.3	4.24	6.729			
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	51.42	17.8	22.3	28.5	23.8	4.69	6.083 CC, ES			
1,200.0	1,200.0	1,199.5	1,199.5	2.5	2.5	-84.19	16.4	24.5	29.1	24.0	5.09	5.711			
1,300.0	1,299.6	1,299.0	1,298.7	2.7	2.7	-84.88	12.2	31.0	30.7	25.3	5.47	5.621 SF			
1,400.0	1,398.8	1,398.5	1,397.3	2.9	3.0	-85.87	5.2	41.9	33.6	27.6	5.90	5.685			
1,500.0	1,497.1	1,497.9	1,495.0	3.2	3.2	-86.99	-4.5	57.0	37.5	31.1	6.42	5.839			
1,600.0	1,594.3	1,597.2	1,591.6	3.5	3.5	-88.11	-17.0	76.4	42.5	35.5	7.06	6.022			
1,700.0	1,690.2	1,696.5	1,686.8	3.9	4.0	-89.14	-32.1	100.0	48.7	40.8	7.87	6.186			
1,800.0	1,784.4	1,795.6	1,780.4	4.4	4.5	-90.03	-49.9	127.7	56.0	47.1	8.88	6.301			
1,900.0	1,876.8	1,894.7	1,871.9	5.1	5.1	-90.77	-70.3	159.4	64.3	54.2	10.11	6.359			
2,000.0	1,967.1	1,993.6	1,961.3	5.8	5.8	-91.37	-93.1	195.0	73.7	62.1	11.58	6.365			
2,100.0	2,054.9	2,092.4	2,048.3	6.7	6.7	-91.84	-118.4	234.4	84.1	70.8	13.29	6.330			
2,200.0	2,140.2	2,191.0	2,132.6	7.7	7.7	-92.20	-146.0	277.5	95.5	80.3	15.25	6.266			
2,300.0	2,222.6	2,289.5	2,214.1	8.8	8.8	-92.46	-176.0	324.0	107.9	90.5	17.44	6.187			
2,400.0	2,301.9	2,388.6	2,294.5	10.0	10.0	-93.79	-207.2	372.8	120.9	101.1	19.85	6.092			
2,500.0	2,377.9	2,487.3	2,374.6	11.4	11.2	-97.00	-238.4	421.3	134.6	112.2	22.37	6.018			
2,600.0	2,450.5	2,585.4	2,454.2	12.8	12.4	-101.45	-269.4	469.5	149.7	124.8	24.87	6.019			
2,700.0	2,519.3	2,682.6	2,533.1	14.4	13.7	-106.62	-300.1	517.4	167.1	139.9	27.22	6.139			
2,800.0	2,584.2	2,778.6	2,611.0	16.1	14.9	-112.06	-330.4	564.6	187.8	158.5	29.31	6.406			
2,841.2	2,609.8	2,817.8	2,642.8	16.8	15.4	-114.29	-342.7	583.8	197.4	167.3	30.08	6.562			
2,900.0	2,645.8	2,873.5	2,688.0	17.8	16.1	-117.62	-360.3	611.3	212.0	180.9	31.08	6.821			
3,000.0	2,707.1	2,968.3	2,764.9	19.6	17.3	-122.35	-390.3	657.9	238.2	205.5	32.68	7.290			
3,100.0	2,768.3	3,063.1	2,841.8	21.4	18.6	-126.15	-420.2	704.5	265.7	231.5	34.20	7.769			
3,192.9	2,825.2	3,151.1	2,913.2	23.1	19.7	-129.05	-448.0	747.7	292.0	256.4	35.58	8.207			
3,200.0	2,829.6	3,157.8	2,918.7	23.2	19.8	-129.30	-450.1	751.1	294.0	258.3	35.67	8.243			
3,300.0	2,893.1	3,253.4	2,996.3	24.8	21.0	-132.09	-480.3	798.1	321.1	284.1	37.05	8.668			
3,400.0	2,960.7	3,350.3	3,074.9	26.3	22.3	-133.82	-510.9	845.7	345.1	306.4	38.70	8.918			
3,500.0	3,032.0	3,448.1	3,154.3	27.7	23.6	-134.70	-541.7	893.8	365.6	325.0	40.61	9.004			
3,600.0	3,106.8	3,542.2	3,230.8	29.1	24.8	-134.96	-571.3	939.8	382.8	340.1	42.63	8.978			
3,700.0	3,185.0	3,630.6	3,304.8	30.3	25.7	-135.13	-597.5	980.6	398.5	354.0	44.46	8.962			
3,800.0	3,266.4	3,718.9	3,380.8	31.5	26.6	-135.29	-621.7	1,018.4	413.1	367.0	46.11	8.959			
3,900.0	3,350.7	3,807.0	3,458.6	32.6	27.4	-135.45	-644.1	1,053.2	426.7	379.1	47.61	8.962			
4,000.0	3,437.7	3,900.0	3,542.7	33.5	28.1	-135.60	-665.5	1,086.6	439.2	390.2	48.99	8.964			
4,100.0	3,527.2	3,982.9	3,619.2	34.4	28.7	-135.76	-682.7	1,113.4	450.4	400.3	50.13	8.984			
4,200.0	3,618.9	4,070.7	3,701.6	35.2	29.2	-135.90	-699.0	1,138.7	460.5	409.4	51.16	9.002			
4,300.0	3,712.5	4,158.3	3,785.3	35.8	29.7	-136.04	-713.1	1,160.8	469.5	417.4	52.03	9.022			
4,400.0	3,807.9	4,245.9	3,869.9	36.4	30.1	-136.16	-725.2	1,179.6	477.2	424.5	52.76	9.046			
4,500.0	3,904.7	4,333.4	3,955.5	36.8	30.4	-136.28	-735.2	1,195.1	483.7	430.4	53.33	9.071			
4,600.0	4,002.6	4,420.9	4,041.7	37.2	30.7	-136.40	-743.0	1,207.3	489.0	435.3	53.75	9.098			
4,700.0	4,101.5	4,508.2	4,128.4	37.5	30.9	-136.50	-748.7	1,216.2	493.1	439.0	54.04	9.125			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft					
Survey Program: 0-MWD														Offset Well Error:	0.0 ft					
Reference														Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor								
4,800.0	4,201.1	4,600.0	4,219.9	37.7	31.0	-136.61	-752.3	1,221.9	495.9	441.7	54.19	9.151								
4,900.0	4,301.0	4,682.8	4,302.7	37.8	31.1	-136.69	-753.6	1,223.8	497.5	443.3	54.21	9.177								
4,934.1	4,335.0	4,715.1	4,335.0	37.8	31.1	-1.36	-753.6	1,223.9	497.7	443.5	54.20	9.183								
5,000.0	4,400.9	4,781.1	4,400.9	37.9	31.2	-1.36	-753.6	1,223.9	497.7	443.4	54.29	9.167								
5,100.0	4,500.9	4,881.1	4,500.9	37.9	31.2	-1.36	-753.6	1,223.9	497.7	443.2	54.43	9.143								
5,200.0	4,600.9	4,981.1	4,600.9	38.0	31.3	-1.36	-753.6	1,223.9	497.7	443.1	54.58	9.118								
5,300.0	4,700.9	5,081.1	4,700.9	38.0	31.4	-1.36	-753.6	1,223.9	497.7	442.9	54.73	9.093								
5,400.0	4,800.9	5,181.1	4,800.9	38.1	31.4	-1.36	-753.6	1,223.9	497.7	442.8	54.88	9.068								
5,500.0	4,900.9	5,281.1	4,900.9	38.1	31.5	-1.36	-753.6	1,223.9	497.7	442.6	55.04	9.042								
5,600.0	5,000.9	5,381.1	5,000.9	38.2	31.6	-1.36	-753.6	1,223.9	497.7	442.5	55.20	9.015								
5,700.0	5,100.9	5,481.1	5,100.9	38.3	31.7	-1.36	-753.6	1,223.9	497.7	442.3	55.36	8.989								
5,800.0	5,200.9	5,581.1	5,200.9	38.3	31.7	-1.36	-753.6	1,223.9	497.7	442.1	55.53	8.962								
5,900.0	5,300.9	5,681.1	5,300.9	38.4	31.8	-1.36	-753.6	1,223.9	497.7	442.0	55.70	8.934								
6,000.0	5,400.9	5,781.1	5,400.9	38.4	31.9	-1.36	-753.6	1,223.9	497.7	441.8	55.87	8.907								
6,100.0	5,500.9	5,881.1	5,500.9	38.5	32.0	-1.36	-753.6	1,223.9	497.7	441.6	56.05	8.879								
6,200.0	5,600.9	5,981.1	5,600.9	38.6	32.0	-1.36	-753.6	1,223.9	497.7	441.4	56.23	8.851								
6,300.0	5,700.9	6,081.1	5,700.9	38.6	32.1	-1.36	-753.6	1,223.9	497.7	441.2	56.41	8.822								
6,400.0	5,800.9	6,181.1	5,800.9	38.7	32.2	-1.36	-753.6	1,223.9	497.7	441.1	56.60	8.793								
6,500.0	5,900.9	6,281.1	5,900.9	38.8	32.3	-1.36	-753.6	1,223.9	497.7	440.9	56.78	8.764								
6,600.0	6,000.9	6,381.1	6,000.9	38.9	32.4	-1.36	-753.6	1,223.9	497.7	440.7	56.97	8.735								
6,700.0	6,100.9	6,481.1	6,100.9	38.9	32.5	-1.36	-753.6	1,223.9	497.7	440.5	57.17	8.705								
6,800.0	6,200.9	6,581.1	6,200.9	39.0	32.6	-1.36	-753.6	1,223.9	497.7	440.3	57.37	8.675								
6,900.0	6,300.9	6,681.1	6,300.9	39.1	32.6	-1.36	-753.6	1,223.9	497.7	440.1	57.56	8.645								
7,000.0	6,400.9	6,781.1	6,400.9	39.1	32.7	-1.36	-753.6	1,223.9	497.7	439.9	57.77	8.615								
7,100.0	6,500.9	6,881.1	6,500.9	39.2	32.8	-1.36	-753.6	1,223.9	497.7	439.7	57.97	8.584								
7,200.0	6,600.9	6,981.1	6,600.9	39.3	32.9	-1.36	-753.6	1,223.9	497.7	439.5	58.18	8.554								
7,300.0	6,700.9	7,081.1	6,700.9	39.4	33.0	-1.36	-753.6	1,223.9	497.7	439.3	58.39	8.523								
7,400.0	6,800.9	7,181.1	6,800.9	39.5	33.1	-1.36	-753.6	1,223.9	497.7	439.1	58.60	8.492								
7,500.0	6,900.9	7,281.1	6,900.9	39.5	33.2	-1.36	-753.6	1,223.9	497.7	438.8	58.82	8.461								
7,600.0	7,000.9	7,381.1	7,000.9	39.6	33.3	-1.36	-753.6	1,223.9	497.7	438.6	59.04	8.429								
7,666.0	7,067.0	7,447.1	7,067.0	39.7	33.4	-1.36	-753.6	1,223.9	497.7	438.5	59.18	8.409								
7,700.0	7,100.9	7,479.1	7,099.0	39.7	33.4	-1.36	-753.6	1,223.9	497.7	438.4	59.26	8.398								
7,718.1	7,119.0	7,479.1	7,099.0	39.7	33.4	-1.36	-753.6	1,223.9	498.1	438.8	59.28	8.402								

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft								
Survey Program: 0-MWD														Offset Well Error:	0.0 ft								
Reference																							
Offset																							
Semi Major Axis																							
Distance																							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning										
0.0	0.0	0.0	0.0	0.0	0.0	-0.78	12.5	-0.2	12.5														
100.0	100.0	100.0	100.0	0.1	0.1	-0.78	12.5	-0.2	12.5	12.3	0.19	65.709											
200.0	200.0	200.0	200.0	0.3	0.3	-0.78	12.5	-0.2	12.5	11.9	0.64	19.533											
300.0	300.0	300.0	300.0	0.5	0.5	-0.78	12.5	-0.2	12.5	11.4	1.09	11.471											
400.0	400.0	400.0	400.0	0.8	0.8	-0.78	12.5	-0.2	12.5	11.0	1.54	8.120											
500.0	500.0	500.0	500.0	1.0	1.0	-0.78	12.5	-0.2	12.5	10.5	1.99	6.284											
600.0	600.0	600.0	600.0	1.2	1.2	-0.78	12.5	-0.2	12.5	10.1	2.44	5.125											
700.0	700.0	700.0	700.0	1.4	1.4	-0.78	12.5	-0.2	12.5	9.6	2.89	4.327											
800.0	800.0	800.0	800.0	1.7	1.7	-0.78	12.5	-0.2	12.5	9.2	3.34	3.744											
900.0	900.0	900.0	900.0	1.9	1.9	-0.78	12.5	-0.2	12.5	8.7	3.79	3.300											
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.78	12.5	-0.2	12.5	8.3	4.24	2.950											
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.78	12.5	-0.2	12.5	7.8	4.69	2.667 CC											
1,200.0	1,200.0	1,200.4	1,200.4	2.5	2.5	-135.26	10.8	1.9	12.7	7.6	5.09	2.493 ES											
1,300.0	1,299.6	1,300.8	1,300.5	2.7	2.7	-132.79	5.8	8.0	13.3	7.8	5.46	2.430 SF											
1,400.0	1,398.8	1,401.2	1,400.0	2.9	3.0	-129.14	-2.6	18.1	14.3	8.4	5.87	2.434											
1,500.0	1,497.1	1,501.6	1,498.7	3.2	3.2	-124.86	-14.3	32.3	15.8	9.4	6.36	2.484											
1,600.0	1,594.3	1,602.0	1,596.2	3.5	3.6	-120.45	-29.2	50.5	17.8	10.9	6.97	2.558											
1,700.0	1,690.2	1,702.4	1,692.4	3.9	4.0	-116.30	-47.4	72.5	20.4	12.6	7.75	2.631											
1,800.0	1,784.4	1,802.7	1,786.9	4.4	4.5	-112.58	-68.8	98.5	23.5	14.8	8.75	2.689											
1,900.0	1,876.8	1,902.9	1,879.5	5.1	5.1	-109.38	-93.3	128.2	27.2	17.2	9.99	2.724											
2,000.0	1,967.1	2,003.2	1,969.9	5.8	5.9	-106.66	-120.8	161.6	31.4	19.9	11.48	2.737											
2,100.0	2,054.9	2,103.4	2,057.9	6.7	6.7	-104.38	-151.3	198.6	36.2	22.9	13.23	2.733											
2,200.0	2,140.2	2,203.5	2,143.1	7.7	7.8	-102.46	-184.7	239.1	41.4	26.1	15.23	2.717											
2,300.0	2,222.6	2,303.6	2,225.5	8.8	8.9	-100.84	-220.8	283.0	47.1	29.6	17.48	2.693											
2,400.0	2,301.9	2,403.7	2,304.8	10.0	10.1	-99.47	-259.7	330.1	53.2	33.2	19.98	2.664											
2,500.0	2,377.9	2,503.7	2,380.7	11.4	11.5	-98.30	-301.1	380.3	59.8	37.1	22.71	2.633											
2,600.0	2,450.5	2,603.5	2,454.2	12.8	13.0	-98.88	-344.0	432.4	66.9	41.3	25.58	2.616											
2,700.0	2,519.3	2,703.0	2,527.5	14.4	14.5	-103.19	-386.8	484.3	75.1	46.8	28.30	2.653											
2,800.0	2,584.2	2,801.9	2,600.4	16.1	15.9	-109.87	-429.4	536.0	85.3	54.7	30.56	2.790											
2,841.2	2,609.8	2,842.5	2,630.2	16.8	16.6	-113.01	-446.8	557.2	90.4	59.1	31.29	2.888											
2,900.0	2,645.8	2,900.3	2,672.8	17.8	17.4	-117.42	-471.7	587.3	98.4	66.2	32.16	3.058											
3,000.0	2,707.1	2,998.6	2,745.2	19.6	18.9	-123.44	-514.0	638.7	113.0	79.5	33.50	3.375											
3,100.0	2,768.3	3,096.9	2,817.6	21.4	20.4	-128.04	-556.3	690.0	128.7	93.9	34.77	3.701											
