



Ursa Operating Company, LLC

**Rockies Region
Valley Farms J
Valley Farms J14**

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 J14
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J14	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 J14, SHL LAT: 39.533669000 LONG: -107.620470500					
Well Position	+N/-S	-87.5 ft	Northing:	1,626,247.09 ft	Latitude:	39° 32' 1.208 N
	+E/-W	1.1 ft	Easting:	2,401,976.79 ft	Longitude:	107° 37' 13.694 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	122.70

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	
2,292.0	35.76	122.70	2,216.1	-194.5	303.0	3.00	3.00	0.00	122.70	
3,503.1	35.76	122.70	3,198.9	-576.9	898.6	0.00	0.00	0.00	0.00	
4,695.1	0.00	0.00	4,315.0	-771.4	1,201.6	3.00	-3.00	0.00	180.00	J14 TGT
7,479.1	0.00	0.00	7,099.0	-771.4	1,201.6	0.00	0.00	0.00	0.00	

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Valley Farms J14
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J14	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	122.70	1,200.0	-1.4	2.2	2.6	3.00	3.00	0.00
1,300.0	6.00	122.70	1,299.6	-5.7	8.8	10.5	3.00	3.00	0.00
1,400.0	9.00	122.70	1,398.8	-12.7	19.8	23.5	3.00	3.00	0.00
1,500.0	12.00	122.70	1,497.1	-22.5	35.1	41.7	3.00	3.00	0.00
1,600.0	15.00	122.70	1,594.3	-35.2	54.8	65.1	3.00	3.00	0.00
1,700.0	18.00	122.70	1,690.2	-50.5	78.7	93.5	3.00	3.00	0.00
1,800.0	21.00	122.70	1,784.4	-68.5	106.7	126.9	3.00	3.00	0.00
1,900.0	24.00	122.70	1,876.8	-89.2	138.9	165.1	3.00	3.00	0.00
2,000.0	27.00	122.70	1,967.1	-112.5	175.2	208.2	3.00	3.00	0.00
2,100.0	30.00	122.70	2,054.9	-138.2	215.3	255.9	3.00	3.00	0.00
2,200.0	33.00	122.70	2,140.2	-166.5	259.3	308.1	3.00	3.00	0.00
2,292.0	35.76	122.70	2,216.1	-194.5	303.0	360.0	3.00	3.00	0.00
Start 1211.1 hold at 2292.0 MD									
2,300.0	35.76	122.70	2,222.6	-197.0	306.9	364.7	0.00	0.00	0.00
2,400.0	35.76	122.70	2,303.7	-228.6	356.1	423.2	0.00	0.00	0.00
2,500.0	35.76	122.70	2,384.9	-260.2	405.3	481.6	0.00	0.00	0.00
2,600.0	35.76	122.70	2,466.0	-291.8	454.5	540.1	0.00	0.00	0.00
2,700.0	35.76	122.70	2,547.2	-323.3	503.6	598.5	0.00	0.00	0.00
2,800.0	35.76	122.70	2,628.3	-354.9	552.8	656.9	0.00	0.00	0.00
2,900.0	35.76	122.70	2,709.5	-386.5	602.0	715.4	0.00	0.00	0.00
3,000.0	35.76	122.70	2,790.6	-418.0	651.2	773.8	0.00	0.00	0.00
3,100.0	35.76	122.70	2,871.8	-449.6	700.3	832.2	0.00	0.00	0.00
3,200.0	35.76	122.70	2,952.9	-481.2	749.5	890.7	0.00	0.00	0.00
3,300.0	35.76	122.70	3,034.1	-512.8	798.7	949.1	0.00	0.00	0.00
3,400.0	35.76	122.70	3,115.2	-544.3	847.9	1,007.6	0.00	0.00	0.00
3,485.2	35.76	122.70	3,184.4	-571.2	889.8	1,057.4	0.00	0.00	0.00
WF									
3,503.1	35.76	122.70	3,198.9	-576.9	898.6	1,067.8	0.00	0.00	0.00
Start Drop -3.00									
3,600.0	32.85	122.70	3,278.9	-606.4	944.5	1,122.4	3.00	-3.00	0.00
3,700.0	29.85	122.70	3,364.3	-634.5	988.3	1,174.4	3.00	-3.00	0.00
3,800.0	26.85	122.70	3,452.3	-660.1	1,028.3	1,221.9	3.00	-3.00	0.00
3,900.0	23.85	122.70	3,542.7	-683.3	1,064.3	1,264.7	3.00	-3.00	0.00
4,000.0	20.85	122.70	3,635.1	-703.8	1,096.3	1,302.8	3.00	-3.00	0.00
4,100.0	17.85	122.70	3,729.5	-721.7	1,124.2	1,335.9	3.00	-3.00	0.00
4,200.0	14.85	122.70	3,825.4	-736.9	1,147.9	1,364.1	3.00	-3.00	0.00
4,300.0	11.85	122.70	3,922.7	-749.4	1,167.3	1,387.1	3.00	-3.00	0.00
4,400.0	8.85	122.70	4,021.1	-759.1	1,182.4	1,405.1	3.00	-3.00	0.00
4,500.0	5.85	122.70	4,120.2	-766.0	1,193.2	1,417.9	3.00	-3.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Valley Farms J14
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J14	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)
4,600.0	2.85	122.70	4,219.9	-770.1	1,199.6	1,425.5	3.00	-3.00	0.00
4,695.1	0.00	0.00	4,315.0	-771.4	1,201.6	1,427.9	3.00	-3.00	0.00
Start 2784.0 hold at 4695.1 MD									
4,695.5	0.00	0.00	4,315.4	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
Top of Gas									
4,700.0	0.00	0.00	4,319.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
4,800.0	0.00	0.00	4,419.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
4,900.0	0.00	0.00	4,519.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,000.0	0.00	0.00	4,619.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,100.0	0.00	0.00	4,719.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,200.0	0.00	0.00	4,819.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,300.0	0.00	0.00	4,919.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,019.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,119.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,219.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,319.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,800.0	0.00	0.00	5,419.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,900.0	0.00	0.00	5,519.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
5,993.5	0.00	0.00	5,613.4	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
Cameo									
6,000.0	0.00	0.00	5,619.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,100.0	0.00	0.00	5,719.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,200.0	0.00	0.00	5,819.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,300.0	0.00	0.00	5,919.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,019.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,119.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,219.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,319.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,419.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,519.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,619.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
7,100.0	0.00	0.00	6,719.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
7,179.5	0.00	0.00	6,799.4	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
Rollins									
7,200.0	0.00	0.00	6,819.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
7,300.0	0.00	0.00	6,919.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,019.9	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
7,479.1	0.00	0.00	7,099.0	-771.4	1,201.6	1,427.9	0.00	0.00	0.00
TD at 7479.1									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,485.2	3,184.4	WF		0.00	
4,695.5	4,315.4	Top of Gas		0.00	
5,993.5	5,613.4	Cameo		0.00	
7,179.5	6,799.4	Rollins		0.00	

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Valley Farms J14
Company:	Ursa Operating Company, LLC	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Project:	Rockies Region	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site:	Valley Farms J	North Reference:	True
Well:	Valley Farms J14	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,100.0	1,100.0	0.0	0.0	Start Build 3.00
2,292.0	2,216.1	-194.5	303.0	Start 1211.1 hold at 2292.0 MD
3,503.1	3,198.9	-576.9	898.6	Start Drop -3.00
4,695.1	4,315.0	-771.4	1,201.6	Start 2784.0 hold at 4695.1 MD
7,479.1	7,099.0	-771.4	1,201.6	TD at 7479.1



Well Name: Valley Farms J14
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 1626247.09 2401976.79 39° 32' 1.208 N 107° 37' 13.694 W
Original Well Elev Valley Farms J14 @ 5552.4ft (Original Well Elev)



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

Valley Farms J
Valley Farms J14
Design #1
23:35, September 08 2013

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
J14 TGT	4315.0	-771.4	1201.6	1625447.86	2403160.02	39° 31' 53.584 N	107° 36' 58.358 W	Rectangle (Sides: L40.0 W100.0)

SECTION DETAILS

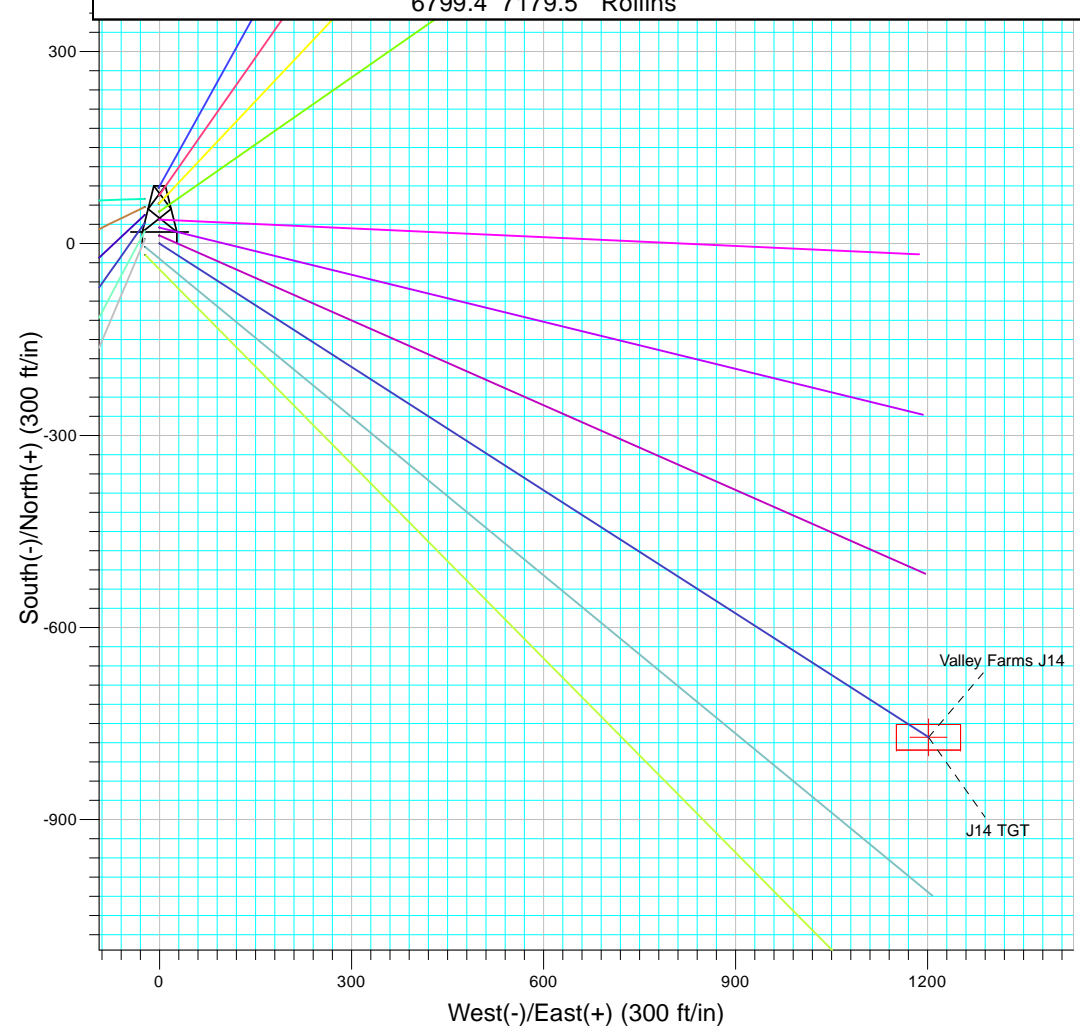
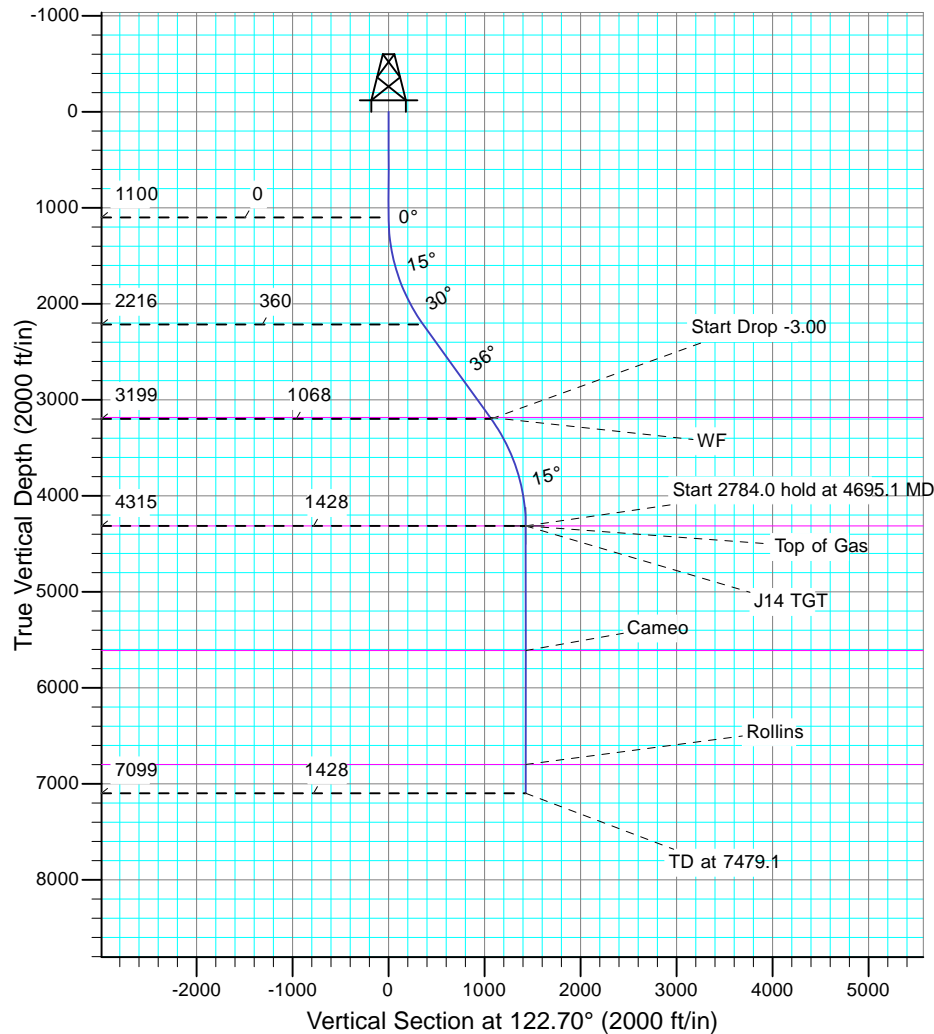
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1100.0	0.00	0.00	1100.0	0.0	0.0	0.00	0.00	0.0	
3	2292.0	35.76	122.70	2216.1	-194.5	303.0	3.00	122.70	360.0	
4	3503.1	35.76	122.70	3198.9	-576.9	898.6	0.00	0.00	1067.8	
5	4695.1	0.00	0.00	4315.0	-771.4	1201.6	3.00	180.00	1427.9	J14 TGT
6	7479.1	0.00	0.00	7099.0	-771.4	1201.6	0.00	0.00	1427.9	

ANNOTATIONS

TVD	MD	Annotation
1100.0	1100.0	Start Build 3.00
2216.1	2292.0	Start 1211.1 hold at 2292.0 MD
3198.9	3503.1	Start Drop -3.00
4315.0	4695.1	Start 2784.0 hold at 4695.1 MD
7099.0	7479.1	TD at 7479.1

FORMATION TOP DETAILS

TVDP	MD	Path	Formation
3184.4	3485.2	WF	WF
4315.4	4695.5	Top of Gas	Top of Gas
5613.4	5993.5	Cameo	Cameo
6799.4	7179.5	Rollins	Rollins