3,192.9	2,825.2	3,188.2	2,884.8	23.1	21.8	-131.41	-595.5	737.6	143.8	107.8	35.94	4.000											
3,200.0	2,829.6	3,195.2	2,890.0	23.2	21.9	-131.67	-598.6	741.3	144.9	108.9	36.03	4.023											
3,300.0	2,893.1	3,294.0	2,962.7	24.8	23.4	-134.09	-641.0	792.9	159.6	122.1	37.49	4.256											
3,400.0	2,960.7	3,393.0	3,035.6	26.3	25.0	-134.85	-683.6	844.5	170.7	131.2	39.58	4.314											
3,500.0	3,032.0	3,486.9	3,106.5	27.7	26.2	-135.00	-722.8	892.1	180.0	138.4	41.66	4.322											
3,600.0	3,106.8	3,580.6	3,180.2	29.1	27.3	-135.14	-759.6	936.8	188.8	145.2	43.60	4.331											
3,700.0	3,185.0	3,674.2	3,256.5	30.3	28.4	-135.28	-794.0	978.5	197.1	151.7	45.40	4.341											
3,800.0	3,266.4	3,767.5	3,335.2	31.5	29.3	-135.41	-826.0	1,017.2	204.8	157.7	47.05	4.353											
3,900.0	3,350.7	3,860.6	3,416.0	32.6	30.2	-135.55	-855.4	1,052.9	212.0	163.4	48.55	4.366											
4,000.0	3,437.7	3,953.6	3,498.9	33.5	31.0	-135.68	-882.2	1,085.4	218.5	168.7	49.88	4.381											
4,100.0	3,527.2	4,046.5	3,583.6	34.4	31.7	-135.80	-906.3	1,114.8	224.5	173.5	51.06	4.397											
4,200.0	3,618.9	4,139.1	3,669.9	35.2	32.4	-135.93	-927.8	1,140.8	229.9	177.9	52.08	4.415											
4,300.0	3,712.5	4,231.7	3,757.6	35.8	32.9	-136.04	-946.6	1,163.6	234.7	181.8	52.94	4.434											
4,400.0	3,807.9	4,324.2	3,846.6	36.4	33.4	-136.16	-962.7	1,183.1	238.9	185.2	53.64	4.453											
4,500.0	3,904.7	4,416.6	3,936.6	36.8	33.8	-136.27	-975.9	1,199.2	242.4	188.2	54.19	4.473											
4,600.0	4,002.6	4,508.9	4,027.4	37.2	34.1	-136.38	-986.4	1,211.9	245.3	190.7	54.59	4.493											
4,700.0	4,101.5	4,600.0	4,117.7	37.5	34.3	-136.49	-994.0	1,221.2	247.5	192.7	54.84	4.513											

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 0-MWD													Offset Well Error:	0.0 ft		
Reference																
Offset																
Semi Major Axis																
Distance																
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning			
4,800.0	4,201.1	4,693.3	4,210.6	37.7	34.5	-136.59	-998.9	1,227.1	249.1	194.1	54.96	4.532				
4,900.0	4,301.0	4,785.4	4,302.7	37.8	34.5	-136.69	-1,001.0	1,229.6	250.0	195.1	54.94	4.550				
4,934.1	4,335.0	4,817.7	4,335.0	37.8	34.6	-1.37	-1,001.1	1,229.7	250.2	195.2	54.92	4.555				
5,000.0	4,400.9	4,883.6	4,400.9	37.9	34.6	-1.37	-1,001.1	1,229.7	250.2	195.2	55.01	4.548				
5,100.0	4,500.9	4,983.6	4,500.9	37.9	34.7	-1.37	-1,001.1	1,229.7	250.2	195.0	55.15	4.536				
5,200.0	4,600.9	5,083.6	4,600.9	38.0	34.7	-1.37	-1,001.1	1,229.7	250.2	194.9	55.29	4.524				
5,300.0	4,700.9	5,183.6	4,700.9	38.0	34.8	-1.37	-1,001.1	1,229.7	250.2	194.7	55.44	4.512				
5,400.0	4,800.9	5,283.6	4,800.9	38.1	34.8	-1.37	-1,001.1	1,229.7	250.2	194.6	55.59	4.500				
5,500.0	4,900.9	5,383.6	4,900.9	38.1	34.9	-1.37	-1,001.1	1,229.7	250.2	194.4	55.74	4.488				
5,600.0	5,000.9	5,483.6	5,000.9	38.2	35.0	-1.37	-1,001.1	1,229.7	250.2	194.3	55.90	4.475				
5,700.0	5,100.9	5,583.6	5,100.9	38.3	35.0	-1.37	-1,001.1	1,229.7	250.2	194.1	56.06	4.463				
5,800.0	5,200.9	5,683.6	5,200.9	38.3	35.1	-1.37	-1,001.1	1,229.7	250.2	193.9	56.22	4.450				
5,900.0	5,300.9	5,783.6	5,300.9	38.4	35.2	-1.37	-1,001.1	1,229.7	250.2	193.8	56.39	4.437				
6,000.0	5,400.9	5,883.6	5,400.9	38.4	35.2	-1.37	-1,001.1	1,229.7	250.2	193.6	56.55	4.423				
6,100.0	5,500.9	5,983.6	5,500.9	38.5	35.3	-1.37	-1,001.1	1,229.7	250.2	193.4	56.73	4.410				
6,200.0	5,600.9	6,083.6	5,600.9	38.6	35.4	-1.37	-1,001.1	1,229.7	250.2	193.3	56.90	4.396				
6,300.0	5,700.9	6,183.6	5,700.9	38.6	35.5	-1.37	-1,001.1	1,229.7	250.2	193.1	57.08	4.383				
6,400.0	5,800.9	6,283.6	5,800.9	38.7	35.5	-1.37	-1,001.1	1,229.7	250.2	192.9	57.26	4.369				
6,500.0	5,900.9	6,383.6	5,900.9	38.8	35.6	-1.37	-1,001.1	1,229.7	250.2	192.7	57.44	4.355				
6,600.0	6,000.9	6,483.6	6,000.9	38.9	35.7	-1.37	-1,001.1	1,229.7	250.2	192.5	57.63	4.341				
6,700.0	6,100.9	6,583.6	6,100.9	38.9	35.8	-1.37	-1,001.1	1,229.7	250.2	192.3	57.82	4.326				
6,800.0	6,200.9	6,683.6	6,200.9	39.0	35.8	-1.37	-1,001.1	1,229.7	250.2	192.1	58.01	4.312				
6,900.0	6,300.9	6,783.6	6,300.9	39.1	35.9	-1.37	-1,001.1	1,229.7	250.2	192.0	58.21	4.298				
7,000.0	6,400.9	6,883.6	6,400.9	39.1	36.0	-1.37	-1,001.1	1,229.7	250.2	191.8	58.41	4.283				
7,100.0	6,500.9	6,983.6	6,500.9	39.2	36.1	-1.37	-1,001.1	1,229.7	250.2	191.6	58.61	4.268				
7,200.0	6,600.9	7,083.6	6,600.9	39.3	36.2	-1.37	-1,001.1	1,229.7	250.2	191.3	58.81	4.254				
7,300.0	6,700.9	7,183.6	6,700.9	39.4	36.3	-1.37	-1,001.1	1,229.7	250.2	191.1	59.02	4.239				
7,400.0	6,800.9	7,283.6	6,800.9	39.5	36.3	-1.37	-1,001.1	1,229.7	250.2	190.9	59.23	4.224				
7,500.0	6,900.9	7,383.6	6,900.9	39.5	36.4	-1.37	-1,001.1	1,229.7	250.2	190.7	59.44	4.209				
7,600.0	7,000.9	7,483.6	7,000.9	39.6	36.5	-1.37	-1,001.1	1,229.7	250.2	190.5	59.65	4.194				
7,700.0	7,100.9	7,583.6	7,100.9	39.7	36.6	-1.37	-1,001.1	1,229.7	250.2	190.3	59.87	4.178				
7,700.1	7,101.0	7,583.7	7,101.0	39.7	36.6	-1.37	-1,001.1	1,229.7	250.2	190.3	59.87	4.178				
7,718.1	7,119.0	7,589.7	7,107.0	39.7	36.6	-1.37	-1,001.1	1,229.7	250.4	190.6	59.90	4.181				

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.0 ft					
Survey Program: 0-MWD														Offset Well Error:	0.0 ft					
Reference														Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor								
0.0	0.0	0.0	0.0	0.0	0.0	12.97	92.7	21.4	95.2											
100.0	100.0	100.0	100.0	0.1	0.1	12.97	92.7	21.4	95.2	95.0	0.19	500.456								
200.0	200.0	200.0	200.0	0.3	0.3	12.97	92.7	21.4	95.2	94.5	0.64	148.765								
300.0	300.0	300.0	300.0	0.5	0.5	12.97	92.7	21.4	95.2	94.1	1.09	87.368								
400.0	400.0	400.0	400.0	0.8	0.8	12.97	92.7	21.4	95.2	93.6	1.54	61.844								
500.0	500.0	500.0	500.0	1.0	1.0	12.97	92.7	21.4	95.2	93.2	1.99	47.862								
600.0	600.0	600.0	600.0	1.2	1.2	12.97	92.7	21.4	95.2	92.7	2.44	39.036								
700.0	700.0	700.0	700.0	1.4	1.4	12.97	92.7	21.4	95.2	92.3	2.89	32.959								
800.0	800.0	800.0	800.0	1.7	1.7	12.97	92.7	21.4	95.2	91.8	3.34	28.519								
900.0	900.0	900.0	900.0	1.9	1.9	12.97	92.7	21.4	95.2	91.4	3.79	25.133								
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	12.97	92.7	21.4	95.2	90.9	4.24	22.466								
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	12.97	92.7	21.4	95.2	90.5	4.69	20.310	CC, ES							
1,200.0	1,200.0	1,195.4	1,195.4	2.5	2.6	-123.00	94.7	22.7	98.9	93.8	5.10	19.386	SF							
1,300.0	1,299.6	1,290.0	1,289.7	2.7	2.8	-124.56	100.5	26.8	110.1	104.6	5.51	19.995								
1,400.0	1,398.8	1,382.9	1,381.8	2.9	3.0	-126.49	109.9	33.3	128.8	122.9	5.93	21.718								
1,500.0	1,497.1	1,473.3	1,470.9	3.2	3.2	-128.29	122.5	42.2	155.0	148.6	6.38	24.279								
1,600.0	1,594.3	1,560.6	1,556.1	3.5	3.5	-129.70	138.0	53.0	188.4	181.5	6.87	27.412								
1,700.0	1,690.2	1,644.2	1,636.8	3.9	3.8	-130.67	155.8	65.5	228.7	221.3	7.41	30.870								
1,800.0	1,784.4	1,723.6	1,712.6	4.4	4.1	-131.21	175.4	79.2	275.4	267.4	8.00	34.437								
1,900.0	1,876.8	1,800.0	1,784.4	5.1	4.5	-131.39	196.7	94.0	328.2	319.6	8.66	37.915								
2,000.0	1,967.1	1,869.0	1,848.4	5.8	4.9	-131.16	217.9	108.9	386.6	377.2	9.39	41.180								
2,100.0	2,054.9	1,934.6	1,908.3	6.7	5.3	-130.64	239.8	124.2	450.1	439.9	10.21	44.068								
2,200.0	2,140.2	2,001.5	1,968.4	7.7	5.8	-129.93	263.9	141.0	518.3	507.2	11.13	46.564								
2,300.0	2,222.6	2,062.9	2,023.1	8.8	6.2	-129.00	286.8	157.0	590.0	577.9	12.15	48.561								
2,400.0	2,301.9	2,128.5	2,081.5	10.0	6.7	-128.15	311.2	174.1	664.3	651.0	13.27	50.057								
2,500.0	2,377.9	2,190.9	2,137.1	11.4	7.2	-127.17	334.5	190.4	741.0	726.5	14.49	51.127								
2,600.0	2,450.5	2,249.9	2,189.6	12.8	7.7	-125.99	356.5	205.7	820.0	804.1	15.84	51.767								
2,700.0	2,519.3	2,305.2	2,238.9	14.4	8.1	-124.57	377.1	220.1	901.2	883.9	17.32	52.026								
2,800.0	2,584.2	2,356.8	2,284.9	16.1	8.6	-122.84	396.3	233.6	984.5	965.6	18.97	51.891								
2,841.2	2,609.8	2,376.9	2,302.8	16.8	8.7	-122.03	403.8	238.8	1,019.4	999.7	19.71	51.733								
2,900.0	2,645.8	2,405.2	2,328.0	17.8	9.0	-123.20	414.3	246.2	1,069.5	1,049.1	20.49	52.202								
3,000.0	2,707.1	2,453.3	2,370.8	19.6	9.4	-124.99	432.3	258.7	1,155.1	1,133.3	21.82	52.946								
3,100.0	2,768.3	2,501.3	2,413.6	21.4	9.8	-126.56	450.2	271.2	1,240.9	1,217.8	23.13	53.649								
3,192.9	2,825.2	2,546.0	2,453.3	23.1	10.1	-127.85	466.8	282.8	1,320.8	1,296.5	24.35	54.252								
3,200.0	2,829.6	2,549.4	2,456.4	23.2	10.2	-128.23	468.1	283.7	1,327.0	1,302.6	24.38	54.419								
3,300.0	2,893.1	2,599.7	2,501.2	24.8	10.6	-133.03	486.8	296.8	1,412.3	1,387.4	24.88	56.760								
3,400.0	2,960.7	2,653.8	2,549.3	26.3	11.0	-136.97	507.0	310.9	1,495.7	1,470.2	25.48	58.692								
3,500.0	3,032.0	2,711.5	2,600.8	27.7	11.5	-140.17	528.5	326.0	1,577.1	1,550.9	26.19	60.215								
3,600.0	3,106.8	2,772.7	2,655.3	29.1	12.1	-142.78	551.3	341.9	1,656.0	1,629.1	26.99	61.352								
3,700.0	3,185.0	2,837.3	2,712.8	30.3	12.6	-144.88	575.4	358.7	1,732.4	1,704.5	27.87	62.160								
3,800.0	3,266.4	2,905.0	2,773.1	31.5	13.2	-146.58	600.6	376.4	1,805.9	1,777.1	28.81	62.693								
3,900.0	3,350.7	2,975.7	2,836.1	32.6	13.8	-147.95	626.9	394.8	1,876.4	1,846.6	29.78	63.001								
4,000.0	3,437.7	3,049.1	2,901.5	33.5	14.4	-149.03	654.3	413.9	1,943.7	1,912.9	30.79	63.133								
4,100.0	3,527.2	3,125.2	2,969.2	34.4	15.1	-149.88	682.6	433.7	2,007.7	1,975.9	31.80	63.128								
4,200.0	3,618.9	3,203.5	3,039.0	35.2	15.8	-150.53	711.8	454.1	2,068.2	2,035.4	32.82	63.020								
4,300.0	3,712.5	3,284.1	3,110.7	35.8	16.5	-151.01	741.9	475.1	2,125.2	2,091.3	33.82	62.835								
4,400.0	3,807.9	3,366.5	3,184.2	36.4	17.2	-151.34	772.6	496.6	2,178.4	2,143.6	34.80	62.597								
4,500.0	3,904.7	3,450.7	3,259.1	36.8	18.0	-151.53	803.9	518.5	2,227.9	2,192.2	35.75	62.323								
4,600.0	4,002.6	3,536.3	3,335.4	37.2	18.7	-151.60	835.8	540.8	2,273.6	2,237.0	36.65	62.029								
4,700.0	4,101.5	3,748.1	3,526.8	37.5	20.2	-150.69	910.0	592.6	2,314.6	2,276.3	38.34	60.378								

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference													Warning	
Reference				Offset			Semi Major Axis			Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.0	4,201.1	4,227.0	3,987.9	37.7	22.3	-149.22	1,012.2	664.1	2,340.0	2,299.4	40.61	57.623		