Ursa Operating Company, LLC

Rockies Region

Valley Farms J

Valley Farms J14

Wellbore #1

Design #1

Anticollision Report

08 September, 2013



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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	7,479.1	Design #1 (Wellbore #1)
		Tool Name
		MWD
		Description
		MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Valley Farms I						
Valley Farms I2 - Wellbore #1 - Actual	3,287.6	3,451.4	1,743.6	1,722.2	81.340	CC
Valley Farms I2 - Wellbore #1 - Actual	3,300.0	3,456.0	1,743.6	1,722.0	80.743	ES
Valley Farms I2 - Wellbore #1 - Actual	7,479.1	7,563.9	1,912.6	1,882.4	63.274	SF
Valley Farms I7 - Wellbore #1 - Actual	3,232.1	3,638.6	1,587.0	1,566.5	77.430	CC, ES
Valley Farms I7 - Wellbore #1 - Actual	7,479.1	7,657.4	1,815.7	1,787.0	63.203	SF
Valley Farms J						
Valley Farms J1 - Wellbore #1 - Design #1	1,100.0	1,100.0	87.5	82.8	18.669	CC, ES
Valley Farms J1 - Wellbore #1 - Design #1	1,200.0	1,196.0	91.1	86.0	17.843	SF
Valley Farms J10 - Wellbore #1 - Design #1	1,100.0	1,100.0	23.7	19.0	5.061	CC, ES, SF
Valley Farms J11 - Wellbore #1 - Design #1	1,100.0	1,100.0	37.5	32.8	8.000	CC, ES
Valley Farms J11 - Wellbore #1 - Design #1	1,200.0	1,200.1	38.8	33.7	7.601	SF
Valley Farms J12 - Wellbore #1 - Design #1	1,100.0	1,100.0	25.0	20.3	5.333	CC, ES
Valley Farms J12 - Wellbore #1 - Design #1	1,200.0	1,200.3	25.8	20.7	5.055	SF
Valley Farms J13 - Wellbore #1 - Design #1	1,100.0	1,100.0	12.5	7.8	2.667	CC
Valley Farms J13 - Wellbore #1 - Design #1	1,200.0	1,200.3	12.8	7.8	2.521	ES, SF
Valley Farms J15 - Wellbore #1 - Design #1	1,100.0	1,100.0	23.1	18.4	4.922	CC
Valley Farms J15 - Wellbore #1 - Design #1	1,200.0	1,200.7	23.3	18.2	4.576	ES
Valley Farms J15 - Wellbore #1 - Design #1	2,500.0	2,506.3	75.4	52.5	3.297	SF
Valley Farms J16 - Wellbore #1 - Design #1	1,100.0	1,100.0	28.5	23.8	6.083	CC, ES
Valley Farms J16 - Wellbore #1 - Design #1	1,300.0	1,300.3	30.8	25.3	5.622	SF
Valley Farms J2 - Wellbore #1 - Design #1	1,100.0	1,100.0	75.0	70.3	16.000	CC, ES
Valley Farms J2 - Wellbore #1 - Design #1	1,200.0	1,196.8	78.5	73.4	15.367	SF
Valley Farms J3 - Wellbore #1 - Design #1	1,100.0	1,100.0	62.5	57.8	13.333	CC, ES
Valley Farms J3 - Wellbore #1 - Design #1	1,200.0	1,197.6	65.8	60.6	12.875	SF
Valley Farms J4 - Wellbore #1 - Design #1	1,100.0	1,100.0	50.0	45.3	10.667	CC, ES
Valley Farms J4 - Wellbore #1 - Design #1	1,200.0	1,198.5	52.9	47.8	10.352	SF
Valley Farms J5 - Wellbore #1 - Design #1	1,100.0	1,100.0	73.5	68.8	15.692	CC, ES
Valley Farms J5 - Wellbore #1 - Design #1	1,200.0	1,198.7	76.4	71.3	14.991	SF
Valley Farms J6 - Wellbore #1 - Design #1	1,100.0	1,100.0	61.8	57.1	13.179	CC, ES
Valley Farms J6 - Wellbore #1 - Design #1	1,200.0	1,200.0	63.9	58.8	12.537	SF
Valley Farms J7 - Wellbore #1 - Design #1	1,100.0	1,100.0	50.3	45.6	10.735	CC, ES
Valley Farms J7 - Wellbore #1 - Design #1	1,200.0	1,200.5	52.0	46.9	10.216	SF
Valley Farms J8 - Wellbore #1 - Design #1	1,100.0	1,100.0	39.5	34.8	8.433	CC, ES
Valley Farms J8 - Wellbore #1 - Design #1	1,200.0	1,200.5	41.2	36.1	8.106	SF

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 J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Valley Farms J						
Valley Farms J9 - Wellbore #1 - Design #1	1,100.0	1,100.0	30.1	25.4	6.425	CC, ES
Valley Farms J9 - Wellbore #1 - Design #1	1,200.0	1,200.2	32.2	27.2	6.342	SF

Offset Design		Valley Farms I - Valley Farms I2 - Wellbore #1 - Actual											Offset Site Error:		0.0 ft	
Survey Program: 923-													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				
0.0	0.0	125.3	125.3	0.0	0.0	168.91	-2,544.6	498.7	2,593.0							
100.0	100.0	232.4	232.4	0.1	0.0	168.93	-2,544.2	497.9	2,592.5	2,592.4	0.10	N/A				
200.0	200.0	339.5	339.5	0.3	0.0	168.95	-2,543.7	496.6	2,591.8	2,591.5	0.32	8,101.506				
300.0	300.0	446.6	446.6	0.5	0.0	168.99	-2,542.9	494.8	2,590.8	2,590.2	0.54	4,756.326				
400.0	400.0	553.7	553.6	0.8	0.0	169.03	-2,542.0	492.5	2,589.5	2,588.7	0.77	3,365.219				
500.0	500.0	660.7	660.6	1.0	0.0	169.09	-2,540.8	489.8	2,588.0	2,587.0	0.99	2,602.847				
600.0	600.0	767.7	767.5	1.2	0.0	169.15	-2,539.5	486.6	2,586.1	2,584.9	1.22	2,121.406				
700.0	700.0	874.7	874.4	1.4	0.0	169.23	-2,537.9	482.9	2,584.1	2,582.6	1.44	1,789.687				
800.0	800.0	995.8	995.5	1.7	0.0	169.32	-2,535.7	478.1	2,581.6	2,579.9	1.67	1,547.102				
900.0	900.0	1,553.2	1,546.3	1.9	0.0	170.41	-2,486.9	420.2	2,577.1	2,575.2	1.89	1,361.069				
1,000.0	1,000.0	2,147.9	2,096.9	2.1	0.0	173.74	-2,339.5	256.6	2,549.4	2,547.2	2.12	1,203.564				
1,100.0	1,100.0	2,242.2	2,178.7	2.3	0.0	174.52	-2,308.6	221.4	2,510.7	2,508.3	2.34	1,071.583				
1,200.0	1,200.0	2,320.2	2,246.3	2.5	0.0	53.57	-2,283.5	191.7	2,471.4	2,468.8	2.55	970.444				
1,300.0	1,299.6	2,409.5	2,323.7	2.7	0.0	55.66	-2,254.6	157.7	2,429.5	2,426.8	2.74	887.401				
1,400.0	1,398.8	2,478.7	2,383.7	3.0	0.0	57.73	-2,232.3	131.5	2,385.9	2,382.9	2.95	809.066				
1,500.0	1,497.1	2,573.7	2,466.0	3.2	0.0	60.39	-2,201.5	95.2	2,340.3	2,337.1	3.20	732.062				
1,600.0	1,594.3	2,644.5	2,527.0	3.6	0.0	62.94	-2,178.4	67.8	2,293.3	2,289.8	3.50	654.712				
1,700.0	1,690.2	2,717.3	2,589.9	4.0	0.0	65.72	-2,154.6	39.7	2,245.3	2,241.4	3.89	577.003				
1,800.0	1,784.4	2,787.2	2,650.1	4.5	0.0	68.65	-2,131.6	12.8	2,196.7	2,192.4	4.39	500.858				
1,900.0	1,876.8	2,851.4	2,705.4	5.1	0.0	71.62	-2,110.4	-11.9	2,148.1	2,143.1	5.00	429.237				
2,000.0	1,967.1	2,903.7	2,750.5	5.9	0.0	74.43	-2,093.0	-32.0	2,099.9	2,094.2	5.76	364.842				
2,100.0	2,054.9	2,952.3	2,792.4	6.7	0.0	77.21	-2,077.0	-50.7	2,053.0	2,046.3	6.65	308.884				
2,200.0	2,140.2	3,005.5	2,838.2	7.8	0.0	80.14	-2,059.5	-71.2	2,007.6	1,999.9	7.68	261.413				
2,292.0	2,216.1	3,050.1	2,876.6	8.8	0.0	82.71	-2,044.6	-88.4	1,967.6	1,958.9	8.75	224.902				
2,300.0	2,222.6	3,054.2	2,880.1	8.9	0.0	82.83	-2,043.2	-90.0	1,964.2	1,955.4	8.85	222.058				
2,400.0	2,303.7	3,105.5	2,924.2	10.1	0.0	84.31	-2,026.0	-109.8	1,923.8	1,913.7	10.07	191.000				
2,500.0	2,384.9	3,151.8	2,963.9	11.4	0.0	85.67	-2,010.1	-127.5	1,886.7	1,875.4	11.32	166.613				
2,600.0	2,466.0	3,189.0	2,995.8	12.6	0.0	86.76	-1,997.4	-141.7	1,853.4	1,840.8	12.59	147.206				
2,700.0	2,547.2	3,226.3	3,027.9	13.9	0.0	87.87	-1,984.7	-156.0	1,824.1	1,810.3	13.87	131.523				
2,800.0	2,628.3	3,259.4	3,056.4	15.2	0.0	88.85	-1,973.5	-168.7	1,799.2	1,784.0	15.16	118.715				
2,900.0	2,709.5	3,292.0	3,084.4	16.4	0.0	89.82	-1,962.6	-181.2	1,778.8	1,762.3	16.45	108.155				
3,000.0	2,790.6	3,328.0	3,115.4	17.7	0.0	90.90	-1,950.7	-195.0	1,763.0	1,745.3	17.74	99.383				
3,100.0	2,871.8	3,370.9	3,152.5	19.0	0.0	92.18	-1,936.7	-211.3	1,752.0	1,732.9	19.03	92.059				
3,200.0	2,952.9	3,418.9	3,194.1	20.3	0.0	93.61	-1,921.0	-229.4	1,745.5	1,725.1	20.31	85.923				
3,287.6	3,024.0	3,451.4	3,222.4	21.5	0.0	94.58	-1,910.3	-241.5	1,743.6	1,722.2	21.44	81.340	CC			
3,300.0	3,034.1	3,456.0	3,226.3	21.6	0.0	94.72	-1,908.8	-243.2	1,743.6	1,722.0	21.59	80.743	ES			
3,400.0	3,115.2	3,492.8	3,258.4	23.0	0.0	95.82	-1,897.0	-256.9	1,746.7	1,723.8	22.87	76.379				
3,503.1	3,198.9	3,535.2	3,295.4	24.3	0.0	97.07	-1,883.5	-272.6	1,754.8	1,730.6	24.17	72.610				
3,600.0	3,278.9	3,583.2	3,337.4	25.4	0.0	98.82	-1,868.3	-290.2	1,766.5	1,741.3	25.21	70.081				

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 J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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: 923- Valley Farms I - Valley Farms I2 - Wellbore #1 - Actual													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis				Distance					Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
3,700.0	3,364.3	3,635.6	3,383.4	26.4	0.0	100.76	-1,851.8	-309.2	1,781.8	1,755.8	26.06	68.383			
3,800.0	3,452.3	3,692.1	3,433.4	27.3	0.0	102.81	-1,834.6	-329.1	1,800.1	1,773.3	26.77	67.237			
3,900.0	3,542.7	3,764.1	3,498.0	28.1	0.0	105.21	-1,813.9	-353.3	1,820.4	1,793.1	27.32	66.636			
4,000.0	3,635.1	3,863.9	3,589.1	28.8	0.0	108.09	-1,787.3	-384.0	1,841.7	1,814.0	27.66	66.582			
4,100.0	3,729.5	3,961.4	3,679.2	29.4	0.0	110.68	-1,762.2	-411.4	1,862.4	1,834.5	27.88	66.805			
4,200.0	3,825.4	4,054.9	3,766.6	29.9	0.0	112.94	-1,739.7	-435.8	1,882.6	1,854.6	28.00	67.237			
4,300.0	3,922.7	4,152.3	3,858.8	30.3	0.0	115.00	-1,718.4	-459.1	1,901.8	1,873.8	28.02	67.862			
4,400.0	4,021.1	4,318.5	4,019.9	30.6	0.0	117.38	-1,691.3	-489.1	1,917.6	1,889.7	27.86	68.821			
4,500.0	4,120.2	4,436.7	4,136.5	30.9	0.0	118.62	-1,679.0	-503.5	1,929.4	1,901.6	27.82	69.359			
4,600.0	4,219.9	4,615.8	4,315.0	31.0	0.0	119.55	-1,669.8	-514.9	1,936.3	1,908.6	27.75	69.780			
4,695.1	4,315.0	4,730.4	4,429.5	31.1	0.0	-117.57	-1,668.3	-516.2	1,937.9	1,910.1	27.77	69.782			
4,700.0	4,319.9	4,735.7	4,434.8	31.1	0.0	-117.57	-1,668.3	-516.3	1,937.9	1,910.1	27.77	69.775			
4,800.0	4,419.9	4,838.7	4,537.8	31.2	0.0	-117.55	-1,667.8	-516.6	1,937.9	1,910.1	27.84	69.615			
4,900.0	4,519.9	4,949.2	4,648.3	31.3	0.0	-117.55	-1,667.5	-516.3	1,937.6	1,909.7	27.91	69.431			
5,000.0	4,619.9	5,052.0	4,751.1	31.3	0.0	-117.57	-1,667.7	-515.3	1,936.8	1,908.9	27.98	69.218			
5,100.0	4,719.9	5,146.0	4,845.2	31.4	0.0	-117.60	-1,668.4	-514.4	1,936.3	1,908.2	28.06	69.003			
5,200.0	4,819.9	5,248.1	4,947.2	31.5	0.0	-117.64	-1,669.3	-513.4	1,935.8	1,907.7	28.14	68.785			
5,300.0	4,919.9	5,359.5	5,058.6	31.5	0.0	-117.67	-1,670.0	-512.1	1,935.1	1,906.9	28.23	68.554			
5,400.0	5,019.9	5,469.5	5,168.6	31.6	0.0	-117.71	-1,670.4	-510.1	1,933.6	1,905.3	28.31	68.293			
5,500.0	5,119.9	5,564.3	5,263.4	31.7	0.0	-117.74	-1,670.8	-508.2	1,932.1	1,903.7	28.40	68.030			
5,600.0	5,219.9	5,669.3	5,368.4	31.7	0.0	-117.75	-1,670.1	-506.9	1,930.7	1,902.2	28.48	67.788			
5,700.0	5,319.9	5,771.3	5,470.3	31.8	0.0	-117.74	-1,669.0	-505.5	1,928.9	1,900.4	28.56	67.537			
5,800.0	5,419.9	5,871.8	5,570.8	31.9	0.0	-117.73	-1,668.1	-504.0	1,927.2	1,898.6	28.64	67.282			
5,900.0	5,519.9	5,963.8	5,662.8	32.0	0.0	-117.74	-1,667.5	-502.6	1,925.6	1,896.9	28.73	67.025			
6,000.0	5,619.9	6,050.1	5,749.1	32.1	0.0	-117.75	-1,667.6	-501.6	1,924.6	1,895.8	28.82	66.781			
6,100.0	5,719.9	6,151.9	5,850.9	32.1	0.0	-117.79	-1,668.3	-500.6	1,924.0	1,895.1	28.92	66.540			
6,200.0	5,819.9	6,251.9	5,950.9	32.2	0.0	-117.83	-1,669.3	-499.2	1,923.3	1,894.3	29.01	66.287			
6,300.0	5,919.9	6,357.2	6,056.2	32.3	0.0	-117.88	-1,670.4	-497.6	1,922.4	1,893.3	29.12	66.025			
6,400.0	6,019.9	6,462.6	6,161.5	32.4	0.0	-117.94	-1,671.5	-495.7	1,921.3	1,892.1	29.22	65.752			
6,500.0	6,119.9	6,565.7	6,264.6	32.5	0.0	-117.97	-1,671.8	-493.8	1,919.9	1,890.5	29.32	65.477			
6,600.0	6,219.9	6,658.4	6,357.3	32.6	0.0	-117.93	-1,670.1	-493.4	1,918.6	1,889.2	29.41	65.239			
6,700.0	6,319.9	6,749.4	6,448.2	32.7	0.0	-117.86	-1,667.5	-494.0	1,917.8	1,888.3	29.49	65.033			
6,800.0	6,419.9	6,848.1	6,546.9	32.8	0.0	-117.78	-1,665.0	-494.8	1,917.3	1,887.7	29.57	64.836			
6,900.0	6,519.9	6,957.7	6,656.4	32.8	0.0	-117.70	-1,662.2	-495.2	1,916.5	1,886.8	29.65	64.627			
7,000.0	6,619.9	7,060.6	6,759.3	32.9	0.0	-117.62	-1,659.3	-495.4	1,915.4	1,885.6	29.74	64.405			
7,100.0	6,719.9	7,146.0	6,844.7	33.0	0.0	-117.55	-1,656.9	-495.7	1,914.4	1,884.6	29.83	64.182			
7,128.9	6,748.8	7,167.1	6,865.8	33.1	0.0	-117.54	-1,656.5	-495.9	1,914.3	1,884.5	29.85	64.122			
7,200.0	6,819.9	7,225.4	6,924.1	33.1	0.0	-117.51	-1,655.8	-496.5	1,914.7	1,884.7	29.92	63.986			
7,300.0	6,919.9	7,340.4	7,039.1	33.2	0.0	-117.46	-1,654.7	-497.9	1,915.3	1,885.3	30.02	63.804			
7,400.0	7,019.9	7,468.1	7,166.7	33.3	0.0	-117.50	-1,655.0	-496.2	1,914.2	1,884.1	30.13	63.528			
7,479.1	7,099.0	7,563.9	7,262.5	33.4	0.0	-117.55	-1,655.6	-493.7	1,912.6	1,882.4	30.23	63.274 SF			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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													Valley Farms I - Valley Farms I7 - Wellbore #1 - Actual		Offset Site Error:		0.0 ft
Survey Program: 983-													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
0.0	0.0	108.9	108.9	0.0	0.0	168.57	-2,542.3	513.8	2,593.7								
100.0	100.0	201.9	201.9	0.1	0.0	168.57	-2,542.7	514.0	2,594.2	2,594.1	0.10	N/A					
200.0	200.0	295.0	295.0	0.3	0.0	168.57	-2,543.4	514.2	2,594.9	2,594.6	0.32	8,111.564					
300.0	300.0	388.0	388.0	0.5	0.0	168.57	-2,544.2	514.5	2,595.9	2,595.3	0.54	4,765.836					
400.0	400.0	481.1	481.1	0.8	0.0	168.56	-2,545.3	514.9	2,597.1	2,596.4	0.77	3,375.222					
500.0	500.0	574.1	574.1	1.0	0.0	168.56	-2,546.7	515.4	2,598.7	2,597.7	0.99	2,613.667					
600.0	600.0	667.1	667.1	1.2	0.0	168.55	-2,548.2	516.0	2,600.4	2,599.2	1.22	2,133.185					
700.0	700.0	760.2	760.1	1.4	0.0	168.55	-2,550.1	516.7	2,602.5	2,601.1	1.44	1,802.498					
800.0	800.0	853.2	853.1	1.7	0.0	168.54	-2,552.1	517.5	2,604.8	2,603.1	1.67	1,561.067					
900.0	900.0	946.2	946.0	1.9	0.0	168.53	-2,554.4	518.3	2,607.4	2,605.5	1.89	1,377.104					
1,000.0	1,000.0	2,725.4	2,564.8	2.1	0.0	176.96	-2,114.6	112.3	2,565.2	2,563.1	2.12	1,211.057					
1,100.0	1,100.0	2,799.9	2,620.9	2.3	0.0	177.80	-2,078.0	79.9	2,509.0	2,506.7	2.34	1,070.889					
1,200.0	1,200.0	2,873.2	2,676.0	2.5	0.0	57.75	-2,041.9	47.7	2,452.1	2,449.6	2.55	962.825					
1,300.0	1,299.6	2,944.5	2,729.6	2.7	0.0	60.66	-2,006.9	16.3	2,393.6	2,390.8	2.74	873.848					
1,400.0	1,398.8	2,996.5	2,768.8	3.0	0.0	63.52	-1,981.5	-6.7	2,333.9	2,330.9	2.95	790.146					
1,500.0	1,497.1	3,042.0	2,803.1	3.2	0.0	66.44	-1,959.6	-27.0	2,273.7	2,270.5	3.21	708.669					
1,600.0	1,594.3	3,095.9	2,843.9	3.6	0.0	69.72	-1,933.7	-51.0	2,213.3	2,209.7	3.53	627.630					
1,700.0	1,690.2	3,148.0	2,883.5	4.0	0.0	73.10	-1,908.9	-73.9	2,153.0	2,149.1	3.93	547.584					
1,800.0	1,784.4	3,219.3	2,937.8	4.5	0.0	77.13	-1,874.6	-104.9	2,093.0	2,088.5	4.45	470.422					
1,900.0	1,876.8	3,265.0	2,972.5	5.1	0.0	80.59	-1,852.3	-124.6	2,033.7	2,028.6	5.09	399.856					
2,000.0	1,967.1	3,301.9	3,000.4	5.9	0.0	83.80	-1,834.4	-140.8	1,976.0	1,970.2	5.85	337.782					
2,100.0	2,054.9	3,334.6	3,025.2	6.7	0.0	86.83	-1,818.6	-155.2	1,920.7	1,914.0	6.74	284.872					
2,200.0	2,140.2	3,364.9	3,048.1	7.8	0.0	89.67	-1,804.1	-168.5	1,868.2	1,860.5	7.76	240.761					
2,292.0	2,216.1	3,389.8	3,067.2	8.8	0.0	92.07	-1,792.1	-179.2	1,823.1	1,814.3	8.80	207.127					
2,300.0	2,222.6	3,391.9	3,068.8	8.9	0.0	92.14	-1,791.1	-180.0	1,819.3	1,810.4	8.90	204.474					
2,400.0	2,303.7	3,418.3	3,089.1	10.1	0.0	93.04	-1,778.4	-191.2	1,774.3	1,764.2	10.11	175.557					
2,500.0	2,384.9	3,440.3	3,106.1	11.4	0.0	93.79	-1,767.9	-200.3	1,733.5	1,722.1	11.34	152.880					
2,600.0	2,466.0	3,463.3	3,124.1	12.6	0.0	94.57	-1,756.9	-209.7	1,697.2	1,684.6	12.59	134.859					
2,700.0	2,547.2	3,488.0	3,143.5	13.9	0.0	95.42	-1,745.3	-219.6	1,665.8	1,652.0	13.84	120.364					
2,800.0	2,628.3	3,515.0	3,164.9	15.2	0.0	96.34	-1,732.8	-230.2	1,639.4	1,624.3	15.10	108.592					
2,900.0	2,709.5	3,543.7	3,187.9	16.4	0.0	97.32	-1,719.6	-241.2	1,618.2	1,601.9	16.35	98.956					
3,000.0	2,790.6	3,575.5	3,213.6	17.7	0.0	98.40	-1,705.1	-253.1	1,602.4	1,584.8	17.60	91.031					
3,100.0	2,871.8	3,609.0	3,241.0	19.0	0.0	99.53	-1,690.1	-265.2	1,592.0	1,573.2	18.84	84.483					
3,200.0	2,952.9	3,631.5	3,259.5	20.3	0.0	100.29	-1,680.2	-273.2	1,587.3	1,567.2	20.10	78.988					
3,232.1	2,978.9	3,638.6	3,265.5	20.8	0.0	100.53	-1,677.1	-275.7	1,587.0	1,566.5	20.50	77.430 CC, ES					
3,300.0	3,034.1	3,654.2	3,278.4	21.6	0.0	101.06	-1,670.5	-281.3	1,588.3	1,567.0	21.34	74.426					
3,400.0	3,115.2	3,678.1	3,298.5	23.0	0.0	101.86	-1,660.5	-289.7	1,595.1	1,572.5	22.58	70.649					
3,503.1	3,198.9	3,704.2	3,320.5	24.3	0.0	102.72	-1,650.0	-298.9	1,608.0	1,584.1	23.84	67.442					
3,600.0	3,278.9	3,786.0	3,391.2	25.4	0.0	105.82	-1,618.7	-325.5	1,624.1	1,599.4	24.68	65.810					
3,700.0	3,364.3	3,834.4	3,434.1	26.4	0.0	107.84	-1,601.2	-339.5	1,643.1	1,617.7	25.41	64.659					
3,800.0	3,452.3	3,879.2	3,473.9	27.3	0.0	109.76	-1,585.5	-352.6	1,665.0	1,639.0	26.03	63.968					
3,900.0	3,542.7	3,924.0	3,513.9	28.1	0.0	111.67	-1,570.2	-365.9	1,689.2	1,662.6	26.52	63.705					
4,000.0	3,635.1	3,971.2	3,556.3	28.8	0.0	113.60	-1,555.0	-380.0	1,715.3	1,688.4	26.87	63.840					
4,100.0	3,729.5	4,092.0	3,666.5	29.4	0.0	117.05	-1,519.1	-413.9	1,741.8	1,715.0	26.82	64.948					
4,200.0	3,825.4	4,221.4	3,788.1	29.9	0.0	120.10	-1,485.7	-443.0	1,765.1	1,738.4	26.66	66.198					
4,300.0	3,922.7	4,355.3	3,917.3	30.3	0.0	122.54	-1,459.9	-466.2	1,785.6	1,759.1	26.49	67.412					
4,400.0	4,021.1	4,502.4	4,062.3	30.6	0.0	124.39	-1,441.4	-483.2	1,801.5	1,775.2	26.32	68.442					
4,500.0	4,120.2	4,672.3	4,231.2	30.9	0.0	125.73	-1,427.2	-492.6	1,810.8	1,784.6	26.18	69.164					
4,600.0	4,219.9	4,811.8	4,370.7	31.0	0.0	126.25	-1,422.0	-493.3	1,814.4	1,788.2	26.16	69.348					
4,695.1	4,315.0	4,895.5	4,454.3	31.1	0.0	-110.95	-1,420.0	-492.5	1,814.1	1,787.9	26.18	69.283					

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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														Valley Farms I - Valley Farms I7 - Wellbore #1 - Actual		Offset Site Error:		0.0 ft	
Survey Program: 983-																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	4,319.9	4,899.3	4,458.2	31.1	0.0	-110.95	-1,419.9	-492.5	1,814.0	1,787.9	26.19	69.273							
4,800.0	4,419.9	5,001.5	4,560.3	31.2	0.0	-110.95	-1,419.7	-491.5	1,813.1	1,786.8	26.26	69.047							
4,900.0	4,519.9	5,110.9	4,669.7	31.3	0.0	-110.97	-1,419.5	-489.7	1,811.5	1,785.1	26.34	68.785							
5,000.0	4,619.9	5,188.9	4,747.7	31.3	0.0	-110.97	-1,419.3	-488.7	1,810.2	1,783.8	26.41	68.539							
5,100.0	4,719.9	5,285.2	4,844.0	31.4	0.0	-110.96	-1,418.9	-488.6	1,809.9	1,783.4	26.48	68.338							
5,200.0	4,819.9	5,396.8	4,955.5	31.5	0.0	-110.94	-1,418.0	-488.1	1,809.2	1,782.7	26.56	68.124							
5,300.0	4,919.9	5,498.0	5,056.8	31.5	0.0	-110.93	-1,417.1	-487.0	1,808.0	1,781.3	26.63	67.883							
5,394.1	5,014.0	5,572.3	5,131.0	31.6	0.0	-110.93	-1,416.9	-486.5	1,807.3	1,780.6	26.71	67.664							
5,400.0	5,019.9	5,576.6	5,135.3	31.6	0.0	-110.93	-1,416.9	-486.5	1,807.3	1,780.6	26.72	67.651							
5,500.0	5,119.9	5,654.0	5,212.8	31.7	0.0	-110.94	-1,417.5	-486.9	1,808.0	1,781.2	26.80	67.461							
5,600.0	5,219.9	5,744.5	5,303.2	31.7	0.0	-110.96	-1,418.6	-488.2	1,809.8	1,782.9	26.89	67.303							
5,700.0	5,319.9	5,846.9	5,405.6	31.8	0.0	-110.98	-1,419.8	-489.7	1,811.6	1,784.6	26.98	67.144							
5,800.0	5,419.9	5,960.1	5,518.8	31.9	0.0	-111.01	-1,421.5	-490.8	1,813.0	1,786.0	27.08	66.955							
5,900.0	5,519.9	6,062.1	5,620.8	32.0	0.0	-111.02	-1,421.9	-491.6	1,813.9	1,786.8	27.17	66.767							
6,000.0	5,619.9	6,175.0	5,733.7	32.1	0.0	-110.98	-1,421.1	-492.6	1,814.5	1,787.2	27.25	66.585							
6,100.0	5,719.9	6,282.8	5,841.5	32.1	0.0	-110.95	-1,420.1	-492.9	1,814.4	1,787.1	27.33	66.378							
6,200.0	5,819.9	6,384.1	5,942.8	32.2	0.0	-110.93	-1,419.6	-492.8	1,814.1	1,786.7	27.43	66.148							
6,300.0	5,919.9	6,485.6	6,044.3	32.3	0.0	-110.93	-1,419.4	-492.4	1,813.7	1,786.2	27.52	65.906							
6,400.0	6,019.9	6,579.7	6,138.4	32.4	0.0	-110.92	-1,419.0	-492.3	1,813.4	1,785.8	27.61	65.668							
6,411.4	6,031.2	6,589.5	6,148.2	32.4	0.0	-110.92	-1,418.9	-492.3	1,813.4	1,785.8	27.63	65.642							
6,500.0	6,119.9	6,669.9	6,228.6	32.5	0.0	-110.93	-1,419.3	-492.4	1,813.6	1,785.9	27.71	65.439							
6,600.0	6,219.9	6,769.5	6,328.2	32.6	0.0	-110.95	-1,419.9	-492.7	1,814.2	1,786.4	27.82	65.214							
6,700.0	6,319.9	6,875.0	6,433.7	32.7	0.0	-110.96	-1,420.5	-492.8	1,814.5	1,786.6	27.92	64.980							
6,800.0	6,419.9	6,976.4	6,535.1	32.8	0.0	-110.98	-1,421.1	-492.7	1,814.6	1,786.6	28.03	64.735							
6,900.0	6,519.9	7,081.2	6,639.8	32.8	0.0	-111.00	-1,421.8	-492.5	1,814.6	1,786.5	28.14	64.484							
7,000.0	6,619.9	7,199.0	6,757.7	32.9	0.0	-111.02	-1,421.9	-491.6	1,813.9	1,785.7	28.25	64.209							
7,100.0	6,719.9	7,294.0	6,852.7	33.0	0.0	-110.97	-1,420.4	-491.3	1,813.0	1,784.7	28.35	63.959							
7,137.6	6,757.5	7,315.9	6,874.5	33.1	0.0	-110.96	-1,419.8	-491.4	1,812.9	1,784.5	28.38	63.874							
7,200.0	6,819.9	7,363.6	6,922.3	33.1	0.0	-110.92	-1,418.7	-492.1	1,813.2	1,784.7	28.44	63.751							
7,300.0	6,919.9	7,458.0	7,016.7	33.2	0.0	-110.87	-1,417.6	-493.6	1,814.3	1,785.8	28.54	63.572							
7,400.0	7,019.9	7,561.7	7,120.3	33.3	0.0	-110.84	-1,417.2	-494.9	1,815.3	1,786.7	28.64	63.375							
7,479.1	7,099.0	7,657.4	7,216.0	33.4	0.0	-110.82	-1,416.9	-495.6	1,815.7	1,787.0	28.73	63.203 SF							