4,900.0	4,301.0	4,540.9	4,301.0	37.8	22.8	-149.18	1,027.2	674.6	2,346.1	2,305.0	41.17	56.981		
4,934.1	4,335.0	4,574.9	4,335.0	37.8	22.9	-13.83	1,027.2	674.6	2,346.4	2,305.2	41.21	56.941		
5,000.0	4,400.9	4,640.9	4,400.9	37.9	22.9	-13.83	1,027.2	674.6	2,346.4	2,305.1	41.33	56.773		
5,100.0	4,500.9	4,740.9	4,500.9	37.9	23.0	-13.83	1,027.2	674.6	2,346.4	2,304.9	41.52	56.512		
5,200.0	4,600.9	4,840.9	4,600.9	38.0	23.1	-13.83	1,027.2	674.6	2,346.4	2,304.7	41.72	56.247		
5,300.0	4,700.9	4,940.9	4,700.9	38.0	23.2	-13.83	1,027.2	674.6	2,346.4	2,304.5	41.92	55.980		
5,400.0	4,800.9	5,040.9	4,800.9	38.1	23.3	-13.83	1,027.2	674.6	2,346.4	2,304.3	42.12	55.710		
5,500.0	4,900.9	5,140.9	4,900.9	38.1	23.4	-13.83	1,027.2	674.6	2,346.4	2,304.1	42.32	55.438		
5,600.0	5,000.9	5,240.9	5,000.9	38.2	23.5	-13.83	1,027.2	674.6	2,346.4	2,303.9	42.54	55.164		
5,700.0	5,100.9	5,340.9	5,100.9	38.3	23.6	-13.83	1,027.2	674.6	2,346.4	2,303.7	42.75	54.887		
5,800.0	5,200.9	5,440.9	5,200.9	38.3	23.7	-13.83	1,027.2	674.6	2,346.4	2,303.4	42.97	54.609		
5,900.0	5,300.9	5,540.9	5,300.9	38.4	23.8	-13.83	1,027.2	674.6	2,346.4	2,303.2	43.19	54.329		
6,000.0	5,400.9	5,640.9	5,400.9	38.4	23.9	-13.83	1,027.2	674.6	2,346.4	2,303.0	43.41	54.048		
6,100.0	5,500.9	5,740.9	5,500.9	38.5	24.0	-13.83	1,027.2	674.6	2,346.4	2,302.8	43.64	53.765		
6,200.0	5,600.9	5,840.9	5,600.9	38.6	24.1	-13.83	1,027.2	674.6	2,346.4	2,302.5	43.87	53.481		
6,300.0	5,700.9	5,940.9	5,700.9	38.6	24.2	-13.83	1,027.2	674.6	2,346.4	2,302.3	44.11	53.196		
6,400.0	5,800.9	6,040.9	5,800.9	38.7	24.3	-13.83	1,027.2	674.6	2,346.4	2,302.1	44.35	52.910		
6,500.0	5,900.9	6,140.9	5,900.9	38.8	24.4	-13.83	1,027.2	674.6	2,346.4	2,301.8	44.59	52.624		
6,600.0	6,000.9	6,240.9	6,000.9	38.9	24.5	-13.83	1,027.2	674.6	2,346.4	2,301.6	44.83	52.336		
6,700.0	6,100.9	6,340.9	6,100.9	38.9	24.7	-13.83	1,027.2	674.6	2,346.4	2,301.3	45.08	52.048		
6,800.0	6,200.9	6,440.9	6,200.9	39.0	24.8	-13.83	1,027.2	674.6	2,346.4	2,301.1	45.33	51.760		
6,900.0	6,300.9	6,540.9	6,300.9	39.1	24.9	-13.83	1,027.2	674.6	2,346.4	2,300.8	45.59	51.472		
7,000.0	6,400.9	6,640.9	6,400.9	39.1	25.0	-13.83	1,027.2	674.6	2,346.4	2,300.6	45.84	51.183		
7,100.0	6,500.9	6,740.9	6,500.9	39.2	25.1	-13.83	1,027.2	674.6	2,346.4	2,300.3	46.10	50.895		
7,200.0	6,600.9	6,840.9	6,600.9	39.3	25.3	-13.83	1,027.2	674.6	2,346.4	2,300.0	46.37	50.606		
7,300.0	6,700.9	6,940.9	6,700.9	39.4	25.4	-13.83	1,027.2	674.6	2,346.4	2,299.8	46.63	50.318		
7,400.0	6,800.9	7,040.9	6,800.9	39.5	25.5	-13.83	1,027.2	674.6	2,346.4	2,299.5	46.90	50.030		
7,500.0	6,900.9	7,140.9	6,900.9	39.5	25.6	-13.83	1,027.2	674.6	2,346.4	2,299.2	47.17	49.742		
7,600.0	7,000.9	7,240.9	7,000.9	39.6	25.8	-13.83	1,027.2	674.6	2,346.4	2,299.0	47.45	49.455		
7,604.9	7,005.8	7,245.8	7,005.8	39.6	25.8	-13.83	1,027.2	674.6	2,346.4	2,298.9	47.46	49.441		
7,700.0	7,100.9	7,275.9	7,036.0	39.7	25.8	-13.83	1,027.2	674.6	2,347.3	2,299.7	47.62	49.288		
7,718.1	7,119.0	7,275.9	7,036.0	39.7	25.8	-13.83	1,027.2	674.6	2,347.9	2,300.2	47.65	49.276		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:	0.0 ft	
Valley Farms J - Valley Farms J3 - Wellbore #1 - Design #1															
Reference				Offset			Semi Major Axis			Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	14.99	80.2	21.5	83.1						
100.0	100.0	100.0	100.0	0.1	0.1	14.99	80.2	21.5	83.1	82.9	0.19	436.868			
200.0	200.0	200.0	200.0	0.3	0.3	14.99	80.2	21.5	83.1	82.4	0.64	129.863			
300.0	300.0	300.0	300.0	0.5	0.5	14.99	80.2	21.5	83.1	82.0	1.09	76.267			
400.0	400.0	400.0	400.0	0.8	0.8	14.99	80.2	21.5	83.1	81.5	1.54	53.986			
500.0	500.0	500.0	500.0	1.0	1.0	14.99	80.2	21.5	83.1	81.1	1.99	41.781			
600.0	600.0	600.0	600.0	1.2	1.2	14.99	80.2	21.5	83.1	80.6	2.44	34.076			
700.0	700.0	700.0	700.0	1.4	1.4	14.99	80.2	21.5	83.1	80.2	2.89	28.771			
800.0	800.0	800.0	800.0	1.7	1.7	14.99	80.2	21.5	83.1	79.7	3.34	24.895			
900.0	900.0	900.0	900.0	1.9	1.9	14.99	80.2	21.5	83.1	79.3	3.79	21.939			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	14.99	80.2	21.5	83.1	78.8	4.24	19.611			
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	14.99	80.2	21.5	83.1	78.4	4.69	17.730	CC, ES		
1,200.0	1,200.0	1,196.2	1,196.1	2.5	2.6	-120.95	82.0	23.2	86.6	81.5	5.10	16.979	SF		
1,300.0	1,299.6	1,291.6	1,291.3	2.7	2.8	-122.43	87.2	28.1	97.3	91.8	5.51	17.664			
1,400.0	1,398.8	1,385.5	1,384.4	2.9	3.0	-124.22	95.7	36.1	115.1	109.1	5.94	19.383			
1,500.0	1,497.1	1,477.2	1,474.7	3.2	3.2	-125.84	107.3	46.9	139.9	133.5	6.40	21.864			
1,600.0	1,594.3	1,566.0	1,561.4	3.5	3.5	-127.07	121.4	60.3	171.5	164.6	6.90	24.845			
1,700.0	1,690.2	1,651.6	1,643.9	3.9	3.8	-127.88	137.8	75.7	209.7	202.3	7.47	28.083			
1,800.0	1,784.4	1,733.4	1,721.8	4.4	4.2	-128.29	156.0	92.8	254.1	246.0	8.10	31.371			
1,900.0	1,876.8	1,811.5	1,795.2	5.1	4.6	-128.36	175.6	111.3	304.3	295.5	8.82	34.506			
2,000.0	1,967.1	1,894.6	1,872.5	5.8	5.0	-128.50	197.6	132.0	358.7	349.1	9.62	37.299			
2,100.0	2,054.9	1,975.8	1,948.2	6.7	5.5	-128.75	219.1	152.3	416.1	405.6	10.50	39.623			
2,200.0	2,140.2	2,054.5	2,021.5	7.7	6.0	-129.00	240.0	172.0	476.4	465.0	11.44	41.629			
2,300.0	2,222.6	2,130.5	2,092.3	8.8	6.5	-129.18	260.1	190.9	539.7	527.3	12.46	43.307			
2,400.0	2,301.9	2,203.6	2,160.3	10.0	7.0	-129.24	279.5	209.2	606.0	592.4	13.55	44.712			
2,500.0	2,377.9	2,273.5	2,225.5	11.4	7.4	-129.15	298.0	226.6	675.2	660.5	14.72	45.854			
2,600.0	2,450.5	2,340.2	2,287.6	12.8	7.9	-128.87	315.7	243.3	747.2	731.2	15.98	46.762			
2,700.0	2,519.3	2,403.3	2,346.4	14.4	8.3	-128.37	332.4	259.0	822.0	804.7	17.33	47.433			
2,800.0	2,584.2	2,462.8	2,401.8	16.1	8.7	-127.61	348.2	273.9	899.4	880.6	18.80	47.848			
2,841.2	2,609.8	2,486.2	2,423.6	16.8	8.9	-127.21	354.4	279.7	932.1	912.6	19.44	47.946			
2,900.0	2,645.8	2,519.2	2,454.3	17.8	9.1	-128.41	363.1	287.9	979.1	958.9	20.19	48.491			
3,000.0	2,707.1	2,575.2	2,506.4	19.6	9.5	-130.23	378.0	301.9	1,059.3	1,037.8	21.46	49.368			
3,100.0	2,768.3	2,631.2	2,558.6	21.4	9.9	-131.82	392.8	315.9	1,139.9	1,117.2	22.71	50.189			
3,192.9	2,825.2	2,683.2	2,607.0	23.1	10.2	-133.13	406.6	328.9	1,215.1	1,191.2	23.87	50.902			
3,200.0	2,829.6	2,687.2	2,610.8	23.2	10.3	-133.44	407.6	329.9	1,220.8	1,196.9	23.92	51.033			
3,300.0	2,893.1	2,745.4	2,665.0	24.8	10.7	-137.34	423.1	344.4	1,300.7	1,276.1	24.62	52.836			
3,400.0	2,960.7	2,807.3	2,722.6	26.3	11.1	-140.53	439.5	359.8	1,378.4	1,353.0	25.40	54.274			
3,500.0	3,032.0	2,872.8	2,783.6	27.7	11.6	-143.14	456.8	376.2	1,453.5	1,427.3	26.25	55.364			
3,600.0	3,106.8	2,941.6	2,847.7	29.1	12.0	-145.25	475.1	393.4	1,525.9	1,498.7	27.18	56.147			
3,700.0	3,185.0	3,013.7	2,914.8	30.3	12.5	-146.96	494.1	411.3	1,595.2	1,567.0	28.15	56.667			
3,800.0	3,266.4	3,088.7	2,984.7	31.5	13.1	-148.33	514.0	430.1	1,661.3	1,632.1	29.16	56.969			
3,900.0	3,350.7	3,166.5	3,057.2	32.6	13.6	-149.42	534.7	449.5	1,723.9	1,693.7	30.20	57.093			
4,000.0	3,437.7	3,246.9	3,132.1	33.5	14.2	-150.27	556.0	469.5	1,783.1	1,751.8	31.24	57.074			
4,100.0	3,527.2	3,329.6	3,209.2	34.4	14.8	-150.91	577.9	490.2	1,838.5	1,806.2	32.29	56.943			
4,200.0	3,618.9	3,414.5	3,288.2	35.2	15.4	-151.38	600.4	511.4	1,890.1	1,856.8	33.32	56.724			
4,300.0	3,712.5	3,501.3	3,369.0	35.8	16.0	-151.69	623.4	533.0	1,937.8	1,903.5	34.34	56.438			
4,400.0	3,807.9	3,589.7	3,451.3	36.4	16.7	-151.86	646.8	555.1	1,981.6	1,946.2	35.32	56.102			
4,500.0	3,904.7	3,679.5	3,535.0	36.8	17.3	-151.89	670.6	577.5	2,021.3	1,985.0	36.27	55.728			
4,600.0	4,002.6	3,829.5	3,675.8	37.2	18.2	-151.47	708.3	613.0	2,056.2	2,018.7	37.52	54.804			
4,700.0	4,101.5	4,045.0	3,883.9	37.5	19.1	-150.93	748.6	651.0	2,082.3	2,043.5	38.72	53.777			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 0-MWD													Valley Farms J - Valley Farms J3 - Wellbore #1 - Design #1		Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
4,800.0	4,201.1	4,272.8	4,109.2	37.7	19.8	-150.68	772.3	673.3	2,098.1	2,058.6	39.50	53.112				
4,900.0	4,301.0	4,464.7	4,301.0	37.8	20.0	-150.72	777.3	678.0	2,103.4	2,063.6	39.78	52.871				
4,934.1	4,335.0	4,498.8	4,335.0	37.8	20.1	-15.37	777.3	678.0	2,103.7	2,063.9	39.80	52.850				
5,000.0	4,400.9	4,564.7	4,400.9	37.9	20.1	-15.37	777.3	678.0	2,103.7	2,063.7	39.93	52.682				
5,100.0	4,500.9	4,664.7	4,500.9	37.9	20.2	-15.37	777.3	678.0	2,103.7	2,063.5	40.13	52.419				
5,200.0	4,600.9	4,764.7	4,600.9	38.0	20.4	-15.37	777.3	678.0	2,103.7	2,063.3	40.34	52.153				
5,300.0	4,700.9	4,864.7	4,700.9	38.0	20.5	-15.37	777.3	678.0	2,103.7	2,063.1	40.55	51.885				
5,400.0	4,800.9	4,964.7	4,800.9	38.1	20.6	-15.37	777.3	678.0	2,103.7	2,062.9	40.76	51.615				
5,500.0	4,900.9	5,064.7	4,900.9	38.1	20.7	-15.37	777.3	678.0	2,103.7	2,062.7	40.97	51.343				
5,600.0	5,000.9	5,164.7	5,000.9	38.2	20.8	-15.37	777.3	678.0	2,103.7	2,062.5	41.19	51.069				
5,700.0	5,100.9	5,264.7	5,100.9	38.3	20.9	-15.37	777.3	678.0	2,103.7	2,062.3	41.42	50.793				
5,800.0	5,200.9	5,364.7	5,200.9	38.3	21.0	-15.37	777.3	678.0	2,103.7	2,062.0	41.64	50.516				
5,900.0	5,300.9	5,464.7	5,300.9	38.4	21.1	-15.37	777.3	678.0	2,103.7	2,061.8	41.87	50.238				
6,000.0	5,400.9	5,564.7	5,400.9	38.4	21.3	-15.37	777.3	678.0	2,103.7	2,061.6	42.11	49.959				
6,100.0	5,500.9	5,664.7	5,500.9	38.5	21.4	-15.37	777.3	678.0	2,103.7	2,061.3	42.35	49.679				
6,200.0	5,600.9	5,764.7	5,600.9	38.6	21.5	-15.37	777.3	678.0	2,103.7	2,061.1	42.59	49.397				
6,300.0	5,700.9	5,864.7	5,700.9	38.6	21.6	-15.37	777.3	678.0	2,103.7	2,060.9	42.83	49.116				
6,400.0	5,800.9	5,964.7	5,800.9	38.7	21.7	-15.37	777.3	678.0	2,103.7	2,060.6	43.08	48.833				
6,500.0	5,900.9	6,064.7	5,900.9	38.8	21.9	-15.37	777.3	678.0	2,103.7	2,060.4	43.33	48.551				
6,600.0	6,000.9	6,164.7	6,000.9	38.9	22.0	-15.37	777.3	678.0	2,103.7	2,060.1	43.58	48.268				
6,700.0	6,100.9	6,264.7	6,100.9	38.9	22.1	-15.37	777.3	678.0	2,103.7	2,059.8	43.84	47.985				
6,800.0	6,200.9	6,364.7	6,200.9	39.0	22.3	-15.37	777.3	678.0	2,103.7	2,059.6	44.10	47.702				
6,900.0	6,300.9	6,464.7	6,300.9	39.1	22.4	-15.37	777.3	678.0	2,103.7	2,059.3	44.36	47.419				
7,000.0	6,400.9	6,564.7	6,400.9	39.1	22.5	-15.37	777.3	678.0	2,103.7	2,059.1	44.63	47.136				
7,100.0	6,500.9	6,664.7	6,500.9	39.2	22.7	-15.37	777.3	678.0	2,103.7	2,058.8	44.90	46.853				
7,200.0	6,600.9	6,764.7	6,600.9	39.3	22.8	-15.37	777.3	678.0	2,103.7	2,058.5	45.17	46.571				
7,300.0	6,700.9	6,864.7	6,700.9	39.4	22.9	-15.37	777.3	678.0	2,103.7	2,058.2	45.45	46.290				
7,400.0	6,800.9	6,964.7	6,800.9	39.5	23.1	-15.37	777.3	678.0	2,103.7	2,058.0	45.72	46.009				
7,500.0	6,900.9	7,064.7	6,900.9	39.5	23.2	-15.37	777.3	678.0	2,103.7	2,057.7	46.00	45.729				
7,600.0	7,000.9	7,164.7	7,000.9	39.6	23.4	-15.37	777.3	678.0	2,103.7	2,057.4	46.29	45.450				
7,637.2	7,038.1	7,201.9	7,038.1	39.7	23.4	-15.37	777.3	678.0	2,103.7	2,057.3	46.39	45.346				
7,700.0	7,100.9	7,217.8	7,054.0	39.7	23.4	-15.37	777.3	678.0	2,104.2	2,057.7	46.50	45.254				
7,718.1	7,119.0	7,217.8	7,054.0	39.7	23.4	-15.37	777.3	678.0	2,104.7	2,058.2	46.52	45.241				

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft					
Survey Program: 0-MWD													Offset Well Error:	0.0 ft					
Reference													Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
0.0	0.0	0.0	0.0	0.0	0.0	17.73	67.7	21.7	71.1										
100.0	100.0	100.0	100.0	0.1	0.1	17.73	67.7	21.7	71.1	70.9	0.19	374.059							
200.0	200.0	200.0	200.0	0.3	0.3	17.73	67.7	21.7	71.1	70.5	0.64	111.193							
300.0	300.0	300.0	300.0	0.5	0.5	17.73	67.7	21.7	71.1	70.0	1.09	65.302							
400.0	400.0	400.0	400.0	0.8	0.8	17.73	67.7	21.7	71.1	69.6	1.54	46.225							
500.0	500.0	500.0	500.0	1.0	1.0	17.73	67.7	21.7	71.1	69.1	1.99	35.774							
600.0	600.0	600.0	600.0	1.2	1.2	17.73	67.7	21.7	71.1	68.7	2.44	29.177							
700.0	700.0	700.0	700.0	1.4	1.4	17.73	67.7	21.7	71.1	68.2	2.89	24.634							
800.0	800.0	800.0	800.0	1.7	1.7	17.73	67.7	21.7	71.1	67.8	3.34	21.316							
900.0	900.0	900.0	900.0	1.9	1.9	17.73	67.7	21.7	71.1	67.3	3.79	18.785							
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	17.73	67.7	21.7	71.1	66.9	4.24	16.792							
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	17.73	67.7	21.7	71.1	66.4	4.69	15.181	CC, ES						
1,200.0	1,200.0	1,197.0	1,197.0	2.5	2.6	-118.12	69.2	23.7	74.4	69.3	5.10	14.577	SF						
1,300.0	1,299.6	1,293.4	1,293.1	2.7	2.8	-119.36	73.3	29.7	84.1	78.6	5.51	15.269							
1,400.0	1,398.8	1,388.6	1,387.5	2.9	3.0	-120.82	80.2	39.5	100.2	94.3	5.94	16.878							
1,500.0	1,497.1	1,481.9	1,479.4	3.2	3.2	-122.11	89.5	52.9	122.8	116.4	6.41	19.141							
1,600.0	1,594.3	1,572.9	1,568.1	3.5	3.5	-123.06	101.0	69.5	151.5	144.6	6.95	21.807							
1,700.0	1,690.2	1,661.2	1,653.1	3.9	3.9	-123.64	114.5	88.8	186.2	178.7	7.56	24.650							
1,800.0	1,784.4	1,752.3	1,740.2	4.4	4.3	-124.33	129.9	110.8	225.5	217.3	8.26	27.322							
1,900.0	1,876.8	1,842.5	1,826.4	5.1	4.7	-125.41	145.0	132.6	267.8	258.8	9.02	29.684							
2,000.0	1,967.1	1,930.9	1,910.9	5.8	5.1	-126.63	159.9	153.9	313.2	303.3	9.86	31.747							
2,100.0	2,054.9	2,017.3	1,993.5	6.7	5.6	-127.86	174.4	174.8	361.8	351.0	10.77	33.599							
2,200.0	2,140.2	2,101.3	2,073.8	7.7	6.0	-129.01	188.6	195.1	413.7	402.0	11.73	35.273							
2,300.0	2,222.6	2,182.9	2,151.8	8.8	6.5	-130.03	202.3	214.8	469.1	456.3	12.75	36.801							
2,400.0	2,301.9	2,261.8	2,227.2	10.0	6.9	-130.89	215.6	233.8	527.8	514.0	13.81	38.212							
2,500.0	2,377.9	2,337.7	2,299.7	11.4	7.3	-131.55	228.3	252.2	589.9	575.0	14.93	39.513							
2,600.0	2,450.5	2,410.5	2,369.2	12.8	7.7	-132.01	240.6	269.7	655.4	639.3	16.10	40.701							
2,700.0	2,519.3	2,479.9	2,435.6	14.4	8.1	-132.24	252.2	286.5	724.2	706.8	17.34	41.759							
2,800.0	2,584.2	2,545.7	2,498.5	16.1	8.5	-132.22	263.3	302.4	796.1	777.4	18.66	42.668							
2,841.2	2,609.8	2,571.8	2,523.4	16.8	8.6	-132.13	267.7	308.7	826.6	807.3	19.23	42.993							
2,900.0	2,645.8	2,608.5	2,558.5	17.8	8.9	-133.39	273.9	317.6	870.6	850.7	19.92	43.700							
3,000.0	2,707.1	2,671.0	2,618.3	19.6	9.2	-135.28	284.4	332.6	945.9	924.8	21.10	44.834							
3,100.0	2,768.3	2,733.5	2,678.0	21.4	9.6	-136.91	294.9	347.7	1,021.5	999.3	22.26	45.891							
3,192.9	2,825.2	2,791.5	2,733.4	23.1	9.9	-138.24	304.7	361.7	1,092.1	1,068.8	23.33	46.809							
3,200.0	2,829.6	2,796.0	2,737.7	23.2	9.9	-138.51	305.4	362.8	1,097.5	1,074.2	23.39	46.929							
3,300.0	2,893.1	2,860.6	2,799.4	24.8	10.3	-141.80	316.3	378.4	1,172.3	1,148.2	24.14	48.554							
3,400.0	2,960.7	2,928.8	2,864.6	26.3	10.7	-144.47	327.8	394.9	1,244.5	1,219.5	24.98	49.823							
3,500.0	3,032.0	3,000.4	2,933.1	27.7	11.1	-146.63	339.8	412.2	1,313.7	1,287.8	25.88	50.765							
3,600.0	3,106.8	3,075.3	3,004.7	29.1	11.6	-148.36	352.4	430.3	1,379.7	1,352.9	26.83	51.422							
3,700.0	3,185.0	3,153.2	3,079.1	30.3	12.0	-149.75	365.5	449.1	1,442.4	1,414.6	27.83	51.837							
3,800.0	3,266.4	3,233.9	3,156.2	31.5	12.5	-150.85	379.1	468.6	1,501.4	1,472.6	28.85	52.050							
3,900.0	3,350.7	3,317.1	3,235.8	32.6	13.0	-151.71	393.1	488.7	1,556.8	1,526.9	29.88	52.097							
4,000.0	3,437.7	3,402.7	3,317.6	33.5	13.5	-152.35	407.5	509.3	1,608.2	1,577.3	30.92	52.008							
4,100.0	3,527.2	3,490.5	3,401.4	34.4	14.0	-152.81	422.3	530.5	1,655.6	1,623.6	31.96	51.809							
4,200.0	3,618.9	3,580.1	3,487.1	35.2	14.5	-153.10	437.3	552.2	1,698.9	1,665.9	32.98	51.520							
4,300.0	3,712.5	3,671.3	3,574.3	35.8	15.1	-153.25	452.7	574.2	1,738.0	1,704.1	33.97	51.159							
4,400.0	3,807.9	3,764.0	3,662.8	36.4	15.6	-153.27	468.3	596.6	1,772.9	1,738.0	34.94	50.738							
4,500.0	3,904.7	3,868.8	3,763.1	36.8	16.2	-153.11	485.7	621.5	1,803.4	1,767.5	35.92	50.201							
4,600.0	4,002.6	4,001.3	3,891.7	37.2	16.8	-152.84	503.9	647.6	1,828.1	1,791.3	36.82	49.651							
4,700.0	4,101.5	4,138.2	4,026.6	37.5	17.2	-152.68	517.3	666.9	1,846.4	1,808.9	37.47	49.280							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 0-MWD													Valley Farms J - Valley Farms J4 - Wellbore #1 - Design #1		Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
4,800.0	4,201.1	4,278.2	4,165.8	37.7	17.5	-152.62	525.2	678.3	1,857.9	1,820.0	37.88	49.042				
4,900.0	4,301.0	4,413.4	4,301.0	37.8	17.7	-152.66	527.4	681.4	1,862.6	1,824.6	38.05	48.952				
4,934.1	4,335.0	4,447.4	4,335.0	37.8	17.7	-17.31	527.4	681.4	1,862.9	1,824.8	38.06	48.940				
5,000.0	4,400.9	4,513.4	4,400.9	37.9	17.8	-17.31	527.4	681.4	1,862.9	1,824.7	38.20	48.768				
5,100.0	4,500.9	4,613.4	4,500.9	37.9	17.9	-17.31	527.4	681.4	1,862.9	1,824.5	38.41	48.500				
5,200.0	4,600.9	4,713.4	4,600.9	38.0	18.1	-17.31	527.4	681.4	1,862.9	1,824.3	38.62	48.231				
5,300.0	4,700.9	4,813.4	4,700.9	38.0	18.2	-17.31	527.4	681.4	1,862.9	1,824.0	38.84	47.959				
5,400.0	4,800.9	4,913.4	4,800.9	38.1	18.3	-17.31	527.4	681.4	1,862.9	1,823.8	39.07	47.685				
5,500.0	4,900.9	5,013.4	4,900.9	38.1	18.4	-17.31	527.4	681.4	1,862.9	1,823.6	39.29	47.410				
5,600.0	5,000.9	5,113.4	5,000.9	38.2	18.6	-17.31	527.4	681.4	1,862.9	1,823.4	39.52	47.134				
5,700.0	5,100.9	5,213.4	5,100.9	38.3	18.7	-17.31	527.4	681.4	1,862.9	1,823.1	39.76	46.856				
5,800.0	5,200.9	5,313.4	5,200.9	38.3	18.8	-17.31	527.4	681.4	1,862.9	1,822.9	40.00	46.577				
5,900.0	5,300.9	5,413.4	5,300.9	38.4	18.9	-17.31	527.4	681.4	1,862.9	1,822.6	40.24	46.298				
6,000.0	5,400.9	5,513.4	5,400.9	38.4	19.1	-17.31	527.4	681.4	1,862.9	1,822.4	40.48	46.018				
6,100.0	5,500.9	5,613.4	5,500.9	38.5	19.2	-17.31	527.4	681.4	1,862.9	1,822.1	40.73	45.737				
6,200.0	5,600.9	5,713.4	5,600.9	38.6	19.4	-17.31	527.4	681.4	1,862.9	1,821.9	40.98	45.456				
6,300.0	5,700.9	5,813.4	5,700.9	38.6	19.5	-17.31	527.4	681.4	1,862.9	1,821.6	41.24	45.175				
6,400.0	5,800.9	5,913.4	5,800.9	38.7	19.6	-17.31	527.4	681.4	1,862.9	1,821.4	41.50	44.894				
6,500.0	5,900.9	6,013.4	5,900.9	38.8	19.8	-17.31	527.4	681.4	1,862.9	1,821.1	41.76	44.612				
6,600.0	6,000.9	6,113.4	6,000.9	38.9	19.9	-17.31	527.4	681.4	1,862.9	1,820.9	42.02	44.331				
6,700.0	6,100.9	6,213.4	6,100.9	38.9	20.1	-17.31	527.4	681.4	1,862.9	1,820.6	42.29	44.051				
6,800.0	6,200.9	6,313.4	6,200.9	39.0	20.2	-17.31	527.4	681.4	1,862.9	1,820.3	42.56	43.770				
6,900.0	6,300.9	6,413.4	6,300.9	39.1	20.4	-17.31	527.4	681.4	1,862.9	1,820.0	42.83	43.491				
7,000.0	6,400.9	6,513.4	6,400.9	39.1	20.5	-17.31	527.4	681.4	1,862.9	1,819.8	43.11	43.211				
7,100.0	6,500.9	6,613.4	6,500.9	39.2	20.7	-17.31	527.4	681.4	1,862.9	1,819.5	43.39	42.933				
7,200.0	6,600.9	6,713.4	6,600.9	39.3	20.8	-17.31	527.4	681.4	1,862.9	1,819.2	43.67	42.655				
7,300.0	6,700.9	6,813.4	6,700.9	39.4	21.0	-17.31	527.4	681.4	1,862.9	1,818.9	43.96	42.379				
7,400.0	6,800.9	6,913.4	6,800.9	39.5	21.1	-17.31	527.4	681.4	1,862.9	1,818.6	44.25	42.103				
7,500.0	6,900.9	7,013.4	6,900.9	39.5	21.3	-17.31	527.4	681.4	1,862.9	1,818.3	44.54	41.828				
7,600.0	7,000.9	7,113.4	7,000.9	39.6	21.4	-17.31	527.4	681.4	1,862.9	1,818.1	44.83	41.555				
7,651.7	7,052.7	7,165.1	7,052.7	39.7	21.5	-17.31	527.4	681.4	1,862.9	1,817.9	44.98	41.414				
7,700.0	7,100.9	7,182.4	7,070.0	39.7	21.6	-17.31	527.4	681.4	1,863.1	1,818.1	45.07	41.335				
7,718.1	7,119.0	7,182.4	7,070.0	39.7	21.6	-17.31	527.4	681.4	1,863.5	1,818.4	45.10	41.321				

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft					
Survey Program: 0-MWD													Offset Well Error:	0.0 ft					
Reference													Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
0.0	0.0	0.0	0.0	0.0	0.0	-0.70	87.5	-1.1	87.5										
100.0	100.0	100.0	100.0	0.1	0.1	-0.70	87.5	-1.1	87.5	87.3	0.19	460.148							
200.0	200.0	200.0	200.0	0.3	0.3	-0.70	87.5	-1.1	87.5	86.9	0.64	136.783							
300.0	300.0	300.0	300.0	0.5	0.5	-0.70	87.5	-1.1	87.5	86.4	1.09	80.331							
400.0	400.0	400.0	400.0	0.8	0.8	-0.70	87.5	-1.1	87.5	86.0	1.54	56.863							
500.0	500.0	500.0	500.0	1.0	1.0	-0.70	87.5	-1.1	87.5	85.5	1.99	44.007							
600.0	600.0	600.0	600.0	1.2	1.2	-0.70	87.5	-1.1	87.5	85.1	2.44	35.892							
700.0	700.0	700.0	700.0	1.4	1.4	-0.70	87.5	-1.1	87.5	84.6	2.89	30.304							
800.0	800.0	800.0	800.0	1.7	1.7	-0.70	87.5	-1.1	87.5	84.2	3.34	26.222							
900.0	900.0	900.0	900.0	1.9	1.9	-0.70	87.5	-1.1	87.5	83.7	3.79	23.108							
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.70	87.5	-1.1	87.5	83.3	4.24	20.656							
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.70	87.5	-1.1	87.5	82.8	4.69	18.674	CC, ES						
1,200.0	1,200.0	1,199.9	1,199.8	2.5	2.6	-138.85	87.4	-3.7	89.4	84.3	5.10	17.546	SF						