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J1 - 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	-0.72	87.5	-1.1	87.5					
100.0	100.0	100.0	100.0	0.1	0.1	-0.72	87.5	-1.1	87.5	87.3	0.19	460.004		
200.0	200.0	200.0	200.0	0.3	0.3	-0.72	87.5	-1.1	87.5	86.8	0.64	136.741		
300.0	300.0	300.0	300.0	0.5	0.5	-0.72	87.5	-1.1	87.5	86.4	1.09	80.306		
400.0	400.0	400.0	400.0	0.8	0.8	-0.72	87.5	-1.1	87.5	85.9	1.54	56.845		
500.0	500.0	500.0	500.0	1.0	1.0	-0.72	87.5	-1.1	87.5	85.5	1.99	43.993		
600.0	600.0	600.0	600.0	1.2	1.2	-0.72	87.5	-1.1	87.5	85.0	2.44	35.881		
700.0	700.0	700.0	700.0	1.4	1.4	-0.72	87.5	-1.1	87.5	84.6	2.89	30.295		
800.0	800.0	800.0	800.0	1.7	1.7	-0.72	87.5	-1.1	87.5	84.1	3.34	26.213		
900.0	900.0	900.0	900.0	1.9	1.9	-0.72	87.5	-1.1	87.5	83.7	3.79	23.101		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.72	87.5	-1.1	87.5	83.2	4.24	20.650		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-0.72	87.5	-1.1	87.5	82.8	4.69	18.669 CC, ES		
1,200.0	1,200.0	1,196.0	1,196.0	2.5	2.6	-123.90	89.6	0.1	91.1	86.0	5.11	17.843 SF		
1,300.0	1,299.6	1,291.3	1,291.0	2.7	2.8	-125.10	95.8	3.5	102.0	96.5	5.52	18.484		
1,400.0	1,398.8	1,385.0	1,383.9	3.0	3.0	-126.55	106.0	9.2	120.1	114.2	5.95	20.186		
1,500.0	1,497.1	1,476.4	1,474.0	3.2	3.2	-127.87	119.8	16.8	145.4	138.9	6.41	22.670		
1,600.0	1,594.3	1,565.0	1,560.4	3.6	3.5	-128.86	136.7	26.2	177.5	170.6	6.91	25.669		
1,700.0	1,690.2	1,650.2	1,642.6	4.0	3.8	-129.48	156.3	37.1	216.2	208.8	7.47	28.940		
1,800.0	1,784.4	1,731.5	1,720.1	4.5	4.2	-129.74	177.9	49.1	261.2	253.1	8.09	32.270		
1,900.0	1,876.8	1,808.7	1,792.6	5.1	4.5	-129.68	201.1	62.0	312.0	303.2	8.79	35.488		
2,000.0	1,967.1	1,881.6	1,859.9	5.9	5.0	-129.33	225.4	75.4	368.2	358.6	9.58	38.444		
2,100.0	2,054.9	1,949.9	1,922.1	6.7	5.4	-128.71	250.1	89.1	429.4	418.9	10.47	41.018		
2,200.0	2,140.2	2,013.8	1,979.3	7.8	5.8	-127.81	275.0	102.9	495.2	483.7	11.44	43.269		
2,292.0	2,216.1	2,068.5	2,027.5	8.8	6.3	-126.75	297.6	115.5	559.4	547.0	12.45	44.922		
2,300.0	2,222.6	2,073.1	2,031.5	8.9	6.3	-126.84	299.6	116.6	565.2	552.6	12.54	45.064		
2,400.0	2,303.7	2,129.3	2,080.2	10.1	6.8	-127.78	324.2	130.2	637.7	624.0	13.67	46.656		
2,500.0	2,384.9	2,183.4	2,126.2	11.4	7.2	-128.39	349.0	144.0	711.6	696.8	14.82	48.002		
2,600.0	2,466.0	2,235.4	2,169.7	12.6	7.7	-128.77	374.0	157.8	786.8	770.8	16.01	49.144		
2,700.0	2,547.2	2,297.3	2,220.8	13.9	8.3	-129.06	404.5	174.8	862.8	845.6	17.25	50.009		
2,800.0	2,628.3	2,362.1	2,274.3	15.2	9.0	-129.32	436.6	192.5	938.9	920.4	18.52	50.685		
2,900.0	2,709.5	2,426.9	2,327.8	16.4	9.6	-129.54	468.6	210.3	1,015.0	995.2	19.81	51.244		
3,000.0	2,790.6	2,491.8	2,381.3	17.7	10.3	-129.73	500.6	228.1	1,091.1	1,070.0	21.10	51.702		
3,100.0	2,871.8	2,556.6	2,434.8	19.0	10.9	-129.89	532.6	245.8	1,167.2	1,144.8	22.41	52.075		
3,200.0	2,952.9	2,621.5	2,488.3	20.3	11.6	-130.03	564.7	263.6	1,243.3	1,219.6	23.73	52.390		
3,300.0	3,034.1	2,686.3	2,541.8	21.6	12.3	-130.16	596.7	281.4	1,319.4	1,294.3	25.06	52.653		
3,400.0	3,115.2	2,751.2	2,595.4	23.0	13.0	-130.27	628.7	299.1	1,395.5	1,369.1	26.39	52.874		
3,503.1	3,198.9	2,818.1	2,650.5	24.3	13.7	-130.38	661.7	317.4	1,474.0	1,446.2	27.77	53.069		
3,600.0	3,278.9	2,882.1	2,703.4	25.4	14.3	-132.83	693.4	335.0	1,546.6	1,517.7	28.90	53.514		
3,700.0	3,364.3	2,950.7	2,760.0	26.4	15.1	-134.90	727.2	353.8	1,619.3	1,589.3	30.03	53.922		
3,800.0	3,452.3	3,021.6	2,818.5	27.3	15.8	-136.59	762.3	373.2	1,689.4	1,658.2	31.18	54.185		
3,900.0	3,542.7	3,094.6	2,878.7	28.1	16.6	-137.94	798.3	393.2	1,756.8	1,724.4	32.33	54.336		
4,000.0	3,635.1	3,169.5	2,940.6	28.8	17.4	-139.02	835.3	413.7	1,821.3	1,787.9	33.48	54.403		
4,100.0	3,729.5	3,246.2	3,003.8	29.4	18.2	-139.86	873.2	434.7	1,883.0	1,848.4	34.61	54.413		
4,200.0	3,825.4	3,324.3	3,068.3	29.9	19.1	-140.50	911.8	456.1	1,941.6	1,905.9	35.70	54.385		
4,300.0	3,922.7	3,403.8	3,133.9	30.3	19.9	-140.95	951.0	477.9	1,997.2	1,960.5	36.76	54.339		
4,400.0	4,021.1	3,633.9	3,329.3	30.6	21.9	-139.88	1,057.2	536.8	2,048.0	2,009.2	38.77	52.824		
4,500.0	4,120.2	4,031.2	3,695.6	30.9	24.4	-138.33	1,190.0	610.5	2,084.7	2,043.6	41.13	50.689		
4,600.0	4,219.9	4,488.1	4,144.8	31.0	25.8	-137.82	1,257.2	647.8	2,102.5	2,059.9	42.58	49.372		
4,695.1	4,315.0	4,658.3	4,315.0	31.1	26.0	-15.22	1,259.3	648.9	2,104.6	2,061.7	42.88	49.086		
4,700.0	4,319.9	4,663.2	4,319.9	31.1	26.0	-15.22	1,259.3	648.9	2,104.6	2,061.7	42.88	49.076		

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 J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J1 - 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			
4,800.0	4,419.9	4,763.2	4,419.9	31.2	26.1	-15.22	1,259.3	648.9	2,104.6	2,061.5	43.06	48.870			
4,900.0	4,519.9	4,863.2	4,519.9	31.3	26.1	-15.22	1,259.3	648.9	2,104.6	2,061.3	43.25	48.661			
5,000.0	4,619.9	4,963.2	4,619.9	31.3	26.2	-15.22	1,259.3	648.9	2,104.6	2,061.1	43.44	48.449			
5,100.0	4,719.9	5,063.2	4,719.9	31.4	26.3	-15.22	1,259.3	648.9	2,104.6	2,060.9	43.63	48.235			
5,200.0	4,819.9	5,163.2	4,819.9	31.5	26.4	-15.22	1,259.3	648.9	2,104.6	2,060.7	43.83	48.019			
5,300.0	4,919.9	5,263.2	4,919.9	31.5	26.5	-15.22	1,259.3	648.9	2,104.6	2,060.5	44.03	47.801			
5,400.0	5,019.9	5,363.2	5,019.9	31.6	26.5	-15.22	1,259.3	648.9	2,104.6	2,060.3	44.23	47.580			
5,500.0	5,119.9	5,463.2	5,119.9	31.7	26.6	-15.22	1,259.3	648.9	2,104.6	2,060.1	44.44	47.358			
5,600.0	5,219.9	5,563.2	5,219.9	31.7	26.7	-15.22	1,259.3	648.9	2,104.6	2,059.9	44.65	47.134			
5,700.0	5,319.9	5,663.2	5,319.9	31.8	26.8	-15.22	1,259.3	648.9	2,104.6	2,059.7	44.87	46.909			
5,800.0	5,419.9	5,763.2	5,419.9	31.9	26.9	-15.22	1,259.3	648.9	2,104.6	2,059.5	45.08	46.682			
5,900.0	5,519.9	5,863.2	5,519.9	32.0	27.0	-15.22	1,259.3	648.9	2,104.6	2,059.3	45.30	46.454			
6,000.0	5,619.9	5,963.2	5,619.9	32.1	27.1	-15.22	1,259.3	648.9	2,104.6	2,059.0	45.53	46.225			
6,100.0	5,719.9	6,063.2	5,719.9	32.1	27.2	-15.22	1,259.3	648.9	2,104.6	2,058.8	45.76	45.994			
6,200.0	5,819.9	6,163.2	5,819.9	32.2	27.3	-15.22	1,259.3	648.9	2,104.6	2,058.6	45.99	45.763			
6,300.0	5,919.9	6,263.2	5,919.9	32.3	27.4	-15.22	1,259.3	648.9	2,104.6	2,058.4	46.22	45.531			
6,400.0	6,019.9	6,363.2	6,019.9	32.4	27.5	-15.22	1,259.3	648.9	2,104.6	2,058.1	46.46	45.298			
6,500.0	6,119.9	6,463.2	6,119.9	32.5	27.6	-15.22	1,259.3	648.9	2,104.6	2,057.9	46.70	45.064			
6,600.0	6,219.9	6,563.2	6,219.9	32.6	27.7	-15.22	1,259.3	648.9	2,104.6	2,057.6	46.95	44.830			
6,700.0	6,319.9	6,663.2	6,319.9	32.7	27.8	-15.22	1,259.3	648.9	2,104.6	2,057.4	47.19	44.595			
6,800.0	6,419.9	6,763.2	6,419.9	32.8	27.9	-15.22	1,259.3	648.9	2,104.6	2,057.1	47.44	44.361			
6,900.0	6,519.9	6,863.2	6,519.9	32.8	28.0	-15.22	1,259.3	648.9	2,104.6	2,056.9	47.70	44.125			
7,000.0	6,619.9	6,963.2	6,619.9	32.9	28.1	-15.22	1,259.3	648.9	2,104.6	2,056.6	47.95	43.890			
7,100.0	6,719.9	7,063.2	6,719.9	33.0	28.2	-15.22	1,259.3	648.9	2,104.6	2,056.4	48.21	43.655			
7,200.0	6,819.9	7,163.2	6,819.9	33.1	28.3	-15.22	1,259.3	648.9	2,104.6	2,056.1	48.47	43.419			
7,300.0	6,919.9	7,263.2	6,919.9	33.2	28.5	-15.22	1,259.3	648.9	2,104.6	2,055.8	48.73	43.184			
7,400.0	7,019.9	7,363.2	7,019.9	33.3	28.6	-15.22	1,259.3	648.9	2,104.6	2,055.6	49.00	42.949			
7,479.1	7,099.0	7,367.3	7,024.0	33.4	28.6	-15.22	1,259.3	648.9	2,105.9	2,056.8	49.11	42.883			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J10 - 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	-72.30	7.2	-22.6	23.7					
100.0	100.0	100.0	100.0	0.1	0.1	-72.30	7.2	-22.6	23.7	23.5	0.19	124.718		
200.0	200.0	200.0	200.0	0.3	0.3	-72.30	7.2	-22.6	23.7	23.1	0.64	37.074		
300.0	300.0	300.0	300.0	0.5	0.5	-72.30	7.2	-22.6	23.7	22.6	1.09	21.773		
400.0	400.0	400.0	400.0	0.8	0.8	-72.30	7.2	-22.6	23.7	22.2	1.54	15.412		
500.0	500.0	500.0	500.0	1.0	1.0	-72.30	7.2	-22.6	23.7	21.7	1.99	11.928		
600.0	600.0	600.0	600.0	1.2	1.2	-72.30	7.2	-22.6	23.7	21.3	2.44	9.728		
700.0	700.0	700.0	700.0	1.4	1.4	-72.30	7.2	-22.6	23.7	20.8	2.89	8.214		
800.0	800.0	800.0	800.0	1.7	1.7	-72.30	7.2	-22.6	23.7	20.4	3.34	7.107		
900.0	900.0	900.0	900.0	1.9	1.9	-72.30	7.2	-22.6	23.7	19.9	3.79	6.263		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-72.30	7.2	-22.6	23.7	19.5	4.24	5.599		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-72.30	7.2	-22.6	23.7	19.0	4.69	5.061	CC, ES, SF	
1,200.0	1,200.0	1,199.8	1,199.7	2.5	2.5	160.83	4.8	-23.6	26.6	21.5	5.08	5.224		
1,300.0	1,299.6	1,298.9	1,298.5	2.7	2.7	152.47	-2.3	-26.6	35.6	30.2	5.44	6.542		
1,400.0	1,398.8	1,396.6	1,395.5	3.0	2.9	145.23	-14.0	-31.6	51.5	45.6	5.83	8.822		
1,500.0	1,497.1	1,492.5	1,489.7	3.2	3.2	140.27	-29.8	-38.3	74.1	67.8	6.27	11.809		
1,600.0	1,594.3	1,585.9	1,580.6	3.6	3.4	136.93	-49.4	-46.5	103.2	96.4	6.78	15.218		
1,700.0	1,690.2	1,676.3	1,667.6	4.0	3.8	134.56	-72.3	-56.2	138.5	131.1	7.37	18.781		
1,800.0	1,784.4	1,763.4	1,750.1	4.5	4.2	132.72	-97.8	-67.0	179.5	171.5	8.06	22.279		
1,900.0	1,876.8	1,846.9	1,828.0	5.1	4.6	131.16	-125.6	-78.8	226.1	217.2	8.85	25.553		
2,000.0	1,967.1	1,926.6	1,901.0	5.9	5.1	129.72	-155.0	-91.2	277.7	268.0	9.74	28.510		
2,100.0	2,054.9	2,000.0	1,967.1	6.7	5.6	128.31	-184.5	-103.7	334.1	323.4	10.74	31.115		
2,200.0	2,140.2	2,075.2	2,033.4	7.8	6.2	126.90	-217.1	-117.5	394.9	383.0	11.88	33.231		
2,292.0	2,216.1	2,146.0	2,095.4	8.8	6.8	125.82	-248.6	-130.8	453.5	440.5	13.04	34.786		
2,300.0	2,222.6	2,152.0	2,100.7	8.9	6.8	125.90	-251.3	-132.0	458.7	445.6	13.14	34.906		
2,400.0	2,303.7	2,227.9	2,167.1	10.1	7.5	126.79	-285.0	-146.3	523.7	509.2	14.46	36.204		
2,500.0	2,384.9	2,303.7	2,233.5	11.4	8.1	127.48	-318.8	-160.5	588.6	572.8	15.82	37.205		
2,600.0	2,466.0	2,379.6	2,299.9	12.6	8.8	128.04	-352.5	-174.8	653.7	636.4	17.21	37.983		
2,700.0	2,547.2	2,455.4	2,366.3	13.9	9.4	128.50	-386.2	-189.1	718.7	700.1	18.62	38.605		
2,800.0	2,628.3	2,531.2	2,432.7	15.2	10.1	128.88	-420.0	-203.4	783.8	763.7	20.04	39.110		
2,900.0	2,709.5	2,607.1	2,499.1	16.4	10.8	129.20	-453.7	-217.6	848.9	827.4	21.48	39.526		
3,000.0	2,790.6	2,682.9	2,565.5	17.7	11.5	129.47	-487.5	-231.9	914.0	891.0	22.92	39.869		
3,100.0	2,871.8	2,758.8	2,631.9	19.0	12.2	129.71	-521.2	-246.2	979.1	954.7	24.38	40.157		
3,200.0	2,952.9	2,834.6	2,698.3	20.3	12.9	129.92	-554.9	-260.5	1,044.2	1,018.3	25.84	40.403		
3,300.0	3,034.1	2,910.4	2,764.7	21.6	13.5	130.11	-588.7	-274.7	1,109.3	1,082.0	27.31	40.613		
3,400.0	3,115.2	2,986.3	2,831.1	23.0	14.2	130.27	-622.4	-289.0	1,174.4	1,145.7	28.79	40.794		
3,503.1	3,198.9	3,064.5	2,899.6	24.3	15.0	130.43	-657.2	-303.7	1,241.6	1,211.3	30.32	40.956		
3,600.0	3,278.9	3,139.0	2,964.9	25.4	15.6	132.26	-690.4	-317.8	1,303.5	1,271.8	31.69	41.129		
3,700.0	3,364.3	3,218.1	3,034.1	26.4	16.4	133.77	-725.5	-332.6	1,364.6	1,331.6	33.04	41.301		
3,800.0	3,452.3	3,299.0	3,104.9	27.3	17.1	134.95	-761.5	-347.9	1,422.9	1,388.5	34.38	41.384		
3,900.0	3,542.7	3,381.6	3,177.3	28.1	17.9	135.85	-798.3	-363.4	1,478.2	1,442.5	35.71	41.396		
4,000.0	3,635.1	3,465.7	3,250.9	28.8	18.7	136.50	-835.7	-379.3	1,530.5	1,493.4	37.01	41.356		
4,100.0	3,729.5	3,551.0	3,325.6	29.4	19.5	136.94	-873.7	-395.3	1,579.6	1,541.3	38.27	41.279		
4,200.0	3,825.4	3,637.3	3,401.2	29.9	20.3	137.18	-912.0	-411.6	1,625.6	1,586.1	39.48	41.178		
4,300.0	3,922.7	3,724.4	3,477.4	30.3	21.1	137.26	-950.8	-428.0	1,668.4	1,627.8	40.63	41.064		
4,400.0	4,021.1	3,832.7	3,572.4	30.6	22.0	136.95	-998.6	-448.2	1,708.1	1,666.2	41.83	40.833		
4,500.0	4,120.2	4,020.8	3,743.0	30.9	23.2	135.90	-1,071.3	-479.0	1,741.1	1,697.9	43.27	40.239		
4,600.0	4,219.9	4,224.5	3,935.7	31.0	24.2	134.94	-1,132.3	-504.8	1,765.4	1,720.9	44.48	39.687		
4,695.1	4,315.0	4,430.2	4,136.1	31.1	25.0	-103.15	-1,174.3	-522.5	1,779.6	1,734.2	45.35	39.239		
4,700.0	4,319.9	4,441.0	4,146.8	31.1	25.0	-103.20	-1,175.9	-523.2	1,780.0	1,734.6	45.39	39.217		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J10 - Wellbore #1 - Design #1														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning		
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			
4,800.0	4,419.9	4,665.7	4,370.1	31.2	25.5	-103.81	-1,197.7	-532.4	1,786.3	1,740.3	45.98	38.849			
4,900.0	4,519.9	4,815.5	4,519.9	31.3	25.6	-103.86	-1,199.6	-533.2	1,786.9	1,740.6	46.22	38.658			
5,000.0	4,619.9	4,915.5	4,619.9	31.3	25.7	-103.86	-1,199.6	-533.2	1,786.9	1,740.5	46.39	38.522			
5,100.0	4,719.9	5,015.5	4,719.9	31.4	25.8	-103.86	-1,199.6	-533.2	1,786.9	1,740.3	46.55	38.384			
5,200.0	4,819.9	5,115.5	4,819.9	31.5	25.8	-103.86	-1,199.6	-533.2	1,786.9	1,740.1	46.72	38.244			
5,300.0	4,919.9	5,215.5	4,919.9	31.5	25.9	-103.86	-1,199.6	-533.2	1,786.9	1,740.0	46.90	38.102			
5,400.0	5,019.9	5,315.5	5,019.9	31.6	26.0	-103.86	-1,199.6	-533.2	1,786.9	1,739.8	47.07	37.958			
5,500.0	5,119.9	5,415.5	5,119.9	31.7	26.1	-103.86	-1,199.6	-533.2	1,786.9	1,739.6	47.26	37.813			
5,600.0	5,219.9	5,515.5	5,219.9	31.7	26.2	-103.86	-1,199.6	-533.2	1,786.9	1,739.4	47.44	37.665			
5,700.0	5,319.9	5,615.5	5,319.9	31.8	26.3	-103.86	-1,199.6	-533.2	1,786.9	1,739.2	47.63	37.516			
5,800.0	5,419.9	5,715.5	5,419.9	31.9	26.3	-103.86	-1,199.6	-533.2	1,786.9	1,739.1	47.82	37.366			
5,900.0	5,519.9	5,815.5	5,519.9	32.0	26.4	-103.86	-1,199.6	-533.2	1,786.9	1,738.9	48.02	37.214			
6,000.0	5,619.9	5,915.5	5,619.9	32.1	26.5	-103.86	-1,199.6	-533.2	1,786.9	1,738.7	48.22	37.060			
6,100.0	5,719.9	6,015.5	5,719.9	32.1	26.6	-103.86	-1,199.6	-533.2	1,786.9	1,738.5	48.42	36.905			
6,200.0	5,819.9	6,115.5	5,819.9	32.2	26.7	-103.86	-1,199.6	-533.2	1,786.9	1,738.2	48.62	36.749			
6,300.0	5,919.9	6,215.5	5,919.9	32.3	26.8	-103.86	-1,199.6	-533.2	1,786.9	1,738.0	48.83	36.592			
6,400.0	6,019.9	6,315.5	6,019.9	32.4	26.9	-103.86	-1,199.6	-533.2	1,786.9	1,737.8	49.04	36.434			
6,500.0	6,119.9	6,415.5	6,119.9	32.5	27.0	-103.86	-1,199.6	-533.2	1,786.9	1,737.6	49.26	36.275			
6,600.0	6,219.9	6,515.5	6,219.9	32.6	27.1	-103.86	-1,199.6	-533.2	1,786.9	1,737.4	49.48	36.115			
6,700.0	6,319.9	6,615.5	6,319.9	32.7	27.2	-103.86	-1,199.6	-533.2	1,786.9	1,737.2	49.70	35.954			
6,800.0	6,419.9	6,715.5	6,419.9	32.8	27.3	-103.86	-1,199.6	-533.2	1,786.9	1,736.9	49.92	35.792			
6,900.0	6,519.9	6,815.5	6,519.9	32.8	27.4	-103.86	-1,199.6	-533.2	1,786.9	1,736.7	50.15	35.630			
7,000.0	6,619.9	6,915.5	6,619.9	32.9	27.5	-103.86	-1,199.6	-533.2	1,786.9	1,736.5	50.38	35.467			
7,100.0	6,719.9	7,015.5	6,719.9	33.0	27.6	-103.86	-1,199.6	-533.2	1,786.9	1,736.3	50.62	35.303			
7,200.0	6,819.9	7,115.5	6,819.9	33.1	27.7	-103.86	-1,199.6	-533.2	1,786.9	1,736.0	50.85	35.139			
7,300.0	6,919.9	7,215.5	6,919.9	33.2	27.8	-103.86	-1,199.6	-533.2	1,786.9	1,735.8	51.09	34.974			
7,400.0	7,019.9	7,315.5	7,019.9	33.3	27.9	-103.86	-1,199.6	-533.2	1,786.9	1,735.5	51.33	34.809			
7,479.1	7,099.0	7,394.6	7,099.0	33.4	28.0	-103.86	-1,199.6	-533.2	1,786.9	1,735.3	51.53	34.679			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J11 - 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	-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 CC, ES		
1,200.0	1,200.0	1,200.1	1,200.1	2.5	2.6	-122.76	37.4	2.1	38.8	33.7	5.10	7.601 SF		
1,300.0	1,299.6	1,300.1	1,299.7	2.7	2.8	-120.99	37.0	10.0	42.7	37.2	5.50	7.757		
1,400.0	1,398.8	1,399.8	1,398.6	3.0	3.0	-118.65	36.4	23.0	49.2	43.3	5.94	8.279		
1,500.0	1,497.1	1,499.3	1,496.4	3.2	3.3	-116.23	35.6	41.1	58.4	52.0	6.47	9.037		
1,600.0	1,594.3	1,598.3	1,592.7	3.6	3.6	-114.00	34.5	64.1	70.3	63.2	7.10	9.901		
1,700.0	1,690.2	1,696.8	1,687.1	4.0	4.0	-112.07	33.3	91.9	84.9	77.0	7.89	10.751		
1,800.0	1,784.4	1,794.7	1,779.5	4.5	4.5	-110.43	31.8	124.3	102.0	93.1	8.86	11.501		
1,900.0	1,876.8	1,891.9	1,869.4	5.1	5.1	-109.03	30.1	161.2	121.6	111.5	10.04	12.105		
2,000.0	1,967.1	1,988.4	1,956.7	5.9	5.8	-107.81	28.2	202.2	143.6	132.2	11.44	12.553		
2,100.0	2,054.9	2,084.7	2,041.8	6.7	6.7	-106.86	26.2	247.2	168.0	154.9	13.05	12.866		
2,200.0	2,140.2	2,181.2	2,126.7	7.8	7.5	-107.19	24.1	293.0	193.9	179.1	14.82	13.083		
2,292.0	2,216.1	2,269.3	2,204.3	8.8	8.4	-108.40	22.1	334.8	219.3	202.8	16.54	13.258		
2,300.0	2,222.6	2,277.0	2,211.0	8.9	8.4	-108.60	22.0	338.4	221.6	204.9	16.69	13.273		
2,400.0	2,303.7	2,372.4	2,295.0	10.1	9.4	-110.77	19.9	383.7	250.2	231.6	18.63	13.432		
2,500.0	2,384.9	2,467.8	2,379.0	11.4	10.3	-112.50	17.8	429.0	279.1	258.5	20.58	13.560		
2,600.0	2,466.0	2,563.2	2,462.9	12.6	11.2	-113.91	15.8	474.3	308.2	285.6	22.55	13.666		
2,700.0	2,547.2	2,658.7	2,546.9	13.9	12.2	-115.07	13.7	519.6	337.4	312.9	24.53	13.755		
2,800.0	2,628.3	2,754.1	2,630.9	15.2	13.2	-116.05	11.6	564.9	366.7	340.2	26.52	13.831		
2,900.0	2,709.5	2,849.5	2,714.9	16.4	14.1	-116.88	9.6	610.1	396.1	367.6	28.51	13.896		
3,000.0	2,790.6	2,945.0	2,798.8	17.7	15.1	-117.60	7.5	655.4	425.6	395.1	30.50	13.953		
3,100.0	2,871.8	3,040.4	2,882.8	19.0	16.1	-118.23	5.4	700.7	455.2	422.7	32.50	14.003		
3,200.0	2,952.9	3,135.8	2,966.8	20.3	17.0	-118.78	3.3	746.0	484.7	450.2	34.51	14.047		
3,300.0	3,034.1	3,231.2	3,050.7	21.6	18.0	-119.26	1.3	791.3	514.3	477.8	36.51	14.086		
3,400.0	3,115.2	3,326.7	3,134.7	23.0	19.0	-119.70	-0.8	836.6	544.0	505.5	38.52	14.122		
3,503.1	3,198.9	3,425.1	3,221.3	24.3	20.0	-120.10	-2.9	883.3	574.6	534.0	40.59	14.155		
3,600.0	3,278.9	3,517.9	3,303.0	25.4	21.0	-120.97	-5.0	927.3	602.1	559.7	42.47	14.178		
3,700.0	3,364.3	3,613.6	3,387.4	26.4	21.9	-121.39	-7.0	972.5	628.1	583.8	44.30	14.177		
3,800.0	3,452.3	3,708.3	3,472.4	27.3	22.6	-121.70	-8.9	1,014.0	651.7	605.8	45.89	14.201		
3,900.0	3,542.7	3,803.6	3,560.0	28.1	23.3	-121.99	-10.6	1,051.4	673.0	625.7	47.32	14.223		
4,000.0	3,635.1	3,900.0	3,650.5	28.8	23.9	-122.27	-12.2	1,084.8	691.9	643.3	48.57	14.246		
4,100.0	3,729.5	3,995.7	3,741.8	29.4	24.4	-122.54	-13.5	1,113.4	708.4	658.8	49.64	14.271		
4,200.0	3,825.4	4,092.5	3,835.5	29.9	24.9	-122.80	-14.6	1,137.6	722.5	672.0	50.54	14.296		
4,300.0	3,922.7	4,189.6	3,930.5	30.3	25.2	-123.04	-15.5	1,157.1	734.0	682.8	51.26	14.320		
4,400.0	4,021.1	4,286.9	4,026.7	30.6	25.5	-123.26	-16.1	1,171.8	743.1	691.3	51.82	14.341		
4,500.0	4,120.2	4,384.3	4,123.7	30.9	25.7	-123.47	-16.6	1,181.6	749.5	697.3	52.20	14.358		
4,600.0	4,219.9	4,481.9	4,221.1	31.0	25.8	-123.67	-16.8	1,186.4	753.4	701.0	52.43	14.369		
4,695.1	4,315.0	4,575.8	4,315.0	31.1	25.9	-1.11	-16.8	1,187.0	754.7	702.2	52.54	14.364		
4,700.0	4,319.9	4,580.7	4,319.9	31.1	25.9	-1.11	-16.8	1,187.0	754.7	702.2	52.55	14.363		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J11 - Wellbore #1 - Design #1														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning		
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			
4,800.0	4,419.9	4,680.7	4,419.9	31.2	26.0	-1.11	-16.8	1,187.0	754.7	702.0	52.70	14.321			
4,900.0	4,519.9	4,780.7	4,519.9	31.3	26.1	-1.11	-16.8	1,187.0	754.7	701.9	52.85	14.279			
5,000.0	4,619.9	4,880.7	4,619.9	31.3	26.1	-1.11	-16.8	1,187.0	754.7	701.7	53.01	14.236			
5,100.0	4,719.9	4,980.7	4,719.9	31.4	26.2	-1.11	-16.8	1,187.0	754.7	701.5	53.18	14.192			
5,200.0	4,819.9	5,080.7	4,819.9	31.5	26.3	-1.11	-16.8	1,187.0	754.7	701.4	53.34	14.148			
5,300.0	4,919.9	5,180.7	4,919.9	31.5	26.4	-1.11	-16.8	1,187.0	754.7	701.2	53.51	14.103			
5,400.0	5,019.9	5,280.7	5,019.9	31.6	26.5	-1.11	-16.8	1,187.0	754.7	701.0	53.69	14.058			
5,500.0	5,119.9	5,380.7	5,119.9	31.7	26.6	-1.11	-16.8	1,187.0	754.7	700.8	53.86	14.012			
5,600.0	5,219.9	5,480.7	5,219.9	31.7	26.7	-1.11	-16.8	1,187.0	754.7	700.7	54.04	13.966			
5,700.0	5,319.9	5,580.7	5,319.9	31.8	26.8	-1.11	-16.8	1,187.0	754.7	700.5	54.22	13.919			
5,800.0	5,419.9	5,680.7	5,419.9	31.9	26.9	-1.11	-16.8	1,187.0	754.7	700.3	54.41	13.871			
5,900.0	5,519.9	5,780.7	5,519.9	32.0	27.0	-1.11	-16.8	1,187.0	754.7	700.1	54.60	13.824			
6,000.0	5,619.9	5,880.7	5,619.9	32.1	27.1	-1.11	-16.8	1,187.0	754.7	699.9	54.79	13.775			
6,100.0	5,719.9	5,980.7	5,719.9	32.1	27.2	-1.11	-16.8	1,187.0	754.7	699.7	54.98	13.727			
6,200.0	5,819.9	6,080.7	5,819.9	32.2	27.3	-1.11	-16.8	1,187.0	754.7	699.5	55.18	13.678			
6,300.0	5,919.9	6,180.7	5,919.9	32.3	27.4	-1.11	-16.8	1,187.0	754.7	699.3	55.38	13.628			
6,400.0	6,019.9	6,280.7	6,019.9	32.4	27.5	-1.11	-16.8	1,187.0	754.7	699.1	55.58	13.578			
6,500.0	6,119.9	6,380.7	6,119.9	32.5	27.6	-1.11	-16.8	1,187.0	754.7	698.9	55.79	13.528			
6,600.0	6,219.9	6,480.7	6,219.9	32.6	27.7	-1.11	-16.8	1,187.0	754.7	698.7	56.00	13.478			
6,700.0	6,319.9	6,580.7	6,319.9	32.7	27.8	-1.11	-16.8	1,187.0	754.7	698.5	56.21	13.427			
6,800.0	6,419.9	6,680.7	6,419.9	32.8	27.9	-1.11	-16.8	1,187.0	754.7	698.3	56.42	13.376			