1,300.0	1,298.4	1,298.4	1,298.0	2.7	2.8	-146.34	87.2	-11.4	96.4	91.0	5.48	17.591							
1,400.0	1,398.8	1,394.2	1,393.0	2.9	3.0	-156.14	86.8	-23.7	111.2	105.3	5.88	18.898							
1,500.0	1,497.1	1,487.9	1,485.3	3.2	3.2	-165.57	86.2	-39.7	135.4	129.2	6.29	21.532							
1,600.0	1,594.3	1,580.8	1,576.8	3.5	3.5	-172.56	85.7	-56.2	167.7	161.0	6.68	25.091							
1,700.0	1,690.2	1,671.7	1,666.3	3.9	3.8	-177.42	85.2	-72.2	206.4	199.4	7.06	29.240							
1,800.0	1,784.4	1,760.5	1,753.6	4.4	4.1	-179.21	84.7	-88.0	250.8	243.4	7.43	33.779							
1,900.0	1,876.8	1,846.8	1,838.6	5.1	4.4	-176.81	84.2	-103.2	300.4	292.6	7.78	38.587							
2,000.0	1,967.1	1,930.4	1,920.9	5.8	4.7	-175.07	83.7	-118.0	354.6	346.4	8.15	43.529							
2,100.0	2,054.9	2,011.2	2,000.3	6.7	5.0	-173.76	83.3	-132.3	413.3	404.8	8.50	48.604							
2,200.0	2,140.2	2,088.8	2,076.7	7.7	5.2	-172.75	82.8	-146.1	476.1	467.3	8.86	53.724							
2,300.0	2,222.6	2,163.1	2,149.8	8.8	5.5	-171.92	82.4	-159.2	543.0	533.8	9.23	58.847							
2,400.0	2,301.9	2,233.8	2,219.5	10.0	5.8	-171.22	82.0	-171.7	613.6	604.0	9.60	63.935							
2,500.0	2,377.9	2,300.8	2,285.4	11.4	6.0	-170.58	81.6	-183.6	687.8	677.9	9.98	68.941							
2,600.0	2,450.5	2,363.9	2,347.5	12.8	6.3	-169.96	81.2	-194.8	765.4	755.0	10.37	73.800							
2,700.0	2,519.3	2,423.0	2,405.6	14.4	6.5	-169.33	80.9	-205.2	846.1	835.3	10.78	78.457							
2,800.0	2,584.2	2,477.7	2,459.5	16.1	6.7	-168.65	80.6	-214.9	929.7	918.5	11.23	82.815							
2,841.2	2,609.8	2,499.0	2,480.5	16.8	6.8	-168.35	80.5	-218.7	965.0	953.6	11.42	84.497							
2,900.0	2,645.8	2,528.9	2,509.9	17.8	6.9	-168.50	80.3	-224.0	1,015.6	1,003.8	11.82	85.921							
3,000.0	2,707.1	2,579.6	2,559.8	19.6	7.1	-168.72	80.0	-232.9	1,101.8	1,089.3	12.51	88.083							
3,100.0	2,768.3	2,630.4	2,609.8	21.4	7.3	-168.91	79.7	-241.9	1,187.9	1,174.7	13.20	89.965							
3,192.9	2,825.2	2,677.5	2,656.2	23.1	7.5	-169.06	79.5	-250.3	1,267.9	1,254.1	13.86	91.505							
3,200.0	2,829.6	2,681.2	2,659.8	23.2	7.5	-169.14	79.4	-250.9	1,274.0	1,260.1	13.92	91.538							
3,300.0	2,893.1	2,734.4	2,712.2	24.8	7.7	-170.09	79.1	-260.3	1,358.6	1,343.9	14.79	91.851							
3,400.0	2,960.7	2,792.0	2,768.9	26.3	7.9	-170.82	78.8	-270.5	1,440.4	1,424.7	15.68	91.847							
3,500.0	3,032.0	2,853.8	2,829.6	27.7	8.2	-171.38	78.4	-281.5	1,519.0	1,502.5	16.57	91.651							
3,600.0	3,106.8	2,919.5	2,894.3	29.1	8.4	-171.81	78.1	-293.1	1,594.4	1,576.9	17.45	91.347							
3,700.0	3,185.0	2,989.0	2,962.7	30.3	8.7	-172.14	77.7	-305.4	1,666.3	1,647.9	18.31	90.985							
3,800.0	3,266.4	3,062.1	3,034.6	31.5	9.0	-172.38	77.3	-318.3	1,734.4	1,715.3	19.14	90.596							
3,900.0	3,350.7	3,138.6	3,109.9	32.6	9.3	-172.56	76.8	-331.9	1,798.7	1,778.7	19.94	90.203							
4,000.0	3,437.7	3,218.3	3,188.4	33.5	9.6	-172.69	76.4	-346.0	1,858.9	1,838.2	20.70	89.820							
4,100.0	3,527.2	3,301.0	3,269.8	34.4	9.9	-172.76	75.9	-360.6	1,914.9	1,893.5	21.41	89.460							
4,200.0	3,618.9	3,386.4	3,353.8	35.2	10.3	-172.80	75.4	-375.7	1,966.6	1,944.5	22.06	89.127							
4,300.0	3,712.5	3,474.3	3,440.4	35.8	10.6	-172.79	74.9	-391.3	2,013.7	1,991.1	22.67	88.829							
4,400.0	3,807.9	3,564.6	3,529.2	36.4	11.0	-172.75	74.4	-407.3	2,056.3	2,033.0	23.22	88.570							
4,500.0	3,904.7	3,656.8	3,620.0	36.8	11.3	-172.68	73.9	-423.6	2,094.1	2,070.4	23.70	88.353							
4,600.0	4,002.6	3,750.8	3,712.5	37.2	11.7	-172.58	73.3	-440.2	2,127.0	2,102.9	24.12	88.180							
4,700.0	4,101.5	3,846.4	3,806.6	37.5	12.1	-172.44	72.8	-457.1	2,155.1	2,130.6	24.48	88.051							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Valley Farms J - Valley Farms J5 - Wellbore #1 - Design #1														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.0	4,201.1	3,943.2	3,901.8	37.7	12.5	172.27	72.2	-474.3	2,178.2	2,153.4	24.76	87.966		
4,900.0	4,301.0	4,041.0	3,998.1	37.8	12.9	172.07	71.7	-491.6	2,196.3	2,171.3	24.98	87.922		
4,934.1	4,335.0	4,074.4	4,031.0	37.8	13.0	-52.65	71.5	-497.5	2,201.3	2,176.2	25.04	87.921		
5,000.0	4,400.9	4,313.7	4,267.9	37.9	13.7	-53.19	70.4	-530.2	2,209.7	2,183.9	25.79	85.667		
5,100.0	4,500.9	4,546.9	4,500.9	37.9	14.1	-53.28	70.2	-535.9	2,210.1	2,183.8	26.32	83.960		
5,200.0	4,600.9	4,646.9	4,600.9	38.0	14.2	-53.28	70.2	-535.9	2,210.1	2,183.5	26.62	83.019		
5,300.0	4,700.9	4,746.9	4,700.9	38.0	14.4	-53.28	70.2	-535.9	2,210.1	2,183.2	26.92	82.086		
5,400.0	4,800.9	4,846.9	4,800.9	38.1	14.5	-53.28	70.2	-535.9	2,210.1	2,182.9	27.23	81.162		
5,500.0	4,900.9	4,946.9	4,900.9	38.1	14.7	-53.28	70.2	-535.9	2,210.1	2,182.5	27.54	80.248		
5,600.0	5,000.9	5,046.9	5,000.9	38.2	14.8	-53.28	70.2	-535.9	2,210.1	2,182.2	27.85	79.344		
5,700.0	5,100.9	5,146.9	5,100.9	38.3	15.0	-53.28	70.2	-535.9	2,210.1	2,181.9	28.17	78.449		
5,800.0	5,200.9	5,246.9	5,200.9	38.3	15.2	-53.28	70.2	-535.9	2,210.1	2,181.6	28.49	77.565		
5,900.0	5,300.9	5,346.9	5,300.9	38.4	15.3	-53.28	70.2	-535.9	2,210.1	2,181.3	28.82	76.692		
6,000.0	5,400.9	5,446.9	5,400.9	38.4	15.5	-53.28	70.2	-535.9	2,210.1	2,180.9	29.15	75.830		
6,100.0	5,500.9	5,546.9	5,500.9	38.5	15.6	-53.28	70.2	-535.9	2,210.1	2,180.6	29.48	74.980		
6,200.0	5,600.9	5,646.9	5,600.9	38.6	15.8	-53.28	70.2	-535.9	2,210.1	2,180.3	29.81	74.140		
6,300.0	5,700.9	5,746.9	5,700.9	38.6	16.0	-53.28	70.2	-535.9	2,210.1	2,179.9	30.15	73.312		
6,400.0	5,800.9	5,846.9	5,800.9	38.7	16.1	-53.28	70.2	-535.9	2,210.1	2,179.6	30.49	72.496		
6,500.0	5,900.9	5,946.9	5,900.9	38.8	16.3	-53.28	70.2	-535.9	2,210.1	2,179.3	30.83	71.691		
6,600.0	6,000.9	6,046.9	6,000.9	38.9	16.5	-53.28	70.2	-535.9	2,210.1	2,178.9	31.17	70.898		
6,700.0	6,100.9	6,146.9	6,100.9	38.9	16.7	-53.28	70.2	-535.9	2,210.1	2,178.6	31.52	70.116		
6,800.0	6,200.9	6,246.9	6,200.9	39.0	16.8	-53.28	70.2	-535.9	2,210.1	2,178.2	31.87	69.346		
6,900.0	6,300.9	6,346.9	6,300.9	39.1	17.0	-53.28	70.2	-535.9	2,210.1	2,177.9	32.22	68.588		
7,000.0	6,400.9	6,446.9	6,400.9	39.1	17.2	-53.28	70.2	-535.9	2,210.1	2,177.5	32.58	67.841		
7,100.0	6,500.9	6,546.9	6,500.9	39.2	17.4	-53.28	70.2	-535.9	2,210.1	2,177.2	32.93	67.106		
7,200.0	6,600.9	6,646.9	6,600.9	39.3	17.5	-53.28	70.2	-535.9	2,210.1	2,176.8	33.29	66.382		
7,300.0	6,700.9	6,746.9	6,700.9	39.4	17.7	-53.28	70.2	-535.9	2,210.1	2,176.4	33.65	65.669		
7,400.0	6,800.9	6,846.9	6,800.9	39.5	17.9	-53.28	70.2	-535.9	2,210.1	2,176.1	34.02	64.968		
7,500.0	6,900.9	6,946.9	6,900.9	39.5	18.1	-53.28	70.2	-535.9	2,210.1	2,175.7	34.38	64.278		
7,600.0	7,000.9	7,046.9	7,000.9	39.6	18.3	-53.28	70.2	-535.9	2,210.1	2,175.3	34.75	63.598		
7,700.0	7,100.9	7,146.9	7,100.9	39.7	18.5	-53.28	70.2	-535.9	2,210.1	2,175.0	35.12	62.930		
7,718.1	7,119.0	7,165.0	7,119.0	39.7	18.5	-53.28	70.2	-535.9	2,210.1	2,174.9	35.19	62.810		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft					
Survey Program: 0-MWD													Offset Well Error:	0.0 ft					
Reference													Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
0.0	0.0	0.0	0.0	0.0	0.0	-0.71	75.0	-0.9	75.0										
100.0	100.0	100.0	100.0	0.1	0.1	-0.71	75.0	-0.9	75.0	74.8	0.19	394.440							
200.0	200.0	200.0	200.0	0.3	0.3	-0.71	75.0	-0.9	75.0	74.4	0.64	117.251							
300.0	300.0	300.0	300.0	0.5	0.5	-0.71	75.0	-0.9	75.0	73.9	1.09	68.860							
400.0	400.0	400.0	400.0	0.8	0.8	-0.71	75.0	-0.9	75.0	73.5	1.54	48.743							
500.0	500.0	500.0	500.0	1.0	1.0	-0.71	75.0	-0.9	75.0	73.0	1.99	37.723							
600.0	600.0	600.0	600.0	1.2	1.2	-0.71	75.0	-0.9	75.0	72.6	2.44	30.767							
700.0	700.0	700.0	700.0	1.4	1.4	-0.71	75.0	-0.9	75.0	72.1	2.89	25.977							
800.0	800.0	800.0	800.0	1.7	1.7	-0.71	75.0	-0.9	75.0	71.7	3.34	22.477							
900.0	900.0	900.0	900.0	1.9	1.9	-0.71	75.0	-0.9	75.0	71.2	3.79	19.809							
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.71	75.0	-0.9	75.0	70.8	4.24	17.707							
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.71	75.0	-0.9	75.0	70.3	4.69	16.008	CC, ES						
1,200.0	1,200.0	1,201.5	1,201.5	2.5	2.6	-139.29	73.8	-3.4	75.9	70.8	5.09	14.896							
1,300.0	1,299.6	1,301.9	1,301.5	2.7	2.8	-148.23	70.4	-10.5	79.9	74.4	5.47	14.603	SF						
1,400.0	1,398.8	1,400.1	1,398.9	2.9	3.0	-160.51	64.8	-22.1	90.2	84.3	5.86	15.397							
1,500.0	1,497.1	1,495.4	1,492.6	3.2	3.2	-172.69	57.3	-37.6	109.8	103.6	6.27	17.525							
1,600.0	1,594.3	1,589.3	1,584.7	3.5	3.5	178.34	49.3	-54.0	138.5	131.8	6.68	20.727							
1,700.0	1,690.2	1,681.6	1,675.2	3.9	3.8	172.55	41.5	-70.2	174.3	167.2	7.10	24.531							
1,800.0	1,784.4	1,771.9	1,763.8	4.4	4.1	168.83	33.8	-86.1	215.7	208.2	7.53	28.642							
1,900.0	1,876.8	1,860.1	1,850.3	5.1	4.4	166.40	26.3	-101.6	262.2	254.2	7.97	32.898							
2,000.0	1,967.1	1,945.9	1,934.4	5.8	4.8	164.77	19.0	-116.7	313.3	304.8	8.43	37.162							
2,100.0	2,054.9	2,029.1	2,016.0	6.7	5.1	163.63	12.0	-131.3	368.7	359.8	8.90	41.432							
2,200.0	2,140.2	2,109.4	2,094.8	7.7	5.4	162.80	5.2	-145.4	428.2	418.8	9.39	45.615							
2,300.0	2,222.6	2,186.6	2,170.6	8.8	5.7	162.14	-1.4	-159.0	491.7	481.8	9.90	49.684							
2,400.0	2,301.9	2,260.6	2,243.1	10.0	6.0	161.57	-7.7	-171.9	559.0	548.5	10.43	53.602							
2,500.0	2,377.9	2,331.1	2,312.2	11.4	6.3	161.04	-13.7	-184.3	629.8	618.8	10.98	57.335							
2,600.0	2,450.5	2,397.9	2,377.8	12.8	6.5	160.48	-19.3	-196.1	704.1	692.5	11.57	60.833							
2,700.0	2,519.3	2,460.8	2,439.5	14.4	6.8	159.86	-24.7	-207.1	781.6	769.4	12.21	64.031							
2,800.0	2,584.2	2,519.7	2,497.3	16.1	7.0	159.14	-29.7	-217.5	862.2	849.3	12.90	66.857							
2,841.2	2,609.8	2,542.8	2,519.9	16.8	7.1	158.81	-31.6	-221.5	896.2	883.0	13.20	67.887							
2,900.0	2,645.8	2,575.2	2,551.6	17.8	7.3	159.24	-34.4	-227.2	945.2	931.5	13.67	69.162							
3,000.0	2,707.1	2,630.3	2,605.7	19.6	7.5	159.88	-39.1	-236.9	1,028.4	1,013.9	14.46	71.113							
3,100.0	2,768.3	2,685.3	2,659.7	21.4	7.7	160.43	-43.7	-246.5	1,111.7	1,096.4	15.26	72.832							
3,192.9	2,825.2	2,736.5	2,709.9	23.1	7.9	160.87	-48.1	-255.5	1,189.0	1,173.0	16.01	74.252							
3,200.0	2,829.6	2,740.4	2,713.7	23.2	8.0	161.00	-48.4	-256.2	1,194.9	1,178.9	16.07	74.364							
3,300.0	2,893.1	2,797.9	2,770.1	24.8	8.2	162.66	-53.3	-266.3	1,276.6	1,259.8	16.86	75.702							
3,400.0	2,960.7	2,859.5	2,830.5	26.3	8.5	163.95	-58.5	-277.1	1,355.4	1,337.7	17.72	76.489							