6,900.0	6,519.9	6,780.7	6,519.9	32.8	28.0	-1.11	-16.8	1,187.0	754.7	698.1	56.64	13.324			
7,000.0	6,619.9	6,880.7	6,619.9	32.9	28.1	-1.11	-16.8	1,187.0	754.7	697.8	56.86	13.273			
7,100.0	6,719.9	6,980.7	6,719.9	33.0	28.2	-1.11	-16.8	1,187.0	754.7	697.6	57.08	13.221			
7,200.0	6,819.9	7,080.7	6,819.9	33.1	28.3	-1.11	-16.8	1,187.0	754.7	697.4	57.31	13.169			
7,300.0	6,919.9	7,180.7	6,919.9	33.2	28.5	-1.11	-16.8	1,187.0	754.7	697.2	57.54	13.117			
7,400.0	7,019.9	7,280.7	7,019.9	33.3	28.6	-1.11	-16.8	1,187.0	754.7	696.9	57.77	13.065			
7,412.0	7,031.9	7,292.7	7,031.9	33.3	28.6	-1.11	-16.8	1,187.0	754.7	696.9	57.80	13.058			
7,479.1	7,099.0	7,311.8	7,051.0	33.4	28.6	-1.11	-16.8	1,187.0	756.2	698.3	57.89	13.062			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J12 - Wellbore #1 - Design #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning	
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		
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 CC, ES		
1,200.0	1,200.0	1,200.3	1,200.3	2.5	2.6	-122.59	24.4	2.2	25.8	20.7	5.10	5.055 SF		
1,300.0	1,299.6	1,300.6	1,300.2	2.7	2.8	-120.42	22.5	9.9	28.2	22.7	5.49	5.127		
1,400.0	1,398.8	1,400.8	1,399.5	3.0	3.0	-117.50	19.4	22.6	32.2	26.3	5.93	5.426		
1,500.0	1,497.1	1,500.8	1,497.9	3.2	3.3	-114.47	15.0	40.4	37.9	31.5	6.46	5.875		
1,600.0	1,594.3	1,600.7	1,595.0	3.6	3.6	-111.67	9.5	63.1	45.4	38.3	7.10	6.388		
1,700.0	1,690.2	1,700.4	1,690.5	4.0	4.0	-109.26	2.7	90.6	54.5	46.6	7.91	6.890		
1,800.0	1,784.4	1,799.8	1,784.2	4.5	4.5	-107.25	-5.2	122.8	65.3	56.4	8.92	7.323		
1,900.0	1,876.8	1,898.9	1,875.8	5.1	5.2	-105.58	-14.2	159.6	77.8	67.6	10.16	7.660		
2,000.0	1,967.1	1,997.7	1,965.0	5.9	5.9	-104.17	-24.3	200.9	91.8	80.2	11.63	7.898		
2,100.0	2,054.9	2,096.3	2,051.8	6.7	6.8	-103.04	-35.5	246.3	107.4	94.0	13.34	8.050		
2,200.0	2,140.2	2,194.8	2,137.7	7.8	7.7	-103.66	-46.9	293.1	124.2	109.0	15.22	8.164		
2,292.0	2,216.1	2,285.1	2,216.4	8.8	8.6	-105.80	-57.5	336.0	141.0	124.0	17.02	8.284		
2,300.0	2,222.6	2,292.9	2,223.2	8.9	8.7	-106.08	-58.4	339.8	142.5	125.3	17.18	8.297		
2,400.0	2,303.7	2,390.7	2,308.5	10.1	9.7	-109.07	-69.8	386.3	161.8	142.6	19.16	8.441		
2,500.0	2,384.9	2,488.5	2,393.8	11.4	10.7	-111.43	-81.2	432.7	181.3	160.2	21.15	8.572		
2,600.0	2,466.0	2,586.4	2,479.2	12.6	11.7	-113.33	-92.6	479.2	201.2	178.0	23.15	8.690		
2,700.0	2,547.2	2,684.2	2,564.5	13.9	12.7	-114.89	-104.0	525.7	221.2	196.0	25.15	8.795		
2,800.0	2,628.3	2,782.0	2,649.8	15.2	13.7	-116.19	-115.3	572.2	241.3	214.1	27.14	8.889		
2,900.0	2,709.5	2,879.8	2,735.1	16.4	14.7	-117.29	-126.7	618.7	261.5	232.4	29.14	8.973		
3,000.0	2,790.6	2,977.6	2,820.4	17.7	15.8	-118.23	-138.1	665.2	281.8	250.7	31.14	9.049		
3,100.0	2,871.8	3,075.4	2,905.7	19.0	16.8	-119.04	-149.5	711.7	302.2	269.1	33.15	9.117		
3,200.0	2,952.9	3,173.3	2,991.0	20.3	17.9	-119.76	-160.9	758.2	322.6	287.5	35.15	9.179		
3,300.0	3,034.1	3,271.1	3,076.3	21.6	18.9	-120.38	-172.3	804.7	343.1	305.9	37.15	9.235		
3,400.0	3,115.2	3,368.9	3,161.6	23.0	19.9	-120.94	-183.7	851.1	363.6	324.4	39.15	9.286		
3,503.1	3,198.9	3,469.8	3,249.6	24.3	21.0	-121.45	-195.5	899.1	384.8	343.5	41.22	9.334		
3,600.0	3,278.9	3,564.8	3,332.5	25.4	22.0	-122.07	-206.5	944.3	403.4	360.3	43.12	9.355		
3,700.0	3,364.3	3,659.3	3,415.5	26.4	22.9	-122.22	-217.3	988.0	420.3	375.4	44.88	9.365		
3,800.0	3,452.3	3,752.5	3,499.4	27.3	23.7	-122.36	-226.9	1,027.4	435.8	389.3	46.44	9.384		
3,900.0	3,542.7	3,845.9	3,585.4	28.1	24.3	-122.51	-235.6	1,062.9	449.7	401.9	47.82	9.404		
4,000.0	3,635.1	3,939.4	3,673.1	28.8	24.9	-122.66	-243.3	1,094.2	462.1	413.1	49.03	9.425		
4,100.0	3,729.5	4,033.0	3,762.4	29.4	25.4	-122.81	-249.9	1,121.3	472.9	422.9	50.07	9.446		
4,200.0	3,825.4	4,126.6	3,853.1	29.9	25.8	-122.97	-255.6	1,144.2	482.2	431.2	50.93	9.467		
4,300.0	3,922.7	4,220.3	3,944.8	30.3	26.2	-123.12	-260.1	1,162.7	489.8	438.2	51.62	9.488		
4,400.0	4,021.1	4,314.1	4,037.4	30.6	26.4	-123.27	-263.6	1,176.9	495.8	443.7	52.16	9.507		
4,500.0	4,120.2	4,407.9	4,130.6	30.9	26.6	-123.42	-266.0	1,186.6	500.2	447.7	52.53	9.523		
4,600.0	4,219.9	4,500.0	4,222.6	31.0	26.8	-123.56	-267.2	1,191.9	502.9	450.2	52.75	9.534		
4,695.1	4,315.0	4,592.4	4,315.0	31.1	26.9	-0.98	-267.5	1,192.9	504.0	451.1	52.84	9.537		
4,700.0	4,319.9	4,597.3	4,319.9	31.1	26.9	-0.98	-267.5	1,192.9	504.0	451.1	52.85	9.536		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J12 - 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	
4,800.0	4,419.9	4,697.3	4,419.9	31.2	26.9	-0.98	-267.5	1,192.9	504.0	451.0	53.00	9.509		
4,900.0	4,519.9	4,797.3	4,519.9	31.3	27.0	-0.98	-267.5	1,192.9	504.0	450.8	53.15	9.481		
5,000.0	4,619.9	4,897.3	4,619.9	31.3	27.1	-0.98	-267.5	1,192.9	504.0	450.7	53.31	9.453		
5,100.0	4,719.9	4,997.3	4,719.9	31.4	27.2	-0.98	-267.5	1,192.9	504.0	450.5	53.47	9.425		
5,200.0	4,819.9	5,097.3	4,819.9	31.5	27.2	-0.98	-267.5	1,192.9	504.0	450.3	53.64	9.396		
5,300.0	4,919.9	5,197.3	4,919.9	31.5	27.3	-0.98	-267.5	1,192.9	504.0	450.2	53.80	9.367		
5,400.0	5,019.9	5,297.3	5,019.9	31.6	27.4	-0.98	-267.5	1,192.9	504.0	450.0	53.97	9.337		
5,500.0	5,119.9	5,397.3	5,119.9	31.7	27.5	-0.98	-267.5	1,192.9	504.0	449.8	54.15	9.307		
5,600.0	5,219.9	5,497.3	5,219.9	31.7	27.6	-0.98	-267.5	1,192.9	504.0	449.6	54.33	9.277		
5,700.0	5,319.9	5,597.3	5,319.9	31.8	27.7	-0.98	-267.5	1,192.9	504.0	449.5	54.51	9.246		
5,800.0	5,419.9	5,697.3	5,419.9	31.9	27.8	-0.98	-267.5	1,192.9	504.0	449.3	54.69	9.215		
5,900.0	5,519.9	5,797.3	5,519.9	32.0	27.9	-0.98	-267.5	1,192.9	504.0	449.1	54.88	9.184		
6,000.0	5,619.9	5,897.3	5,619.9	32.1	28.0	-0.98	-267.5	1,192.9	504.0	448.9	55.07	9.152		
6,100.0	5,719.9	5,997.3	5,719.9	32.1	28.1	-0.98	-267.5	1,192.9	504.0	448.7	55.26	9.120		
6,200.0	5,819.9	6,097.3	5,819.9	32.2	28.2	-0.98	-267.5	1,192.9	504.0	448.5	55.45	9.088		
6,300.0	5,919.9	6,197.3	5,919.9	32.3	28.3	-0.98	-267.5	1,192.9	504.0	448.3	55.65	9.056		
6,400.0	6,019.9	6,297.3	6,019.9	32.4	28.4	-0.98	-267.5	1,192.9	504.0	448.1	55.85	9.023		
6,500.0	6,119.9	6,397.3	6,119.9	32.5	28.5	-0.98	-267.5	1,192.9	504.0	447.9	56.06	8.990		
6,600.0	6,219.9	6,497.3	6,219.9	32.6	28.6	-0.98	-267.5	1,192.9	504.0	447.7	56.26	8.957		
6,700.0	6,319.9	6,597.3	6,319.9	32.7	28.7	-0.98	-267.5	1,192.9	504.0	447.5	56.47	8.924		
6,800.0	6,419.9	6,697.3	6,419.9	32.8	28.8	-0.98	-267.5	1,192.9	504.0	447.3	56.69	8.890		
6,900.0	6,519.9	6,797.3	6,519.9	32.8	28.9	-0.98	-267.5	1,192.9	504.0	447.1	56.90	8.857		
7,000.0	6,619.9	6,897.3	6,619.9	32.9	29.0	-0.98	-267.5	1,192.9	504.0	446.8	57.12	8.823		
7,100.0	6,719.9	6,997.3	6,719.9	33.0	29.1	-0.98	-267.5	1,192.9	504.0	446.6	57.34	8.789		
7,200.0	6,819.9	7,097.3	6,819.9	33.1	29.2	-0.98	-267.5	1,192.9	504.0	446.4	57.56	8.755		
7,300.0	6,919.9	7,197.3	6,919.9	33.2	29.3	-0.98	-267.5	1,192.9	504.0	446.2	57.79	8.721		
7,400.0	7,019.9	7,297.3	7,019.9	33.3	29.4	-0.98	-267.5	1,192.9	504.0	445.9	58.02	8.686		
7,439.1	7,059.0	7,336.4	7,059.0	33.4	29.5	-0.98	-267.5	1,192.9	504.0	445.9	58.11	8.673		
7,479.1	7,099.0	7,349.4	7,072.0	33.4	29.5	-0.98	-267.5	1,192.9	504.7	446.5	58.17	8.676		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J13 - Wellbore #1 - Design #1														Offset Well Error:	0.0 ft
Survey Program: 0-MWD															
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance				Warning		
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			
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	1,200.3	1,200.2	2.5	2.6	-122.56	11.4	2.2	12.8	7.8	5.10	2.521 ES, SF			
1,300.0	1,299.6	1,300.5	1,300.2	2.7	2.8	-120.09	8.2	9.5	13.9	8.4	5.49	2.538			
1,400.0	1,398.8	1,400.8	1,399.5	3.0	3.0	-116.73	2.9	21.5	15.8	9.8	5.92	2.661			
1,500.0	1,497.1	1,501.0	1,498.0	3.2	3.2	-113.17	-4.4	38.2	18.4	11.9	6.44	2.855			
1,600.0	1,594.3	1,601.1	1,595.4	3.6	3.6	-109.87	-13.9	59.6	21.8	14.7	7.09	3.079			
1,700.0	1,690.2	1,701.3	1,691.4	4.0	4.0	-107.02	-25.4	85.7	26.1	18.2	7.91	3.298			
1,800.0	1,784.4	1,801.3	1,785.7	4.5	4.5	-104.64	-38.9	116.3	31.1	22.2	8.93	3.485			
1,900.0	1,876.8	1,901.3	1,878.0	5.1	5.1	-102.70	-54.4	151.4	37.0	26.8	10.19	3.628			
2,000.0	1,967.1	2,001.2	1,968.2	5.9	5.9	-101.10	-71.8	190.8	43.6	31.9	11.70	3.725			
2,100.0	2,054.9	2,101.1	2,055.9	6.7	6.8	-99.79	-91.1	234.4	50.9	37.4	13.46	3.782			
2,200.0	2,140.2	2,200.8	2,141.1	7.8	7.8	-99.18	-111.9	281.7	59.0	43.5	15.46	3.813			
2,292.0	2,216.1	2,292.3	2,219.0	8.8	8.8	-101.93	-131.4	325.7	67.2	49.8	17.37	3.866			
2,300.0	2,222.6	2,300.3	2,225.8	8.9	8.9	-102.31	-133.1	329.6	67.9	50.4	17.54	3.873			
2,400.0	2,303.7	2,399.7	2,310.3	10.1	9.9	-106.48	-154.2	377.4	77.7	58.1	19.59	3.967			
2,500.0	2,384.9	2,499.1	2,394.8	11.4	11.0	-109.70	-175.3	425.2	87.8	66.2	21.61	4.061			
2,600.0	2,466.0	2,598.5	2,479.4	12.6	12.2	-112.26	-196.4	473.0	98.1	74.4	23.63	4.151			
2,700.0	2,547.2	2,697.8	2,563.9	13.9	13.3	-114.32	-217.5	520.8	108.5	82.9	25.63	4.234			
2,800.0	2,628.3	2,797.2	2,648.4	15.2	14.4	-116.02	-238.6	568.6	119.1	91.5	27.62	4.311			
2,900.0	2,709.5	2,896.6	2,733.0	16.4	15.6	-117.45	-259.7	616.4	129.7	100.1	29.62	4.380			
3,000.0	2,790.6	2,996.0	2,817.5	17.7	16.7	-118.66	-280.8	664.2	140.5	108.9	31.61	4.444			
3,100.0	2,871.8	3,095.4	2,902.1	19.0	17.9	-119.69	-301.9	712.0	151.2	117.6	33.60	4.501			
3,200.0	2,952.9	3,194.8	2,986.6	20.3	19.0	-120.59	-323.0	759.8	162.0	126.5	35.58	4.554			
3,300.0	3,034.1	3,294.1	3,071.1	21.6	20.2	-121.38	-344.1	807.6	172.9	135.3	37.57	4.602			
3,400.0	3,115.2	3,393.5	3,155.7	23.0	21.3	-122.07	-365.2	855.4	183.8	144.2	39.56	4.646			
3,503.1	3,198.9	3,496.0	3,242.8	24.3	22.5	-122.70	-387.0	904.7	195.0	153.4	41.61	4.687			
3,600.0	3,278.9	3,591.0	3,323.8	25.4	23.6	-122.96	-407.1	950.2	204.4	160.8	43.54	4.694			
3,700.0	3,364.3	3,686.2	3,406.7	26.4	24.4	-122.96	-425.9	993.0	212.9	167.6	45.27	4.703			
3,800.0	3,452.3	3,781.4	3,491.8	27.3	25.2	-122.98	-443.1	1,031.8	220.7	173.8	46.82	4.713			
3,900.0	3,542.7	3,876.4	3,578.9	28.1	25.9	-123.03	-458.5	1,066.7	227.7	179.5	48.19	4.725			
4,000.0	3,635.1	3,971.4	3,667.7	28.8	26.5	-123.08	-472.1	1,097.6	234.0	184.6	49.38	4.737			
4,100.0	3,729.5	4,066.3	3,757.9	29.4	27.1	-123.15	-484.0	1,124.4	239.5	189.0	50.41	4.750			
4,200.0	3,825.4	4,161.2	3,849.5	29.9	27.5	-123.24	-494.0	1,147.1	244.2	192.9	51.25	4.764			
4,300.0	3,922.7	4,256.0	3,942.2	30.3	27.9	-123.33	-502.1	1,165.5	248.1	196.1	51.93	4.777			
4,400.0	4,021.1	4,350.8	4,035.7	30.6	28.2	-123.43	-508.4	1,179.7	251.2	198.7	52.45	4.789			
4,500.0	4,120.2	4,445.6	4,129.8	30.9	28.4	-123.54	-512.8	1,189.7	253.4	200.6	52.81	4.799			
4,600.0	4,219.9	4,540.3	4,224.3	31.0	28.5	-123.65	-515.3	1,195.4	254.9	201.9	53.02	4.808			
4,695.1	4,315.0	4,631.0	4,315.0	31.1	28.6	-1.07	-515.9	1,196.8	255.5	202.4	53.10	4.812			
4,700.0	4,319.9	4,635.9	4,319.9	31.1	28.6	-1.07	-515.9	1,196.8	255.5	202.4	53.11	4.811			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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	4,419.9	4,735.9	4,419.9	31.2	28.7	-1.07	-515.9	1,196.8	255.5	202.3	53.26	4.798		
4,900.0	4,519.9	4,835.9	4,519.9	31.3	28.7	-1.07	-515.9	1,196.8	255.5	202.1	53.41	4.784		
5,000.0	4,619.9	4,935.9	4,619.9	31.3	28.8	-1.07	-515.9	1,196.8	255.5	202.0	53.56	4.770		
5,100.0	4,719.9	5,035.9	4,719.9	31.4	28.9	-1.07	-515.9	1,196.8	255.5	201.8	53.72	4.756		
5,200.0	4,819.9	5,135.9	4,819.9	31.5	29.0	-1.07	-515.9	1,196.8	255.5	201.6	53.88	4.742		
5,300.0	4,919.9	5,235.9	4,919.9	31.5	29.0	-1.07	-515.9	1,196.8	255.5	201.5	54.05	4.728		
5,400.0	5,019.9	5,335.9	5,019.9	31.6	29.1	-1.07	-515.9	1,196.8	255.5	201.3	54.22	4.713		
5,500.0	5,119.9	5,435.9	5,119.9	31.7	29.2	-1.07	-515.9	1,196.8	255.5	201.1	54.39	4.698		
5,600.0	5,219.9	5,535.9	5,219.9	31.7	29.3	-1.07	-515.9	1,196.8	255.5	201.0	54.57	4.683		
5,700.0	5,319.9	5,635.9	5,319.9	31.8	29.4	-1.07	-515.9	1,196.8	255.5	200.8	54.74	4.668		
5,800.0	5,419.9	5,735.9	5,419.9	31.9	29.5	-1.07	-515.9	1,196.8	255.5	200.6	54.93	4.652		
5,900.0	5,519.9	5,835.9	5,519.9	32.0	29.5	-1.07	-515.9	1,196.8	255.5	200.4	55.11	4.637		
6,000.0	5,619.9	5,935.9	5,619.9	32.1	29.6	-1.07	-515.9	1,196.8	255.5	200.2	55.30	4.621		
6,100.0	5,719.9	6,035.9	5,719.9	32.1	29.7	-1.07	-515.9	1,196.8	255.5	200.0	55.49	4.605		
6,200.0	5,819.9	6,135.9	5,819.9	32.2	29.8	-1.07	-515.9	1,196.8	255.5	199.8	55.68	4.589		
6,300.0	5,919.9	6,235.9	5,919.9	32.3	29.9	-1.07	-515.9	1,196.8	255.5	199.6	55.88	4.573		
6,400.0	6,019.9	6,335.9	6,019.9	32.4	30.0	-1.07	-515.9	1,196.8	255.5	199.4	56.08	4.557		
6,500.0	6,119.9	6,435.9	6,119.9	32.5	30.1	-1.07	-515.9	1,196.8	255.5	199.2	56.28	4.540		
6,600.0	6,219.9	6,535.9	6,219.9	32.6	30.2	-1.07	-515.9	1,196.8	255.5	199.0	56.48	4.524		
6,700.0	6,319.9	6,635.9	6,319.9	32.7	30.3	-1.07	-515.9	1,196.8	255.5	198.8	56.69	4.507		
6,800.0	6,419.9	6,735.9	6,419.9	32.8	30.4	-1.07	-515.9	1,196.8	255.5	198.6	56.90	4.491		
6,900.0	6,519.9	6,835.9	6,519.9	32.8	30.5	-1.07	-515.9	1,196.8	255.5	198.4	57.12	4.474		
7,000.0	6,619.9	6,935.9	6,619.9	32.9	30.6	-1.07	-515.9	1,196.8	255.5	198.2	57.33	4.457		
7,100.0	6,719.9	7,035.9	6,719.9	33.0	30.7	-1.07	-515.9	1,196.8	255.5	198.0	57.55	4.440		
7,200.0	6,819.9	7,135.9	6,819.9	33.1	30.8	-1.07	-515.9	1,196.8	255.5	197.8	57.77	4.423		
7,300.0	6,919.9	7,235.9	6,919.9	33.2	30.9	-1.07	-515.9	1,196.8	255.5	197.5	58.00	4.406		
7,400.0	7,019.9	7,335.9	7,019.9	33.3	31.0	-1.07	-515.9	1,196.8	255.5	197.3	58.22	4.389		
7,447.6	7,067.4	7,383.5	7,067.4	33.4	31.1	-1.07	-515.9	1,196.8	255.5	197.2	58.33	4.381		
7,479.1	7,099.0	7,402.0	7,086.0	33.4	31.1	-1.07	-515.9	1,196.8	255.9	197.5	58.39	4.382		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J15 - 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	-103.24	-5.3	-22.5	23.1					
100.0	100.0	100.0	100.0	0.1	0.1	-103.24	-5.3	-22.5	23.1	22.9	0.19	121.293		
200.0	200.0	200.0	200.0	0.3	0.3	-103.24	-5.3	-22.5	23.1	22.4	0.64	36.055		
300.0	300.0	300.0	300.0	0.5	0.5	-103.24	-5.3	-22.5	23.1	22.0	1.09	21.175		
400.0	400.0	400.0	400.0	0.8	0.8	-103.24	-5.3	-22.5	23.1	21.5	1.54	14.989		
500.0	500.0	500.0	500.0	1.0	1.0	-103.24	-5.3	-22.5	23.1	21.1	1.99	11.600		
600.0	600.0	600.0	600.0	1.2	1.2	-103.24	-5.3	-22.5	23.1	20.6	2.44	9.461		
700.0	700.0	700.0	700.0	1.4	1.4	-103.24	-5.3	-22.5	23.1	20.2	2.89	7.988		
800.0	800.0	800.0	800.0	1.7	1.7	-103.24	-5.3	-22.5	23.1	19.7	3.34	6.912		
900.0	900.0	900.0	900.0	1.9	1.9	-103.24	-5.3	-22.5	23.1	19.3	3.79	6.091		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-103.24	-5.3	-22.5	23.1	18.8	4.24	5.445		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-103.24	-5.3	-22.5	23.1	18.4	4.69	4.922 CC		
1,200.0	1,200.0	1,200.7	1,200.7	2.5	2.5	133.52	-7.0	-20.4	23.3	18.2	5.09	4.576 ES		
1,300.0	1,299.6	1,301.5	1,301.1	2.7	2.7	131.95	-12.0	-14.3	24.0	18.5	5.46	4.389		
1,400.0	1,398.8	1,402.2	1,400.9	3.0	3.0	129.53	-20.5	-4.0	25.1	19.3	5.87	4.284		
1,500.0	1,497.1	1,502.9	1,499.9	3.2	3.2	126.52	-32.2	10.2	26.9	20.5	6.35	4.228		
1,600.0	1,594.3	1,603.5	1,597.7	3.6	3.6	123.17	-47.3	28.5	29.1	22.2	6.96	4.189		
1,700.0	1,690.2	1,704.1	1,694.1	4.0	4.0	119.76	-65.5	50.7	32.0	24.3	7.73	4.141		
1,800.0	1,784.4	1,804.7	1,788.8	4.5	4.5	116.45	-87.0	76.8	35.5	26.8	8.72	4.072		
1,900.0	1,876.8	1,905.2	1,881.6	5.1	5.1	113.38	-111.7	106.6	39.6	29.7	9.96	3.980		
2,000.0	1,967.1	2,005.7	1,972.1	5.9	5.9	110.60	-139.3	140.2	44.4	32.9	11.46	3.873		
2,100.0	2,054.9	2,106.1	2,060.2	6.7	6.8	108.13	-170.0	177.4	49.7	36.5	13.23	3.760		
2,200.0	2,140.2	2,206.5	2,145.6	7.8	7.8	105.95	-203.5	218.0	55.7	40.4	15.26	3.648		
2,292.0	2,216.1	2,298.7	2,221.5	8.8	8.8	104.19	-236.8	258.4	61.6	44.3	17.36	3.551		
2,300.0	2,222.6	2,306.7	2,228.0	8.9	8.9	104.05	-239.8	262.1	62.2	44.6	17.56	3.541		
2,400.0	2,303.7	2,406.8	2,307.2	10.1	10.2	100.10	-278.7	309.3	68.6	48.5	20.15	3.406		
2,500.0	2,384.9	2,506.3	2,382.6	11.4	11.6	92.92	-319.9	359.4	75.4	52.5	22.86	3.297 SF		
2,600.0	2,466.0	2,605.2	2,455.5	12.6	13.0	84.84	-362.5	411.0	83.7	58.3	25.36	3.300		
2,700.0	2,547.2	2,704.3	2,528.4	13.9	14.5	78.28	-405.1	462.7	93.3	65.8	27.56	3.387		
2,800.0	2,628.3	2,803.3	2,601.4	15.2	16.0	73.00	-447.7	514.4	104.0	74.5	29.55	3.520		
2,900.0	2,709.5	2,902.3	2,674.3	16.4	17.5	68.72	-490.3	566.1	115.4	84.0	31.40	3.674		
3,000.0	2,790.6	3,001.3	2,747.2	17.7	19.0	65.22	-532.9	617.8	127.3	94.1	33.18	3.836		
3,100.0	2,871.8	3,100.3	2,820.1	19.0	20.5	62.32	-575.5	669.5	139.5	104.6	34.89	3.999		
3,200.0	2,952.9	3,199.3	2,893.0	20.3	22.0	59.90	-618.1	721.2	152.1	115.5	36.58	4.158		
3,300.0	3,034.1	3,298.4	2,965.9	21.6	23.5	57.84	-660.7	772.9	164.9	126.7	38.26	4.311		
3,400.0	3,115.2	3,398.1	3,039.4	23.0	25.0	56.09	-703.6	824.9	177.9	138.0	39.92	4.457		
3,503.1	3,198.9	3,507.3	3,122.3	24.3	26.4	55.29	-748.8	879.7	189.1	147.3	41.84	4.520		
3,600.0	3,278.9	3,610.5	3,204.3	25.4	27.7	55.48	-788.6	928.1	197.6	153.8	43.83	4.509		
3,700.0	3,364.3	3,717.5	3,292.7	26.4	28.8	55.64	-826.9	974.6	205.8	160.1	45.65	4.508		
3,800.0	3,452.3	3,824.8	3,384.6	27.3	29.9	55.78	-862.1	1,017.3	213.3	166.0	47.30	4.510		
3,900.0	3,542.7	3,932.4	3,479.8	28.1	30.9	55.89	-894.1	1,056.0	220.1	171.3	48.76	4.514		
4,000.0	3,635.1	4,040.4	3,578.0	28.8	31.7	55.97	-922.6	1,090.7	226.2	176.2	50.04	4.521		
4,100.0	3,729.5	4,148.7	3,678.9	29.4	32.4	56.04	-947.7	1,121.1	231.6	180.4	51.13	4.529		
4,200.0	3,825.4	4,257.2	3,782.0	29.9	33.1	56.07	-969.1	1,147.1	236.2	184.1	52.04	4.538		
4,300.0	3,922.7	4,365.9	3,887.1	30.3	33.6	56.09	-986.8	1,168.5	240.0	187.3	52.77	4.548		
4,400.0	4,021.1	4,474.8	3,993.8	30.6	34.0	56.09	-1,000.6	1,185.4	243.1	189.8	53.33	4.558		
4,500.0	4,120.2	4,583.9	4,101.7	30.9	34.3	56.06	-1,010.6	1,197.5	245.4	191.7	53.72	4.568		
4,600.0	4,219.9	4,693.1	4,210.4	31.0	34.5	56.01	-1,016.7	1,204.9	246.8	192.9	53.94	4.576		
4,695.1	4,315.0	4,797.0	4,314.3	31.1	34.6	178.65	-1,018.8	1,207.4	247.5	193.5	54.01	4.582		
4,700.0	4,319.9	4,802.3	4,319.6	31.1	34.6	178.65	-1,018.8	1,207.4	247.5	193.5	54.02	4.582		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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	4,419.9	4,902.6	4,419.9	31.2	34.6	178.65	-1,018.8	1,207.4	247.5	193.3	54.16	4.570		
4,900.0	4,519.9	5,002.6	4,519.9	31.3	34.7	178.65	-1,018.8	1,207.4	247.5	193.2	54.31	4.557		
5,000.0	4,619.9	5,102.6	4,619.9	31.3	34.7	178.65	-1,018.8	1,207.4	247.5	193.0	54.46	4.545		
5,100.0	4,719.9	5,202.6	4,719.9	31.4	34.8	178.65	-1,018.8	1,207.4	247.5	192.9	54.61	4.532		
5,200.0	4,819.9	5,302.6	4,819.9	31.5	34.9	178.65	-1,018.8	1,207.4	247.5	192.7	54.77	4.519		
5,300.0	4,919.9	5,402.6	4,919.9	31.5	34.9	178.65	-1,018.8	1,207.4	247.5	192.6	54.93	4.506		
5,400.0	5,019.9	5,502.6	5,019.9	31.6	35.0	178.65	-1,018.8	1,207.4	247.5	192.4	55.09	4.493		
5,500.0	5,119.9	5,602.6	5,119.9	31.7	35.1	178.65	-1,018.8	1,207.4	247.5	192.2	55.26	4.479		
5,600.0	5,219.9	5,702.6	5,219.9	31.7	35.1	178.65	-1,018.8	1,207.4	247.5	192.1	55.42	4.466		
5,700.0	5,319.9	5,802.6	5,319.9	31.8	35.2	178.65	-1,018.8	1,207.4	247.5	191.9	55.60	4.452		
5,800.0	5,419.9	5,902.6	5,419.9	31.9	35.3	178.65	-1,018.8	1,207.4	247.5	191.7	55.77	4.438		
5,900.0	5,519.9	6,002.6	5,519.9	32.0	35.3	178.65	-1,018.8	1,207.4	247.5	191.5	55.95	4.424		
6,000.0	5,619.9	6,102.6	5,619.9	32.1	35.4	178.65	-1,018.8	1,207.4	247.5	191.4	56.13	4.409		
6,100.0	5,719.9	6,202.6	5,719.9	32.1	35.5	178.65	-1,018.8	1,207.4	247.5	191.2	56.32	4.395		
6,200.0	5,819.9	6,302.6	5,819.9	32.2	35.5	178.65	-1,018.8	1,207.4	247.5	191.0	56.50	4.380		
6,300.0	5,919.9	6,402.6	5,919.9	32.3	35.6	178.65	-1,018.8	1,207.4	247.5	190.8	56.69	4.366		
6,400.0	6,019.9	6,502.6	6,019.9	32.4	35.7	178.65	-1,018.8	1,207.4	247.5	190.6	56.89	4.351		
6,500.0	6,119.9	6,602.6	6,119.9	32.5	35.8	178.65	-1,018.8	1,207.4	247.5	190.4	57.08	4.336		
6,600.0	6,219.9	6,702.6	6,219.9	32.6	35.9	178.65	-1,018.8	1,207.4	247.5	190.2	57.28	4.321		
6,700.0	6,319.9	6,802.6	6,319.9	32.7	35.9	178.65	-1,018.8	1,207.4	247.5	190.0	57.48	4.306		
6,800.0	6,419.9	6,902.6	6,419.9	32.8	36.0	178.65	-1,018.8	1,207.4	247.5	189.8	57.69	4.290		
6,900.0	6,519.9	7,002.6	6,519.9	32.8	36.1	178.65	-1,018.8	1,207.4	247.5	189.6	57.90	4.275		
7,000.0	6,619.9	7,102.6	6,619.9	32.9	36.2	178.65	-1,018.8	1,207.4	247.5	189.4	58.11	4.259		
7,100.0	6,719.9	7,202.6	6,719.9	33.0	36.3	178.65	-1,018.8	1,207.4	247.5	189.2	58.32	4.244		
7,200.0	6,819.9	7,302.6	6,819.9	33.1	36.4	178.65	-1,018.8	1,207.4	247.5	189.0	58.53	4.228		
7,300.0	6,919.9	7,402.6	6,919.9	33.2	36.4	178.65	-1,018.8	1,207.4	247.5	188.7	58.75	4.213		
7,400.0	7,019.9	7,502.6	7,019.9	33.3	36.5	178.65	-1,018.8	1,207.4	247.5	188.5	58.97	4.197		
7,479.1	7,099.0	7,581.7	7,099.0	33.4	36.6	178.65	-1,018.8	1,207.4	247.5	188.3	59.15	4.184		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J16 - 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	-128.58	-17.8	-22.3	28.5					
100.0	100.0	100.0	100.0	0.1	0.1	-128.58	-17.8	-22.3	28.5	28.3	0.19	149.897		
200.0	200.0	200.0	200.0	0.3	0.3	-128.58	-17.8	-22.3	28.5	27.9	0.64	44.558		
300.0	300.0	300.0	300.0	0.5	0.5	-128.58	-17.8	-22.3	28.5	27.4	1.09	26.169		
400.0	400.0	400.0	400.0	0.8	0.8	-128.58	-17.8	-22.3	28.5	27.0	1.54	18.524		
500.0	500.0	500.0	500.0	1.0	1.0	-128.58	-17.8	-22.3	28.5	26.5	1.99	14.336		
600.0	600.0	600.0	600.0	1.2	1.2	-128.58	-17.8	-22.3	28.5	26.1	2.44	11.692		
700.0	700.0	700.0	700.0	1.4	1.4	-128.58	-17.8	-22.3	28.5	25.6	2.89	9.872		
800.0	800.0	800.0	800.0	1.7	1.7	-128.58	-17.8	-22.3	28.5	25.2	3.34	8.542		
900.0	900.0	900.0	900.0	1.9	1.9	-128.58	-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	-128.58	-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	-128.58	-17.8	-22.3	28.5	23.8	4.69	6.083 CC, ES		
1,200.0	1,200.0	1,200.2	1,200.1	2.5	2.5	108.45	-19.6	-20.4	29.1	24.0	5.09	5.710		
1,300.0	1,299.6	1,300.3	1,299.9	2.7	2.7	107.70	-25.2	-14.9	30.8	25.3	5.47	5.622 SF		
1,400.0	1,398.8	1,400.4	1,399.1	3.0	3.0	106.62	-34.5	-5.7	33.6	27.7	5.90	5.690		
1,500.0	1,497.1	1,500.4	1,497.5	3.2	3.2	105.37	-47.5	7.1	37.5	31.1	6.42	5.847		
1,600.0	1,594.3	1,600.4	1,594.7	3.6	3.5	104.10	-64.1	23.5	42.6	35.6	7.07	6.032		
1,700.0	1,690.2	1,700.2	1,690.4	4.0	3.9	102.88	-84.3	43.5	48.8	40.9	7.88	6.196		
1,800.0	1,784.4	1,800.0	1,784.4	4.5	4.4	101.77	-108.0	66.8	56.1	47.2	8.90	6.311		
1,900.0	1,876.8	1,899.6	1,876.4	5.1	5.1	100.78	-135.1	93.6	64.5	54.4	10.14	6.367		
2,000.0	1,967.1	1,999.1	1,966.2	5.9	5.8	99.89	-165.6	123.7	74.0	62.4	11.61	6.370		
2,100.0	2,054.9	2,098.4	2,053.5	6.7	6.7	99.11	-199.3	157.0	84.5	71.1	13.34	6.332		
2,200.0	2,140.2	2,197.6	2,138.1	7.8	7.6	98.41	-236.1	193.3	95.9	80.6	15.31	6.267		
2,292.0	2,216.1	2,288.6	2,213.4	8.8	8.6	97.82	-272.6	229.4	107.3	90.0	17.34	6.190		
2,300.0	2,222.6	2,296.6	2,219.8	8.9	8.7	97.79	-275.9	232.6	108.4	90.8	17.52	6.184		
2,400.0	2,303.7	2,395.3	2,298.3	10.1	9.9	96.19	-318.5	274.7	121.4	101.4	19.94	6.087		
2,500.0	2,384.9	2,493.4	2,373.1	11.4	11.3	92.74	-363.7	319.3	135.0	112.6	22.46	6.011		
2,600.0	2,466.0	2,590.3	2,443.6	12.6	12.7	88.09	-410.9	366.0	150.1	125.1	24.97	6.010		
2,700.0	2,547.2	2,685.6	2,509.6	13.9	14.2	82.75	-459.8	414.3	167.4	140.1	27.34	6.123		
2,800.0	2,628.3	2,778.9	2,570.8	15.2	15.7	77.17	-509.8	463.7	187.8	158.3	29.44	6.377		
2,900.0	2,709.5	2,871.2	2,628.2	16.4	17.3	71.66	-561.3	514.6	211.7	180.5	31.25	6.776		
3,000.0	2,790.6	2,966.0	2,686.2	17.7	19.0	66.91	-614.6	567.2	237.9	205.0	32.89	7.233		
3,100.0	2,871.8	3,060.8	2,744.3	19.0	20.7	63.10	-667.9	619.8	265.3	230.9	34.45	7.703		
3,200.0	2,952.9	3,155.5	2,802.3	20.3	22.4	60.00	-721.2	672.5	293.7	257.7	35.96	8.167		
3,300.0	3,034.1	3,257.7	2,865.8	21.6	24.1	57.40	-778.2	728.8	322.0	284.6	37.43	8.603		
3,400.0	3,115.2	3,367.4	2,938.2	23.0	25.8	55.79	-836.8	786.6	347.3	308.2	39.13	8.876		
3,503.1	3,198.9	3,483.3	3,019.8	24.3	27.5	55.10	-895.4	844.5	369.4	328.2	41.20	8.966		
3,600.0	3,278.9	3,593.9	3,102.2	25.4	29.0	55.33	-947.9	896.3	387.6	344.3	43.29	8.953		
3,700.0	3,364.3	3,709.3	3,192.5	26.4	30.5	55.53	-999.0	946.8	405.1	359.9	45.21	8.960		
3,800.0	3,452.3	3,825.9	3,288.0	27.3	31.8	55.70	-1,046.5	993.7	421.3	374.3	46.96	8.972		
3,900.0	3,542.7	3,943.6	3,388.4	28.1	33.0	55.84	-1,090.3	1,036.9	436.1	387.6	48.52	8.988		
4,000.0	3,635.1	4,062.4	3,493.3	28.8	34.1	55.95	-1,129.8	1,076.0	449.5	399.6	49.90	9.008		
4,100.0	3,729.5	4,182.2	3,602.4	29.4	35.0	56.04	-1,165.0	1,110.7	461.3	410.2	51.08	9.031		
4,200.0	3,825.4	4,302.8	3,715.2	29.9	35.8	56.10	-1,195.4	1,140.8	471.6	419.5	52.07	9.056		
4,300.0	3,922.7	4,424.3	3,831.3	30.3	36.5	56.12	-1,220.8	1,165.9	480.2	427.3	52.86	9.084		
4,400.0	4,021.1	4,546.4	3,950.0	30.6	37.0	56.12	-1,241.0	1,185.8	487.1	433.7	53.46	9.113		
4,500.0	4,120.2	4,669.0	4,070.8	30.9	37.4	56.09	-1,255.9	1,200.5	492.4	438.5	53.87	9.140		
4,600.0	4,219.9	4,792.1	4,193.2	31.0	37.7	56.04	-1,265.2	1,209.7	495.9	441.8	54.11	9.165		
4,695.1	4,315.0	4,909.4	4,310.3	31.1	37.8	178.65	-1,268.8	1,213.3	497.6	443.4	54.17	9.185		
4,700.0	4,319.9	4,915.4	4,316.4	31.1	37.8	178.65	-1,268.9	1,213.3	497.6	443.4	54.18	9.185		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
4,800.0	4,419.9	5,018.9	4,419.9	31.2	37.9	178.64	-1,268.9	1,213.4	497.7	443.3	54.31	9.163		
4,900.0	4,519.9	5,118.9	4,519.9	31.3	37.9	178.64	-1,268.9	1,213.4	497.7	443.2	54.46	9.138		
5,000.0	4,619.9	5,218.9	4,619.9	31.3	38.0	178.64	-1,268.9	1,213.4	497.7	443.1	54.61	9.113		
5,100.0	4,719.9	5,318.9	4,719.9	31.4	38.0	178.64	-1,268.9	1,213.4	497.7	442.9	54.76	9.088		
5,200.0	4,819.9	5,418.9	4,819.9	31.5	38.1	178.64	-1,268.9	1,213.4	497.7	442.7	54.91	9.063		
5,300.0	4,919.9	5,518.9	4,919.9	31.5	38.2	178.64	-1,268.9	1,213.4	497.7	442.6	55.07	9.037		
5,400.0	5,019.9	5,618.9	5,019.9	31.6	38.2	178.64	-1,268.9	1,213.4	497.7	442.4	55.23	9.010		
5,500.0	5,119.9	5,718.9	5,119.9	31.7	38.3	178.64	-1,268.9	1,213.4	497.7	442.3	55.40	8.984		
5,600.0	5,219.9	5,818.9	5,219.9	31.7	38.3	178.64	-1,268.9	1,213.4	497.7	442.1	55.56	8.957		
5,700.0	5,319.9	5,918.9	5,319.9	31.8	38.4	178.64	-1,268.9	1,213.4	497.7	441.9	55.73	8.929		
5,800.0	5,419.9	6,018.9	5,419.9	31.9	38.5	178.64	-1,268.9	1,213.4	497.7	441.8	55.91	8.902		
5,900.0	5,519.9	6,118.9	5,519.9	32.0	38.5	178.64	-1,268.9	1,213.4	497.7	441.6	56.08	8.874		
6,000.0	5,619.9	6,218.9	5,619.9	32.1	38.6	178.64	-1,268.9	1,213.4	497.7	441.4	56.26	8.845		
6,100.0	5,719.9	6,318.9	5,719.9	32.1	38.7	178.64	-1,268.9	1,213.4	497.7	441.2	56.45	8.817		
6,200.0	5,819.9	6,418.9	5,819.9	32.2	38.7	178.64	-1,268.9	1,213.4	497.7	441.0	56.63	8.788		
6,300.0	5,919.9	6,518.9	5,919.9	32.3	38.8	178.64	-1,268.9	1,213.4	497.7	440.8	56.82	8.759		
6,400.0	6,019.9	6,618.9	6,019.9	32.4	38.9	178.64	-1,268.9	1,213.4	497.7	440.6	57.01	8.729		
6,500.0	6,119.9	6,718.9	6,119.9	32.5	38.9	178.64	-1,268.9	1,213.4	497.7	440.5	57.21	8.699		
6,600.0	6,219.9	6,818.9	6,219.9	32.6	39.0	178.64	-1,268.9	1,213.4	497.7	440.3	57.40	8.670		
6,700.0	6,319.9	6,918.9	6,319.9	32.7	39.1	178.64	-1,268.9	1,213.4	497.7	440.1	57.60	8.639		
6,800.0	6,419.9	7,018.9	6,419.9	32.8	39.2	178.64	-1,268.9	1,213.4	497.7	439.9	57.81	8.609		
6,900.0	6,519.9	7,118.9	6,519.9	32.8	39.2	178.64	-1,268.9	1,213.4	497.7	439.6	58.01	8.579		
7,000.0	6,619.9	7,218.9	6,619.9	32.9	39.3	178.64	-1,268.9	1,213.4	497.7	439.4	58.22	8.548		
7,100.0	6,719.9	7,318.9	6,719.9	33.0	39.4	178.64	-1,268.9	1,213.4	497.7	439.2	58.43	8.517		
7,200.0	6,819.9	7,418.9	6,819.9	33.1	39.5	178.64	-1,268.9	1,213.4	497.7	439.0	58.64	8.486		
7,300.0	6,919.9	7,518.9	6,919.9	33.2	39.6	178.64	-1,268.9	1,213.4	497.7	438.8	58.86	8.455		
7,400.0	7,019.9	7,618.9	7,019.9	33.3	39.6	178.64	-1,268.9	1,213.4	497.7	438.6	59.08	8.423		
7,479.1	7,099.0	7,698.1	7,099.0	33.4	39.7	178.64	-1,268.9	1,213.4	497.7	438.4	59.26	8.399		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis			Distance							
Reference	Offset	Reference	Offset	Reference	Offset	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	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	394.249		
200.0	200.0	200.0	200.0	0.3	0.3	-0.71	75.0	-0.9	75.0	74.3	0.64	117.194		
300.0	300.0	300.0	300.0	0.5	0.5	-0.71	75.0	-0.9	75.0	73.9	1.09	68.827		
400.0	400.0	400.0	400.0	0.8	0.8	-0.71	75.0	-0.9	75.0	73.4	1.54	48.720		
500.0	500.0	500.0	500.0	1.0	1.0	-0.71	75.0	-0.9	75.0	73.0	1.99	37.705		
600.0	600.0	600.0	600.0	1.2	1.2	-0.71	75.0	-0.9	75.0	72.5	2.44	30.752		
700.0	700.0	700.0	700.0	1.4	1.4	-0.71	75.0	-0.9	75.0	72.1	2.89	25.964		
800.0	800.0	800.0	800.0	1.7	1.7	-0.71	75.0	-0.9	75.0	71.6	3.34	22.466		
900.0	900.0	900.0	900.0	1.9	1.9	-0.71	75.0	-0.9	75.0	71.2	3.79	19.799		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-0.71	75.0	-0.9	75.0	70.7	4.24	17.698		
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	16.000 CC, ES		
1,200.0	1,200.0	1,196.8	1,196.7	2.5	2.6	-123.82	77.0	0.5	78.5	73.4	5.11	15.367 SF		
1,300.0	1,299.6	1,292.8	1,292.5	2.7	2.8	-124.85	82.9	4.6	89.0	83.4	5.52	16.119		
1,400.0	1,398.8	1,387.5	1,386.4	3.0	3.0	-126.03	92.7	11.4	106.4	100.5	5.95	17.871		
1,500.0	1,497.1	1,480.0	1,477.5	3.2	3.2	-127.06	105.8	20.7	130.7	124.3	6.42	20.345		
1,600.0	1,594.3	1,569.9	1,565.2	3.6	3.5	-127.77	122.1	32.0	161.5	154.6	6.94	23.279		
1,700.0	1,690.2	1,656.7	1,648.8	4.0	3.8	-128.15	141.0	45.2	198.7	191.2	7.52	26.436		
1,800.0	1,784.4	1,739.9	1,728.0	4.5	4.2	-128.22	162.0	59.9	241.9	233.7	8.17	29.610		
1,900.0	1,876.8	1,819.2	1,802.4	5.1	4.6	-128.02	184.7	75.8	290.7	281.8	8.91	32.644		
2,000.0	1,967.1	1,900.0	1,876.8	5.9	5.1	-127.64	210.3	93.7	344.9	335.1	9.76	35.349		
2,100.0	2,054.9	1,965.6	1,936.3	6.7	5.5	-126.87	233.0	109.5	403.8	393.1	10.68	37.795		
2,200.0	2,140.2	2,037.4	2,000.3	7.8	6.0	-126.07	259.5	128.1	467.1	455.4	11.73	39.823		
2,292.0	2,216.1	2,105.9	2,061.4	8.8	6.5	-125.47	285.0	145.9	527.8	515.0	12.79	41.257		
2,300.0	2,222.6	2,111.8	2,066.6	8.9	6.6	-125.60	287.2	147.5	533.2	520.3	12.89	41.369		
2,400.0	2,303.7	2,185.1	2,131.9	10.1	7.2	-126.99	314.6	166.6	600.4	586.3	14.09	42.614		
2,500.0	2,384.9	2,258.4	2,197.2	11.4	7.8	-128.10	341.9	185.7	667.8	652.5	15.32	43.589		
2,600.0	2,466.0	2,331.8	2,262.5	12.6	8.3	-129.02	369.2	204.8	735.3	718.7	16.57	44.370		
2,700.0	2,547.2	2,405.1	2,327.8	13.9	9.0	-129.78	396.5	223.9	802.9	785.0	17.84	45.002		
2,800.0	2,628.3	2,478.4	2,393.1	15.2	9.6	-130.42	423.8	243.0	870.5	851.4	19.13	45.515		
2,900.0	2,709.5	2,551.7	2,458.4	16.4	10.2	-130.97	451.2	262.1	938.2	917.8	20.42	45.941		
3,000.0	2,790.6	2,625.0	2,523.8	17.7	10.8	-131.45	478.5	281.2	1,005.9	984.2	21.73	46.300		
3,100.0	2,871.8	2,698.4	2,589.1	19.0	11.4	-131.87	505.8	300.3	1,073.7	1,050.7	23.04	46.603		
3,200.0	2,952.9	2,771.7	2,654.4	20.3	12.1	-132.24	533.1	319.4	1,141.5	1,117.1	24.36	46.859		
3,300.0	3,034.1	2,845.0	2,719.7	21.6	12.7	-132.56	560.5	338.5	1,209.3	1,183.6	25.69	47.080		
3,400.0	3,115.2	2,918.3	2,785.0	23.0	13.3	-132.86	587.8	357.6	1,277.2	1,250.1	27.02	47.273		
3,503.1	3,198.9	2,993.9	2,852.3	24.3	14.0	-133.13	616.0	377.3	1,347.1	1,318.7	28.39	47.445		
3,600.0	3,278.9	3,066.2	2,916.7	25.4	14.6	-135.12	642.9	396.1	1,411.6	1,382.0	29.60	47.688		
3,700.0	3,364.3	3,143.2	2,985.2	26.4	15.3	-136.79	671.6	416.1	1,475.4	1,444.6	30.80	47.905		
3,800.0	3,452.3	3,222.4	3,055.8	27.3	16.0	-138.12	701.1	436.8	1,536.2	1,504.2	32.00	48.006		
3,900.0	3,542.7	3,303.6	3,128.1	28.1	16.7	-139.15	731.4	457.9	1,593.9	1,560.8	33.20	48.016		
4,000.0	3,635.1	3,386.7	3,202.1	28.8	17.4	-139.94	762.3	479.6	1,648.4	1,614.1	34.37	47.956		
4,100.0	3,729.5	3,471.3	3,277.5	29.4	18.1	-140.51	793.8	501.6	1,699.6	1,664.1	35.52	47.845		
4,200.0	3,825.4	3,557.2	3,354.0	29.9	18.9	-140.88	825.9	524.0	1,747.5	1,710.9	36.63	47.701		
4,300.0	3,922.7	3,714.2	3,495.6	30.3	20.0	-140.58	881.4	562.8	1,790.9	1,752.8	38.06	47.057		
4,400.0	4,021.1	3,931.4	3,699.5	30.6	21.2	-140.07	942.5	605.5	1,825.3	1,785.8	39.51	46.197		
4,500.0	4,120.2	4,166.0	3,927.7	30.9	22.1	-139.78	986.7	636.4	1,849.1	1,808.4	40.64	45.497		
4,600.0	4,219.9	4,411.9	4,172.0	31.0	22.7	-139.75	1,008.0	651.3	1,861.4	1,820.0	41.34	45.021		
4,695.1	4,315.0	4,554.9	4,315.0	31.1	22.8	-17.14	1,009.4	652.3	1,863.6	1,822.0	41.58	44.825		
4,700.0	4,319.9	4,559.8	4,319.9	31.1	22.9	-17.14	1,009.4	652.3	1,863.6	1,822.0	41.58	44.815		