3,500.0	3,032.0	2,925.0	2,894.7	27.7	8.7	164.95	-64.1	-288.6	1,430.9	1,412.3	18.61	76.891							
3,600.0	3,106.8	2,994.3	2,962.7	29.1	9.0	165.74	-70.0	-300.8	1,503.0	1,483.5	19.51	77.022							
3,700.0	3,185.0	3,067.1	3,034.1	30.3	9.3	166.34	-76.1	-313.6	1,571.6	1,551.1	20.42	76.962							
3,800.0	3,266.4	3,143.2	3,108.8	31.5	9.7	166.81	-82.6	-327.0	1,636.3	1,615.0	21.31	76.772							
3,900.0	3,350.7	3,222.5	3,186.5	32.6	10.0	167.16	-89.3	-340.9	1,697.1	1,674.9	22.19	76.490							
4,000.0	3,437.7	3,304.8	3,267.2	33.5	10.4	167.41	-96.3	-355.3	1,753.7	1,730.7	23.03	76.148							
4,100.0	3,527.2	3,389.7	3,350.5	34.4	10.7	167.57	-103.5	-370.2	1,806.1	1,782.3	23.84	75.765							
4,200.0	3,618.9	3,477.1	3,436.2	35.2	11.1	167.66	-111.0	-385.6	1,854.1	1,829.5	24.60	75.358							
4,300.0	3,712.5	3,566.7	3,524.1	35.8	11.5	167.68	-118.6	-401.3	1,897.6	1,872.3	25.32	74.939							
4,400.0	3,807.9	3,658.3	3,614.0	36.4	11.9	167.64	-126.4	-417.4	1,936.5	1,910.5	25.99	74.514							
4,500.0	3,904.7	3,751.7	3,705.6	36.8	12.3	167.54	-134.3	-433.8	1,970.6	1,944.0	26.60	74.089							
4,600.0	4,002.6	3,846.5	3,798.6	37.2	12.7	167.39	-142.3	-450.5	2,000.0	1,972.9	27.15	73.668							
4,700.0	4,101.5	3,942.6	3,892.8	37.5	13.1	167.18	-150.5	-467.4	2,024.5	1,996.9	27.64	73.249							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference													Warning	
Reference				Offset			Semi Major Axis			Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.0	4,201.1	4,039.6	3,987.9	37.7	13.5	166.91	-158.7	-484.4	2,044.2	2,016.1	28.07	72.833		
4,900.0	4,301.0	4,184.7	4,130.6	37.8	14.1	166.41	-170.3	-508.3	2,058.5	2,029.9	28.61	71.964		
4,934.1	4,335.0	4,265.8	4,210.9	37.8	14.3	-58.46	-175.0	-518.0	2,061.3	2,032.5	28.81	71.547		
5,000.0	4,400.9	4,424.8	4,369.6	37.9	14.6	-58.72	-179.8	-527.9	2,063.8	2,034.5	29.25	70.560		
5,100.0	4,500.9	4,556.3	4,500.9	37.9	14.8	-58.74	-180.1	-528.6	2,063.9	2,034.4	29.56	69.827		
5,200.0	4,600.9	4,656.3	4,600.9	38.0	14.9	-58.74	-180.1	-528.6	2,063.9	2,034.1	29.82	69.220		
5,300.0	4,700.9	4,756.3	4,700.9	38.0	15.1	-58.74	-180.1	-528.6	2,063.9	2,033.9	30.08	68.614		
5,400.0	4,800.9	4,856.3	4,800.9	38.1	15.2	-58.74	-180.1	-528.6	2,063.9	2,033.6	30.35	68.009		
5,500.0	4,900.9	4,956.3	4,900.9	38.1	15.3	-58.74	-180.1	-528.6	2,063.9	2,033.3	30.62	67.404		
5,600.0	5,000.9	5,056.3	5,000.9	38.2	15.5	-58.74	-180.1	-528.6	2,063.9	2,033.0	30.90	66.802		
5,700.0	5,100.9	5,156.3	5,100.9	38.3	15.6	-58.74	-180.1	-528.6	2,063.9	2,032.8	31.18	66.202		
5,800.0	5,200.9	5,256.3	5,200.9	38.3	15.8	-58.74	-180.1	-528.6	2,063.9	2,032.5	31.46	65.604		
5,900.0	5,300.9	5,356.3	5,300.9	38.4	15.9	-58.74	-180.1	-528.6	2,063.9	2,032.2	31.75	65.009		
6,000.0	5,400.9	5,456.3	5,400.9	38.4	16.1	-58.74	-180.1	-528.6	2,063.9	2,031.9	32.04	64.418		
6,100.0	5,500.9	5,556.3	5,500.9	38.5	16.2	-58.74	-180.1	-528.6	2,063.9	2,031.6	32.33	63.830		
6,200.0	5,600.9	5,656.3	5,600.9	38.6	16.4	-58.74	-180.1	-528.6	2,063.9	2,031.3	32.63	63.246		
6,300.0	5,700.9	5,756.3	5,700.9	38.6	16.5	-58.74	-180.1	-528.6	2,063.9	2,031.0	32.94	62.666		
6,400.0	5,800.9	5,856.3	5,800.9	38.7	16.7	-58.74	-180.1	-528.6	2,063.9	2,030.7	33.24	62.091		
6,500.0	5,900.9	5,956.3	5,900.9	38.8	16.8	-58.74	-180.1	-528.6	2,063.9	2,030.4	33.55	61.520		
6,600.0	6,000.9	6,056.3	6,000.9	38.9	17.0	-58.74	-180.1	-528.6	2,063.9	2,030.1	33.86	60.953		
6,700.0	6,100.9	6,156.3	6,100.9	38.9	17.2	-58.74	-180.1	-528.6	2,063.9	2,029.8	34.18	60.392		
6,800.0	6,200.9	6,256.3	6,200.9	39.0	17.3	-58.74	-180.1	-528.6	2,063.9	2,029.4	34.49	59.836		
6,900.0	6,300.9	6,356.3	6,300.9	39.1	17.5	-58.74	-180.1	-528.6	2,063.9	2,029.1	34.81	59.285		
7,000.0	6,400.9	6,456.3	6,400.9	39.1	17.7	-58.74	-180.1	-528.6	2,063.9	2,028.8	35.14	58.740		
7,100.0	6,500.9	6,556.3	6,500.9	39.2	17.8	-58.74	-180.1	-528.6	2,063.9	2,028.5	35.46	58.200		
7,200.0	6,600.9	6,656.3	6,600.9	39.3	18.0	-58.74	-180.1	-528.6	2,063.9	2,028.1	35.79	57.665		
7,300.0	6,700.9	6,756.3	6,700.9	39.4	18.2	-58.74	-180.1	-528.6	2,063.9	2,027.8	36.12	57.136		
7,400.0	6,800.9	6,856.3	6,800.9	39.5	18.3	-58.74	-180.1	-528.6	2,063.9	2,027.5	36.46	56.613		
7,500.0	6,900.9	6,956.3	6,900.9	39.5	18.5	-58.74	-180.1	-528.6	2,063.9	2,027.1	36.79	56.096		
7,600.0	7,000.9	7,056.3	7,000.9	39.6	18.7	-58.74	-180.1	-528.6	2,063.9	2,026.8	37.13	55.585		
7,700.0	7,100.9	7,156.3	7,100.9	39.7	18.9	-58.74	-180.1	-528.6	2,063.9	2,026.5	37.47	55.079		
7,718.1	7,119.0	7,174.3	7,119.0	39.7	18.9	-58.74	-180.1	-528.6	2,063.9	2,026.4	37.53	54.988		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft					
Survey Program: 0-MWD													Offset Well Error:	0.0 ft					
Reference													Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
0.0	0.0	0.0	0.0	0.0	0.0	-0.72	62.5	-0.8	62.5										
100.0	100.0	100.0	100.0	0.1	0.1	-0.72	62.5	-0.8	62.5	62.3	0.19	328.542							
200.0	200.0	200.0	200.0	0.3	0.3	-0.72	62.5	-0.8	62.5	61.8	0.64	97.662							
300.0	300.0	300.0	300.0	0.5	0.5	-0.72	62.5	-0.8	62.5	61.4	1.09	57.356							
400.0	400.0	400.0	400.0	0.8	0.8	-0.72	62.5	-0.8	62.5	60.9	1.54	40.600							
500.0	500.0	500.0	500.0	1.0	1.0	-0.72	62.5	-0.8	62.5	60.5	1.99	31.421							
600.0	600.0	600.0	600.0	1.2	1.2	-0.72	62.5	-0.8	62.5	60.0	2.44	25.627							
700.0	700.0	700.0	700.0	1.4	1.4	-0.72	62.5	-0.8	62.5	59.6	2.89	21.637							
800.0	800.0	800.0	800.0	1.7	1.7	-0.72	62.5	-0.8	62.5	59.1	3.34	18.722							
900.0	900.0	900.0	900.0	1.9	1.9	-0.72	62.5	-0.8	62.5	58.7	3.79	16.499							
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.72	62.5	-0.8	62.5	58.2	4.24	14.748							
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.72	62.5	-0.8	62.5	57.8	4.69	13.333	CC						
1,103.9	1,103.9	1,104.0	1,104.0	2.4	2.4	-136.09	62.5	-0.8	62.5	57.8	4.70	13.288							
1,200.0	1,200.0	1,202.1	1,202.1	2.5	2.5	-139.62	60.6	-2.8	62.7	57.6	5.09	12.312	ES						
1,300.0	1,299.6	1,303.3	1,302.9	2.7	2.7	-149.76	55.1	-8.7	64.6	59.2	5.46	11.847	SF						
1,400.0	1,398.8	1,402.8	1,401.6	2.9	3.0	-164.26	46.1	-18.3	71.9	66.1	5.83	12.323							
1,500.0	1,497.1	1,499.8	1,496.9	3.2	3.2	-178.90	34.0	-31.3	87.9	81.7	6.24	14.085							
1,600.0	1,594.3	1,594.0	1,588.5	3.5	3.5	169.37	19.2	-47.1	113.7	107.1	6.70	16.983							
1,700.0	1,690.2	1,686.8	1,678.6	3.9	3.8	161.93	3.8	-63.5	147.6	140.4	7.20	20.508							
1,800.0	1,784.4	1,778.0	1,767.0	4.4	4.2	157.62	-11.3	-79.7	187.2	179.5	7.73	24.223							
1,900.0	1,876.8	1,867.4	1,853.7	5.1	4.6	155.08	-26.1	-95.6	231.6	223.3	8.30	27.921							
2,000.0	1,967.1	1,954.6	1,938.4	5.8	5.0	153.57	-40.6	-111.0	280.4	271.5	8.91	31.477							
2,100.0	2,054.9	2,039.5	2,020.8	6.7	5.3	152.64	-54.6	-126.1	333.1	323.6	9.55	34.895							
2,200.0	2,140.2	2,121.9	2,100.7	7.7	5.7	152.04	-68.3	-140.7	389.8	379.6	10.22	38.132							
2,300.0	2,222.6	2,201.5	2,177.8	8.8	6.1	151.62	-81.5	-154.8	450.3	439.3	10.93	41.186							
2,400.0	2,301.9	2,278.0	2,252.1	10.0	6.4	151.27	-94.2	-168.4	514.4	502.7	11.68	44.043							
2,500.0	2,377.9	2,351.3	2,323.2	11.4	6.8	150.92	-106.3	-181.4	582.0	569.5	12.46	46.698							
2,600.0	2,450.5	2,421.2	2,391.0	12.8	7.1	150.52	-117.9	-193.8	653.0	639.7	13.29	49.131							
2,700.0	2,519.3	2,487.5	2,455.3	14.4	7.5	150.02	-128.9	-205.6	727.3	713.1	14.17	51.309							
2,800.0	2,584.2	2,550.0	2,515.9	16.1	7.8	149.39	-139.2	-216.6	804.6	789.5	15.13	53.186							
2,841.2	2,609.8	2,574.6	2,539.8	16.8	7.9	149.08	-143.3	-221.0	837.4	821.8	15.55	53.861							
2,900.0	2,645.8	2,609.2	2,573.4	17.8	8.0	149.78	-149.1	-227.2	884.5	868.4	16.10	54.933							
3,000.0	2,707.1	2,668.1	2,630.5	19.6	8.3	150.83	-158.8	-237.6	964.6	947.6	17.05	56.586							
3,100.0	2,768.3	2,727.0	2,687.6	21.4	8.6	151.72	-168.6	-248.0	1,044.9	1,026.9	18.00	58.057							
3,192.9	2,825.2	2,781.6	2,740.7	23.1	8.9	152.43	-177.6	-257.7	1,119.5	1,100.7	18.88	59.284							
3,200.0	2,829.6	2,785.9	2,744.8	23.2	8.9	152.61	-178.3	-258.5	1,125.3	1,106.3	18.94	59.415							
3,300.0	2,893.1	2,847.0	2,804.1	24.8	9.2	154.87	-188.5	-269.3	1,204.1	1,184.3	19.72	61.059							
3,400.0	2,960.7	2,912.0	2,867.1	26.3	9.6	156.65	-199.3	-280.9	1,279.9	1,259.3	20.58	62.178							
3,500.0	3,032.0	2,980.7	2,933.8	27.7	9.9	158.04	-210.6	-293.0	1,352.5	1,331.0	21.51	62.885							
3,600.0	3,106.8	3,052.9	3,003.8	29.1	10.3	159.13	-222.6	-305.8	1,421.7	1,399.2	22.47	63.276							
3,700.0	3,185.0	3,128.4	3,077.0	30.3	10.6	159.99	-235.1	-319.2	1,487.3	1,463.8	23.45	63.425							
3,800.0	3,266.4	3,206.9	3,153.2	31.5	11.0	160.64	-248.1	-333.2	1,549.1	1,524.6	24.44	63.390							
3,900.0	3,350.7	3,288.3	3,232.2	32.6	11.5	161.13	-261.6	-347.6	1,606.9	1,581.5	25.42	63.215							
4,000.0	3,437.7	3,372.4	3,313.8	33.5	11.9	161.48	-275.6	-362.5	1,660.7	1,634.3	26.39	62.934							
4,100.0	3,527.2	3,458.9	3,397.7	34.4	12.3	161.71	-289.9	-377.9	1,710.2	1,682.9	27.33	62.573							
4,200.0	3,618.9	3,547.6	3,483.7	35.2	12.8	161.83	-304.6	-393.6	1,755.4	1,727.1	28.24	62.152							
4,300.0	3,712.5	3,638.2	3,571.6	35.8	13.2	161.86	-319.6	-409.7	1,796.2	1,767.0	29.12	61.684							
4,400.0	3,807.9	3,730.5	3,661.1	36.4	13.7	161.79	-334.9	-426.0	1,832.4	1,802.5	29.95	61.180							
4,500.0	3,904.7	3,824.2	3,752.0	36.8	14.2	161.64	-350.4	-442.7	1,864.1	1,833.4	30.74	60.648							
4,600.0	4,002.6	3,919.1	3,844.1	37.2	14.7	161.41	-366.2	-459.5	1,891.2	1,859.7	31.47	60.093							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft		
Survey Program: 0-MWD													Valley Farms J - Valley Farms J7 - Wellbore #1 - Design #1		Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
4,700.0	4,101.5	4,014.9	3,937.1	37.5	15.2	161.09	-382.1	-476.5	1,913.6	1,881.4	32.15	59.516				
4,800.0	4,201.1	4,146.3	4,065.0	37.7	15.7	160.55	-402.3	-498.1	1,930.8	1,897.9	32.88	58.723				
4,900.0	4,301.0	4,303.2	4,220.0	37.8	16.2	160.04	-418.7	-515.7	1,940.5	1,907.1	33.42	58.069				
4,934.1	4,335.0	4,357.4	4,274.0	37.8	16.3	-64.73	-422.4	-519.6	1,942.1	1,908.5	33.53	57.920				
5,000.0	4,400.9	4,463.2	4,379.6	37.9	16.4	-64.89	-426.5	-524.1	1,943.5	1,909.6	33.83	57.451				
5,100.0	4,500.9	4,584.6	4,500.9	37.9	16.6	-64.92	-427.1	-524.7	1,943.7	1,909.6	34.09	57.010				
5,200.0	4,600.9	4,684.6	4,600.9	38.0	16.7	-64.92	-427.1	-524.7	1,943.7	1,909.4	34.31	56.642				
5,300.0	4,700.9	4,784.6	4,700.9	38.0	16.8	-64.92	-427.1	-524.7	1,943.7	1,909.1	34.54	56.273				
5,400.0	4,800.9	4,884.6	4,800.9	38.1	17.0	-64.92	-427.1	-524.7	1,943.7	1,908.9	34.77	55.902				
5,500.0	4,900.9	4,984.6	4,900.9	38.1	17.1	-64.92	-427.1	-524.7	1,943.7	1,908.7	35.00	55.529				
5,600.0	5,000.9	5,084.6	5,000.9	38.2	17.2	-64.92	-427.1	-524.7	1,943.7	1,908.4	35.24	55.154				
5,700.0	5,100.9	5,184.6	5,100.9	38.3	17.3	-64.92	-427.1	-524.7	1,943.7	1,908.2	35.48	54.778				
5,800.0	5,200.9	5,284.6	5,200.9	38.3	17.5	-64.92	-427.1	-524.7	1,943.7	1,907.9	35.73	54.400				
5,900.0	5,300.9	5,384.6	5,300.9	38.4	17.6	-64.92	-427.1	-524.7	1,943.7	1,907.7	35.98	54.023				
6,000.0	5,400.9	5,484.6	5,400.9	38.4	17.7	-64.92	-427.1	-524.7	1,943.7	1,907.4	36.23	53.644				
6,100.0	5,500.9	5,584.6	5,500.9	38.5	17.9	-64.92	-427.1	-524.7	1,943.7	1,907.2	36.49	53.266				
6,200.0	5,600.9	5,684.6	5,600.9	38.6	18.0	-64.92	-427.1	-524.7	1,943.7	1,906.9	36.75	52.887				
6,300.0	5,700.9	5,784.6	5,700.9	38.6	18.1	-64.92	-427.1	-524.7	1,943.7	1,906.7	37.02	52.509				
6,400.0	5,800.9	5,884.6	5,800.9	38.7	18.3	-64.92	-427.1	-524.7	1,943.7	1,906.4	37.28	52.131				
6,500.0	5,900.9	5,984.6	5,900.9	38.8	18.4	-64.92	-427.1	-524.7	1,943.7	1,906.1	37.56	51.754				
6,600.0	6,000.9	6,084.6	6,000.9	38.9	18.5	-64.92	-427.1	-524.7	1,943.7	1,905.8	37.83	51.377				
6,700.0	6,100.9	6,184.6	6,100.9	38.9	18.7	-64.92	-427.1	-524.7	1,943.7	1,905.6	38.11	51.002				
6,800.0	6,200.9	6,284.6	6,200.9	39.0	18.8	-64.92	-427.1	-524.7	1,943.7	1,905.3	38.39	50.627				
6,900.0	6,300.9	6,384.6	6,300.9	39.1	19.0	-64.92	-427.1	-524.7	1,943.7	1,905.0	38.68	50.255				
7,000.0	6,400.9	6,484.6	6,400.9	39.1	19.1	-64.92	-427.1	-524.7	1,943.7	1,904.7	38.96	49.883				
7,100.0	6,500.9	6,584.6	6,500.9	39.2	19.3	-64.92	-427.1	-524.7	1,943.7	1,904.4	39.26	49.513				
7,200.0	6,600.9	6,684.6	6,600.9	39.3	19.4	-64.92	-427.1	-524.7	1,943.7	1,904.1	39.55	49.145				
7,300.0	6,700.9	6,784.6	6,700.9	39.4	19.6	-64.92	-427.1	-524.7	1,943.7	1,903.8	39.85	48.779				
7,400.0	6,800.9	6,884.6	6,800.9	39.5	19.7	-64.92	-427.1	-524.7	1,943.7	1,903.5	40.15	48.415				
7,500.0	6,900.9	6,984.6	6,900.9	39.5	19.9	-64.92	-427.1	-524.7	1,943.7	1,903.2	40.45	48.053				
7,600.0	7,000.9	7,084.6	7,000.9	39.6	20.1	-64.92	-427.1	-524.7	1,943.7	1,902.9	40.75	47.693				
7,700.0	7,100.9	7,184.6	7,100.9	39.7	20.2	-64.92	-427.1	-524.7	1,943.7	1,902.6	41.06	47.336				
7,718.1	7,119.0	7,202.6	7,119.0	39.7	20.2	-64.92	-427.1	-524.7	1,943.7	1,902.6	41.12	47.271				

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Valley Farms J - Valley Farms J8 - Wellbore #1 - Design #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-0.71	50.0	-0.6	50.0					
100.0	100.0	100.0	100.0	0.1	0.1	-0.71	50.0	-0.6	50.0	49.8	0.19	262.833		
200.0	200.0	200.0	200.0	0.3	0.3	-0.71	50.0	-0.6	50.0	49.3	0.64	78.129		
300.0	300.0	300.0	300.0	0.5	0.5	-0.71	50.0	-0.6	50.0	48.9	1.09	45.885		
400.0	400.0	400.0	400.0	0.8	0.8	-0.71	50.0	-0.6	50.0	48.4	1.54	32.480		
500.0	500.0	500.0	500.0	1.0	1.0	-0.71	50.0	-0.6	50.0	48.0	1.99	25.136		
600.0	600.0	600.0	600.0	1.2	1.2	-0.71	50.0	-0.6	50.0	47.5	2.44	20.501		
700.0	700.0	700.0	700.0	1.4	1.4	-0.71	50.0	-0.6	50.0	47.1	2.89	17.309		
800.0	800.0	800.0	800.0	1.7	1.7	-0.71	50.0	-0.6	50.0	46.6	3.34	14.978		
900.0	900.0	900.0	900.0	1.9	1.9	-0.71	50.0	-0.6	50.0	46.2	3.79	13.199		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.71	50.0	-0.6	50.0	45.7	4.24	11.799		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.71	50.0	-0.6	50.0	45.3	4.69	10.667		
1,200.0	1,200.0	1,202.0	1,202.0	2.5	2.5	-140.05	47.8	-2.2	49.8	44.7	5.09	9.792		
1,207.4	1,207.3	1,209.5	1,209.5	2.6	2.6	-140.66	47.4	-2.4	49.8	44.7	5.12	9.739 CC, ES		
1,300.0	1,299.6	1,303.4	1,303.0	2.7	2.7	-151.75	41.2	-6.9	50.8	45.3	5.45	9.320 SF		
1,400.0	1,398.8	1,403.3	1,402.0	2.9	2.9	-168.73	30.4	-14.6	56.6	50.7	5.82	9.724		
1,500.0	1,497.1	1,501.2	1,498.3	3.2	3.2	174.48	15.8	-25.0	70.9	64.6	6.22	11.384		
1,600.0	1,594.3	1,596.5	1,590.9	3.5	3.5	161.66	-2.3	-37.9	94.5	87.8	6.71	14.098		
1,700.0	1,690.2	1,688.7	1,679.5	3.9	3.9	152.81	-23.3	-52.9	126.6	119.4	7.28	17.391		
1,800.0	1,784.4	1,779.8	1,766.0	4.4	4.3	147.08	-46.4	-69.3	165.4	157.5	7.94	20.827		
1,900.0	1,876.8	1,869.6	1,851.4	5.1	4.7	143.97	-69.1	-85.5	208.8	200.2	8.67	24.091		
2,000.0	1,967.1	1,957.7	1,935.0	5.8	5.2	142.29	-91.5	-101.5	256.1	246.7	9.46	27.066		
2,100.0	2,054.9	2,043.7	2,016.8	6.7	5.6	141.39	-113.3	-117.0	307.1	296.8	10.30	29.803		
2,200.0	2,140.2	2,127.5	2,096.5	7.7	6.1	140.92	-134.5	-132.2	361.5	350.3	11.20	32.277		
2,300.0	2,222.6	2,208.9	2,173.7	8.8	6.6	140.67	-155.1	-146.9	419.3	407.2	12.14	34.528		
2,400.0	2,301.9	2,287.5	2,248.5	10.0	7.0	140.50	-175.1	-161.1	480.5	467.4	13.14	36.577		
2,500.0	2,377.9	2,363.2	2,320.4	11.4	7.5	140.33	-194.3	-174.8	545.1	530.9	14.18	38.442		
2,600.0	2,450.5	2,435.8	2,389.4	12.8	7.9	140.11	-212.7	-187.9	612.9	597.6	15.27	40.131		
2,700.0	2,519.3	2,505.1	2,455.2	14.4	8.3	139.77	-230.3	-200.4	683.8	667.4	16.42	41.636		
2,800.0	2,584.2	2,570.8	2,517.7	16.1	8.7	139.29	-246.9	-212.3	757.7	740.1	17.65	42.937		
2,841.2	2,609.8	2,596.9	2,542.5	16.8	8.9	139.03	-253.5	-217.0	789.0	770.8	18.18	43.411		
2,900.0	2,645.8	2,633.6	2,577.3	17.8	9.1	139.97	-262.8	-223.6	834.1	815.3	18.86	44.237		
3,000.0	2,707.1	2,696.0	2,636.7	19.6	9.5	141.37	-278.7	-234.9	911.0	891.0	20.01	45.524		
3,100.0	2,768.3	2,758.4	2,696.0	21.4	9.9	142.56	-294.5	-246.2	988.1	966.9	21.17	46.676		
3,192.9	2,825.2	2,816.4	2,751.1	23.1	10.2	143.52	-309.2	-256.7	1,059.8	1,037.5	22.24	47.645		
3,200.0	2,829.6	2,820.8	2,755.3	23.2	10.2	143.74	-310.3	-257.5	1,065.3	1,043.0	22.31	47.758		
3,300.0	2,893.1	2,885.4	2,816.6	24.8	10.6	146.49	-326.7	-269.2	1,141.1	1,117.9	23.18	49.236		
3,400.0	2,960.7	2,953.5	2,881.3	26.3	11.1	148.67	-343.9	-281.5	1,214.0	1,189.8	24.13	50.306		
3,500.0	3,032.0	3,025.0	2,949.3	27.7	11.5	150.40	-362.1	-294.4	1,283.8	1,258.6	25.16	51.034		
3,600.0	3,106.8	3,099.6	3,020.2	29.1	12.0	151.76	-381.0	-307.9	1,350.2	1,324.0	26.23	51.479		
3,700.0	3,185.0	3,177.3	3,094.0	30.3	12.5	152.83	-400.7	-321.9	1,413.2	1,385.9	27.34	51.694		
3,800.0	3,266.4	3,257.7	3,170.5	31.5	13.0	153.64	-421.1	-336.5	1,472.5	1,444.0	28.47	51.727		
3,900.0	3,350.7	3,340.7	3,249.3	32.6	13.5	154.25	-442.1	-351.5	1,528.0	1,498.4	29.60	51.614		
4,000.0	3,437.7	3,426.0	3,330.4	33.5	14.0	154.68	-463.8	-366.9	1,579.5	1,548.7	30.74	51.385		
4,100.0	3,527.2	3,513.4	3,413.4	34.4	14.6	154.95	-485.9	-382.7	1,626.9	1,595.1	31.86	51.065		
4,200.0	3,618.9	3,602.7	3,498.3	35.2	15.1	155.08	-508.5	-398.8	1,670.2	1,637.3	32.96	50.673		
4,300.0	3,712.5	3,693.5	3,584.6	35.8	15.7	155.09	-531.6	-415.3	1,709.3	1,675.3	34.03	50.224		
4,400.0	3,807.9	3,785.8	3,672.2	36.4	16.3	154.98	-555.0	-431.9	1,744.2	1,709.1	35.07	49.730		
4,500.0	3,904.7	3,879.1	3,760.9	36.8	16.9	154.75	-578.6	-448.8	1,774.7	1,738.6	36.07	49.200		
4,600.0	4,002.6	3,973.6	3,850.8	37.2	17.4	154.41	-602.6	-465.9	1,800.9	1,763.9	37.03	48.638		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference													Warning	
Reference				Offset			Semi Major Axis			Distance				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,700.0	4,101.5	4,103.4	3,975.4	37.5	18.0	153.83	-632.0	-486.8	1,821.9	1,783.9	37.96	47.989		
4,800.0	4,201.1	4,238.0	4,106.9	37.7	18.5	153.35	-655.1	-503.3	1,836.5	1,797.8	38.67	47.488		
4,900.0	4,301.0	4,376.0	4,243.6	37.8	18.9	152.96	-670.9	-514.6	1,844.6	1,805.4	39.16	47.101		
4,934.1	4,335.0	4,423.6	4,290.9	37.8	19.0	-71.79	-674.5	-517.2	1,845.8	1,806.5	39.27	46.999		
5,000.0	4,400.9	4,516.2	4,383.4	37.9	19.1	-71.94	-678.7	-520.2	1,846.9	1,807.3	39.53	46.716		
5,100.0	4,500.9	4,633.8	4,500.9	37.9	19.2	-71.97	-679.5	-520.7	1,847.1	1,807.3	39.76	46.450		
5,200.0	4,600.9	4,733.8	4,600.9	38.0	19.3	-71.97	-679.5	-520.7	1,847.1	1,807.1	39.95	46.232		
5,300.0	4,700.9	4,833.8	4,700.9	38.0	19.4	-71.97	-679.5	-520.7	1,847.1	1,806.9	40.14	46.011		
5,400.0	4,800.9	4,933.8	4,800.9	38.1	19.5	-71.97	-679.5	-520.7	1,847.1	1,806.7	40.34	45.788		
5,500.0	4,900.9	5,033.8	4,900.9	38.1	19.6	-71.97	-679.5	-520.7	1,847.1	1,806.5	40.54	45.562		
5,600.0	5,000.9	5,133.8	5,000.9	38.2	19.7	-71.97	-679.5	-520.7	1,847.1	1,806.3	40.74	45.334		
5,700.0	5,100.9	5,233.8	5,100.9	38.3	19.9	-71.97	-679.5	-520.7	1,847.1	1,806.1	40.95	45.103		
5,800.0	5,200.9	5,333.8	5,200.9	38.3	20.0	-71.97	-679.5	-520.7	1,847.1	1,805.9	41.16	44.871		
5,900.0	5,300.9	5,433.8	5,300.9	38.4	20.1	-71.97	-679.5	-520.7	1,847.1	1,805.7	41.38	44.637		
6,000.0	5,400.9	5,533.8	5,400.9	38.4	20.2	-71.97	-679.5	-520.7	1,847.1	1,805.5	41.60	44.402		
6,100.0	5,500.9	5,633.8	5,500.9	38.5	20.3	-71.97	-679.5	-520.7	1,847.1	1,805.3	41.82	44.165		
6,200.0	5,600.9	5,733.8	5,600.9	38.6	20.4	-71.97	-679.5	-520.7	1,847.1	1,805.0	42.05	43.927		
6,300.0	5,700.9	5,833.8	5,700.9	38.6	20.5	-71.97	-679.5	-520.7	1,847.1	1,804.8	42.28	43.688		
6,400.0	5,800.9	5,933.8	5,800.9	38.7	20.7	-71.97	-679.5	-520.7	1,847.1	1,804.6	42.51	43.448		
6,500.0	5,900.9	6,033.8	5,900.9	38.8	20.8	-71.97	-679.5	-520.7	1,847.1	1,804.3	42.75	43.207		
6,600.0	6,000.9	6,133.8	6,000.9	38.9	20.9	-71.97	-679.5	-520.7	1,847.1	1,804.1	42.99	42.965		
6,700.0	6,100.9	6,233.8	6,100.9	38.9	21.0	-71.97	-679.5	-520.7	1,847.1	1,803.8	43.23	42.722		
6,800.0	6,200.9	6,333.8	6,200.9	39.0	21.2	-71.97	-679.5	-520.7	1,847.1	1,803.6	43.48	42.480		
6,900.0	6,300.9	6,433.8	6,300.9	39.1	21.3	-71.97	-679.5	-520.7	1,847.1	1,803.3	43.73	42.236		
7,000.0	6,400.9	6,533.8	6,400.9	39.1	21.4	-71.97	-679.5	-520.7	1,847.1	1,803.1	43.99	41.993		
7,100.0	6,500.9	6,633.8	6,500.9	39.2	21.5	-71.97	-679.5	-520.7	1,847.1	1,802.8	44.24	41.749		
7,200.0	6,600.9	6,733.8	6,600.9	39.3	21.7	-71.97	-679.5	-520.7	1,847.1	1,802.6	44.50	41.505		
7,300.0	6,700.9	6,833.8	6,700.9	39.4	21.8	-71.97	-679.5	-520.7	1,847.1	1,802.3	44.76	41.262		
7,400.0	6,800.9	6,933.8	6,800.9	39.5	22.0	-71.97	-679.5	-520.7	1,847.1	1,802.0	45.03	41.018		
7,500.0	6,900.9	7,033.8	6,900.9	39.5	22.1	-71.97	-679.5	-520.7	1,847.1	1,801.8	45.30	40.775		
7,600.0	7,000.9	7,133.8	7,000.9	39.6	22.2	-71.97	-679.5	-520.7	1,847.1	1,801.5	45.57	40.532		
7,700.0	7,100.9	7,233.8	7,100.9	39.7	22.4	-71.97	-679.5	-520.7	1,847.1	1,801.2	45.84	40.290		
7,718.1	7,119.0	7,251.8	7,119.0	39.7	22.4	-71.97	-679.5	-520.7	1,847.1	1,801.2	45.89	40.246		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft					
Survey Program: 0-MWD													Offset Well Error:	0.0 ft					
Reference													Semi Major Axis		Distance				Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor							
0.0	0.0	0.0	0.0	0.0	0.0	-0.73	37.5	-0.5	37.5										
100.0	100.0	100.0	100.0	0.1	0.1	-0.73	37.5	-0.5	37.5	37.3	0.19	197.125							
200.0	200.0	200.0	200.0	0.3	0.3	-0.73	37.5	-0.5	37.5	36.8	0.64	58.597							
300.0	300.0	300.0	300.0	0.5	0.5	-0.73	37.5	-0.5	37.5	36.4	1.09	34.414							
400.0	400.0	400.0	400.0	0.8	0.8	-0.73	37.5	-0.5	37.5	35.9	1.54	24.360							
500.0	500.0	500.0	500.0	1.0	1.0	-0.73	37.5	-0.5	37.5	35.5	1.99	18.852							
600.0	600.0	600.0	600.0	1.2	1.2	-0.73	37.5	-0.5	37.5	35.0	2.44	15.376							
700.0	700.0	700.0	700.0	1.4	1.4	-0.73	37.5	-0.5	37.5	34.6	2.89	12.982							
800.0	800.0	800.0	800.0	1.7	1.7	-0.73	37.5	-0.5	37.5	34.1	3.34	11.233							
900.0	900.0	900.0	900.0	1.9	1.9	-0.73	37.5	-0.5	37.5	33.7	3.79	9.900							
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.73	37.5	-0.5	37.5	33.2	4.24	8.849							
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.73	37.5	-0.5	37.5	32.8	4.69	8.000							
1,200.0	1,200.0	1,201.7	1,201.6	2.5	2.5	-140.94	35.1	-1.7	37.2	32.1	5.09	7.307							
1,230.6	1,230.5	1,232.7	1,232.6	2.6	2.6	-144.39	33.4	-2.6	37.1	31.9	5.20	7.137 CC, ES							
1,300.0	1,299.6	1,302.7	1,302.3	2.7	2.7	-155.37	28.0	-5.5	37.8	32.3	5.44	6.946 SF							
1,400.0	1,398.8	1,402.6	1,401.3	2.9	2.9	-175.80	16.3	-11.7	43.5	37.7	5.80	7.502							
1,500.0	1,497.1	1,500.8	1,497.8	3.2	3.2	165.77	0.5	-20.1	57.9	51.7	6.22	9.309							
1,600.0	1,594.3	1,596.7	1,591.2	3.5	3.5	153.09	-19.3	-30.6	81.0	74.3	6.73	12.036							
1,700.0	1,690.2	1,690.1	1,680.7	3.9	3.8	144.94	-42.4	-42.8	111.6	104.2	7.34	15.190							
1,800.0	1,784.4	1,780.5	1,766.2	4.4	4.3	139.50	-68.5	-56.7	148.5	140.5	8.07	18.401							
1,900.0	1,876.8	1,867.6	1,847.1	5.1	4.7	135.61	-97.0	-71.8	191.2	182.3	8.91	21.456							
2,000.0	1,967.1	1,955.5	1,928.0	5.8	5.3	133.01	-127.5	-87.9	238.3	228.5	9.88	24.128							
2,100.0	2,054.9	2,041.9	2,007.4	6.7	5.9	131.62	-157.5	-103.8	288.6	277.7	10.91	26.445							
2,200.0	2,140.2	2,126.5	2,085.2	7.7	6.4	130.89	-186.9	-119.4	341.9	329.9	12.02	28.436							
2,300.0	2,222.6	2,208.9	2,161.0	8.8	7.0	130.53	-215.5	-134.6	398.2	385.0	13.20	30.158							
2,400.0	2,301.9	2,289.0	2,234.6	10.0	7.6	130.34	-243.3	-149.3	457.3	442.9	14.44	31.663							
2,500.0	2,377.9	2,366.6	2,305.9	11.4	8.1	130.21	-270.3	-163.6	519.4	503.6	15.74	32.991							
2,600.0	2,450.5	2,441.4	2,374.7	12.8	8.7	130.05	-296.2	-177.4	584.4	567.3	17.10	34.172							
2,700.0	2,519.3	2,513.2	2,440.8	14.4	9.2	129.81	-321.2	-190.6	652.2	633.7	18.52	35.217							
2,800.0	2,584.2	2,581.9	2,503.9	16.1	9.7	129.45	-345.0	-203.2	722.9	702.9	20.01	36.128							
2,841.2	2,609.8	2,609.2	2,529.0	16.8	9.9	129.25	-354.5	-208.3	752.8	732.2	20.65	36.463							
2,900.0	2,645.8	2,647.8	2,564.5	17.8	10.2	130.36	-367.9	-215.4	795.9	774.5	21.48	37.051							
3,000.0	2,707.1	2,713.4	2,624.9	19.6	10.7	132.00	-390.7	-227.4	869.5	846.6	22.90	37.974							
3,100.0	2,768.3	2,779.0	2,685.2	21.4	11.2	133.39	-413.5	-239.5	943.4	919.1	24.31	38.804							
3,192.9	2,825.2	2,840.0	2,741.2	23.1	11.7	134.52	-434.6	-250.7	1,012.3	986.6	25.62	39.505							
3,200.0	2,829.6	2,844.7	2,745.5	23.2	11.7	134.76	-436.3	-251.6	1,017.6	991.8	25.70	39.589							
3,300.0	2,893.1	2,912.2	2,807.6	24.8	12.2	137.86	-459.7	-264.0	1,090.4	1,063.6	26.77	40.729							
3,400.0	2,960.7	2,983.0	2,872.7	26.3	12.7	140.35	-484.3	-277.1	1,160.6	1,132.7	27.91	41.579							
3,500.0	3,032.0	3,056.8	2,940.6	27.7	13.3	142.33	-509.9	-290.6	1,227.9	1,198.8	29.12	42.172							
3,600.0	3,106.8	3,133.4	3,011.1	29.1	13.9	143.89	-536.5	-304.7	1,292.1	1,261.8	30.37	42.545							
3,700.0	3,185.0	3,212.7	3,084.0	30.3	14.5	145.12	-564.1	-319.3	1,353.0	1,321.4	31.66	42.734							
3,800.0	3,266.4	3,294.4	3,159.1	31.5	15.1	146.05	-592.4	-334.4	1,410.5	1,377.5	32.98	42.770							
3,900.0	3,350.7	3,378.2	3,236.2	32.6	15.8	146.74	-621.6	-349.8	1,464.4	1,430.1	34.31	42.681							
4,000.0	3,437.7	3,464.0	3,315.1	33.5	16.4	147.22	-651.3	-365.6	1,514.6	1,479.0	35.64	42.492							
4,100.0	3,527.2	3,551.5	3,395.5	34.4	17.1	147.51	-681.7	-381.7	1,561.1	1,524.1	36.97	42.224							
4,200.0	3,618.9	3,640.5	3,477.4	35.2	17.8	147.64	-712.6	-398.1	1,603.7	1,565.4	38.28	41.893							
4,300.0	3,712.5	3,730.8	3,560.4	35.8	18.5	147.61	-744.0	-414.7	1,642.5	1,602.9	39.57	41.514							
4,400.0	3,807.9	3,822.0	3,644.2	36.4	19.2	147.45	-775.7	-431.5	1,677.4	1,636.6	40.82	41.097							
4,500.0	3,904.7	3,923.1	3,737.3	36.8	19.9	147.08	-810.4	-449.9	1,708.4	1,666.4	42.05	40.629							
4,600.0	4,002.6	4,047.1	3,853.8	37.2	20.5	146.55	-848.1	-469.9	1,734.3	1,691.1	43.18	40.167							

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

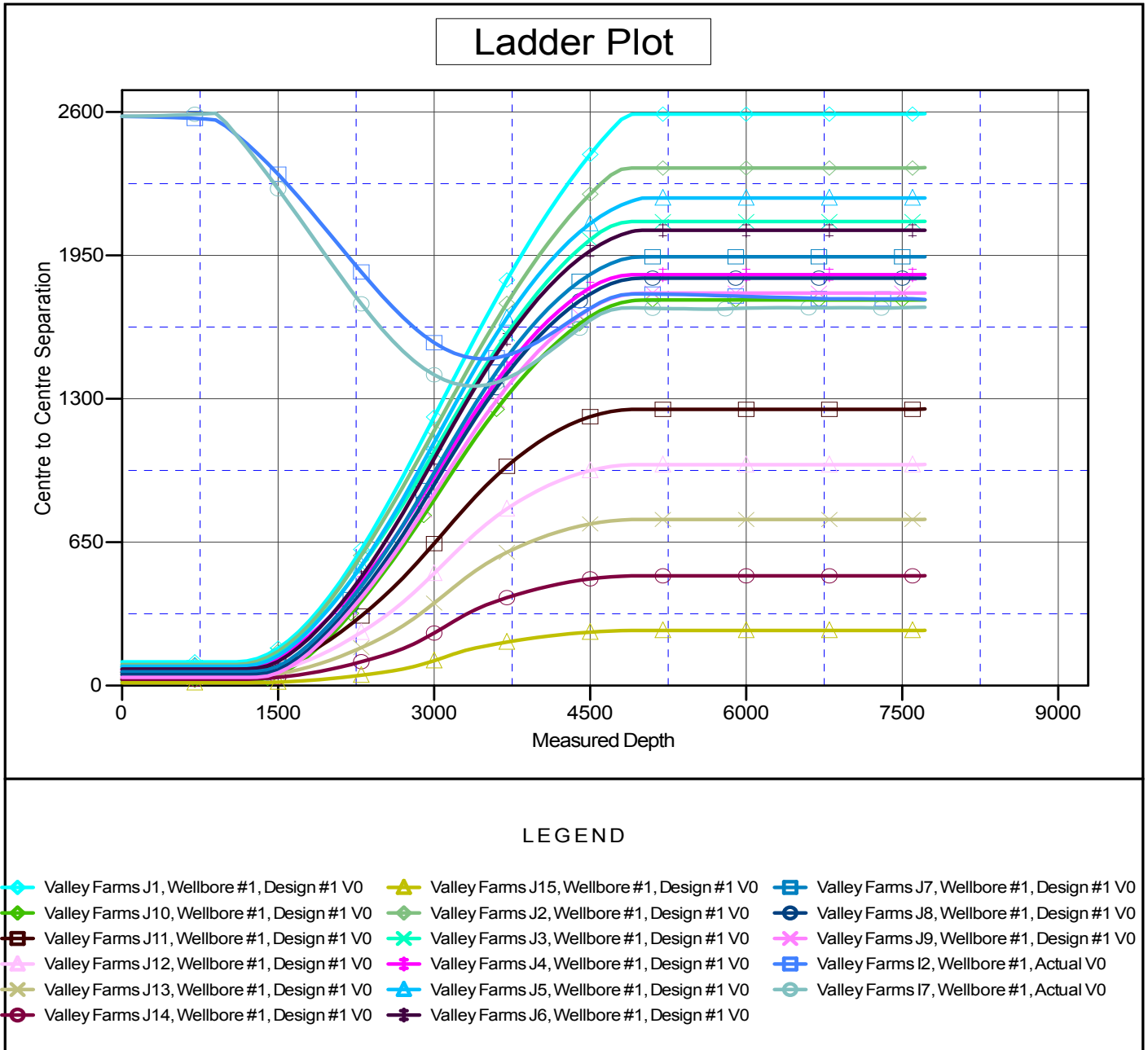
Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft	
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Valley Farms J - Valley Farms J9 - Wellbore #1 - Design #1															
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
4,700.0	4,101.5	4,176.2	3,977.6	37.5	21.1	146.06	-880.2	-486.9	1,754.4	1,710.3	44.13	39.755			
4,800.0	4,201.1	4,309.5	4,107.8	37.7	21.6	145.64	-905.4	-500.3	1,768.6	1,723.7	44.88	39.405			
4,900.0	4,301.0	4,446.0	4,242.8	37.8	22.0	145.27	-922.9	-509.5	1,776.5	1,731.1	45.40	39.130			
4,934.1	4,335.0	4,493.0	4,289.6	37.8	22.1	-79.49	-926.9	-511.7	1,777.7	1,732.2	45.53	39.045			
5,000.0	4,400.9	4,584.5	4,380.9	37.9	22.2	-79.66	-931.9	-514.3	1,778.9	1,733.2	45.78	38.859			
5,100.0	4,500.9	4,704.5	4,500.9	37.9	22.3	-79.70	-933.0	-514.9	1,779.2	1,733.2	46.00	38.683			
5,200.0	4,600.9	4,804.5	4,600.9	38.0	22.4	-79.70	-933.0	-514.9	1,779.2	1,733.1	46.16	38.547			
5,300.0	4,700.9	4,904.5	4,700.9	38.0	22.5	-79.70	-933.0	-514.9	1,779.2	1,732.9	46.32	38.409			
5,400.0	4,800.9	5,004.5	4,800.9	38.1	22.6	-79.70	-933.0	-514.9	1,779.2	1,732.7	46.49	38.268			
5,500.0	4,900.9	5,104.5	4,900.9	38.1	22.7	-79.70	-933.0	-514.9	1,779.2	1,732.6	46.67	38.126			
5,600.0	5,000.9	5,204.5	5,000.9	38.2	22.8	-79.70	-933.0	-514.9	1,779.2	1,732.4	46.84	37.982			
5,700.0	5,100.9	5,304.5	5,100.9	38.3	22.8	-79.70	-933.0	-514.9	1,779.2	1,732.2	47.03	37.836			
5,800.0	5,200.9	5,404.5	5,200.9	38.3	22.9	-79.70	-933.0	-514.9	1,779.2	1,732.0	47.21	37.688			
5,900.0	5,300.9	5,504.5	5,300.9	38.4	23.0	-79.70	-933.0	-514.9	1,779.2	1,731.8	47.40	37.538			
6,000.0	5,400.9	5,604.5	5,400.9	38.4	23.1	-79.70	-933.0	-514.9	1,779.2	1,731.6	47.59	37.387			
6,100.0	5,500.9	5,704.5	5,500.9	38.5	23.2	-79.70	-933.0	-514.9	1,779.2	1,731.5	47.78	37.234			
6,200.0	5,600.9	5,804.5	5,600.9	38.6	23.3	-79.70	-933.0	-514.9	1,779.2	1,731.3	47.98	37.080			
6,300.0	5,700.9	5,904.5	5,700.9	38.6	23.4	-79.70	-933.0	-514.9	1,779.2	1,731.1	48.18	36.925			
6,400.0	5,800.9	6,004.5	5,800.9	38.7	23.5	-79.70	-933.0	-514.9	1,779.2	1,730.8	48.39	36.769			
6,500.0	5,900.9	6,104.5	5,900.9	38.8	23.7	-79.70	-933.0	-514.9	1,779.2	1,730.6	48.60	36.611			
6,600.0	6,000.9	6,204.5	6,000.9	38.9	23.8	-79.70	-933.0	-514.9	1,779.2	1,730.4	48.81	36.452			
6,700.0	6,100.9	6,304.5	6,100.9	38.9	23.9	-79.70	-933.0	-514.9	1,779.2	1,730.2	49.03	36.292			
6,800.0	6,200.9	6,404.5	6,200.9	39.0	24.0	-79.70	-933.0	-514.9	1,779.2	1,730.0	49.24	36.132			
6,900.0	6,300.9	6,504.5	6,300.9	39.1	24.1	-79.70	-933.0	-514.9	1,779.2	1,729.8	49.46	35.970			
7,000.0	6,400.9	6,604.5	6,400.9	39.1	24.2	-79.70	-933.0	-514.9	1,779.2	1,729.5	49.69	35.808			
7,100.0	6,500.9	6,704.5	6,500.9	39.2	24.3	-79.70	-933.0	-514.9	1,779.2	1,729.3	49.92	35.644			
7,200.0	6,600.9	6,804.5	6,600.9	39.3	24.4	-79.70	-933.0	-514.9	1,779.2	1,729.1	50.15	35.481			
7,300.0	6,700.9	6,904.5	6,700.9	39.4	24.6	-79.70	-933.0	-514.9	1,779.2	1,728.9	50.38	35.316			
7,400.0	6,800.9	7,004.5	6,800.9	39.5	24.7	-79.70	-933.0	-514.9	1,779.2	1,728.6	50.62	35.152			
7,500.0	6,900.9	7,104.5	6,900.9	39.5	24.8	-79.70	-933.0	-514.9	1,779.2	1,728.4	50.86	34.986			
7,600.0	7,000.9	7,204.5	7,000.9	39.6	24.9	-79.70	-933.0	-514.9	1,779.2	1,728.1	51.10	34.821			
7,700.0	7,100.9	7,304.5	7,100.9	39.7	25.1	-79.70	-933.0	-514.9	1,779.2	1,727.9	51.34	34.655			
7,718.1	7,119.0	7,322.6	7,119.0	39.7	25.1	-79.70	-933.0	-514.9	1,779.2	1,727.8	51.39	34.625			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Valley Farms J16 @ 5552.4ft (Original W
 Offset Depths are relative to Offset Datum
 Central Meridian is 105° 30' 0.000 W °

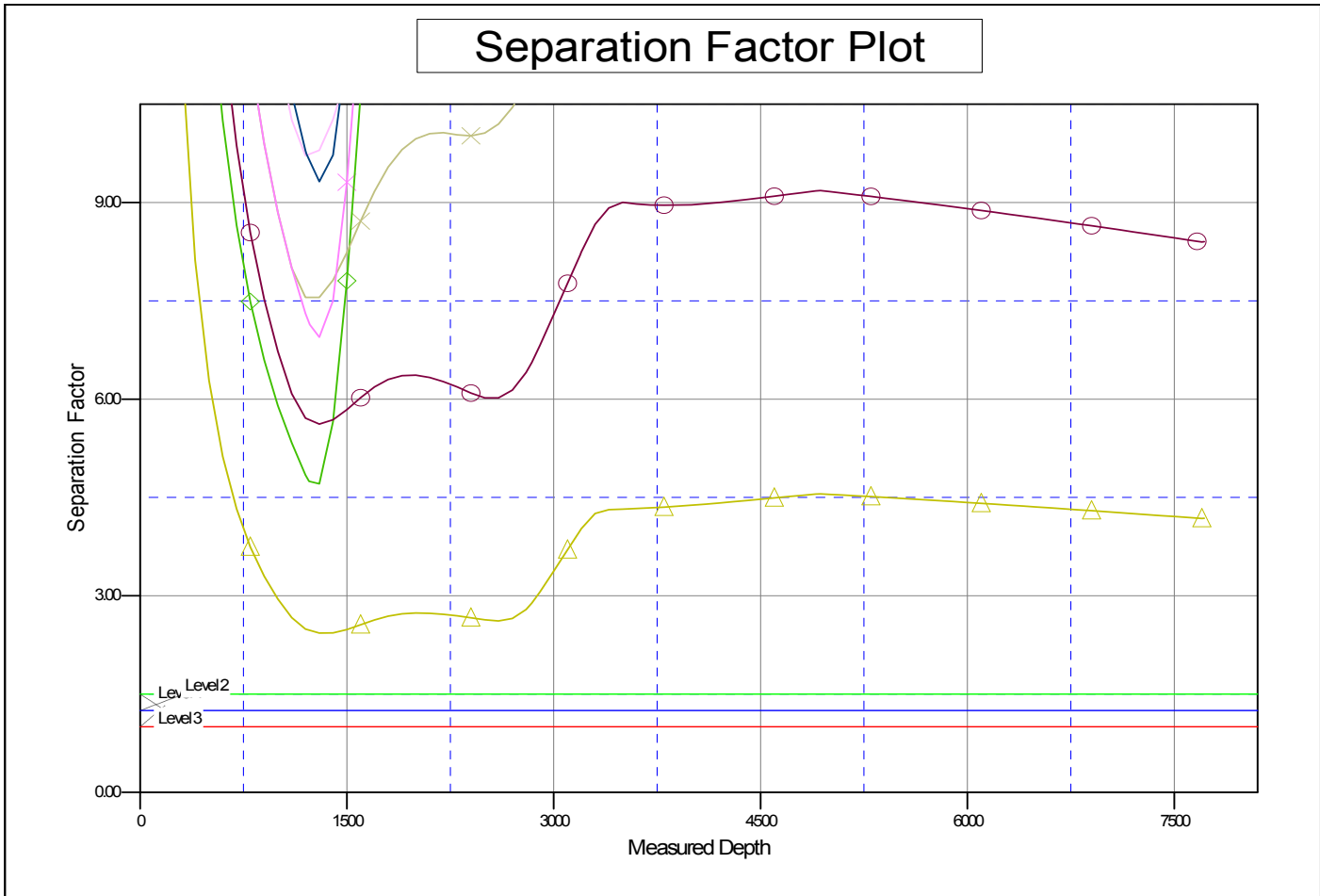
Coordinates are relative to: Valley Farms J16
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.34°



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J16
Project:	Rockies Region	TVD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J16 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J16	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM 2003.21 Single User Db
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to Valley Farms J16 @ 5552.4ft (Original W
 Offset Depths are relative to Offset Datum
 Central Meridian is 105° 30' 0.000 W °

Coordinates are relative to: Valley Farms J16
 Coordinate System is US State Plane 1983, Colorado Central Zone
 Grid Convergence at Surface is: -1.34°



LEGEND

Valley Farms J1, Wellbore #1, Design #1 V0	Valley Farms J15, Wellbore #1, Design #1 V0	Valley Farms J7, Wellbore #1, Design #1 V0
Valley Farms J10, Wellbore #1, Design #1 V0	Valley Farms J2, Wellbore #1, Design #1 V0	Valley Farms J8, Wellbore #1, Design #1 V0
Valley Farms J11, Wellbore #1, Design #1 V0	Valley Farms J3, Wellbore #1, Design #1 V0	Valley Farms J9, Wellbore #1, Design #1 V0
Valley Farms J12, Wellbore #1, Design #1 V0	Valley Farms J4, Wellbore #1, Design #1 V0	Valley Farms I2, Wellbore #1, Actual V0
Valley Farms J13, Wellbore #1, Design #1 V0	Valley Farms J5, Wellbore #1, Design #1 V0	Valley Farms I7, Wellbore #1, Actual V0
Valley Farms J14, Wellbore #1, Design #1 V0	Valley Farms J6, Wellbore #1, Design #1 V0	