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 J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J2 - 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		
4,800.0	4,419.9	4,659.8	4,419.9	31.2	22.9	-17.14	1,009.4	652.3	1,863.6	1,821.8	41.77	44.612		
4,900.0	4,519.9	4,759.8	4,519.9	31.3	23.0	-17.14	1,009.4	652.3	1,863.6	1,821.6	41.97	44.406		
5,000.0	4,619.9	4,859.8	4,619.9	31.3	23.1	-17.14	1,009.4	652.3	1,863.6	1,821.4	42.16	44.199		
5,100.0	4,719.9	4,959.8	4,719.9	31.4	23.2	-17.14	1,009.4	652.3	1,863.6	1,821.2	42.37	43.989		
5,200.0	4,819.9	5,059.8	4,819.9	31.5	23.3	-17.14	1,009.4	652.3	1,863.6	1,821.0	42.57	43.777		
5,300.0	4,919.9	5,159.8	4,919.9	31.5	23.4	-17.14	1,009.4	652.3	1,863.6	1,820.8	42.78	43.563		
5,400.0	5,019.9	5,259.8	5,019.9	31.6	23.5	-17.14	1,009.4	652.3	1,863.6	1,820.6	42.99	43.348		
5,500.0	5,119.9	5,359.8	5,119.9	31.7	23.6	-17.14	1,009.4	652.3	1,863.6	1,820.4	43.21	43.131		
5,600.0	5,219.9	5,459.8	5,219.9	31.7	23.7	-17.14	1,009.4	652.3	1,863.6	1,820.2	43.43	42.913		
5,700.0	5,319.9	5,559.8	5,319.9	31.8	23.8	-17.14	1,009.4	652.3	1,863.6	1,819.9	43.65	42.694		
5,800.0	5,419.9	5,659.8	5,419.9	31.9	23.9	-17.14	1,009.4	652.3	1,863.6	1,819.7	43.88	42.473		
5,900.0	5,519.9	5,759.8	5,519.9	32.0	24.0	-17.14	1,009.4	652.3	1,863.6	1,819.5	44.11	42.252		
6,000.0	5,619.9	5,859.8	5,619.9	32.1	24.1	-17.14	1,009.4	652.3	1,863.6	1,819.3	44.34	42.030		
6,100.0	5,719.9	5,959.8	5,719.9	32.1	24.2	-17.14	1,009.4	652.3	1,863.6	1,819.0	44.58	41.807		
6,200.0	5,819.9	6,059.8	5,819.9	32.2	24.3	-17.14	1,009.4	652.3	1,863.6	1,818.8	44.82	41.583		
6,300.0	5,919.9	6,159.8	5,919.9	32.3	24.5	-17.14	1,009.4	652.3	1,863.6	1,818.5	45.06	41.358		
6,400.0	6,019.9	6,259.8	6,019.9	32.4	24.6	-17.14	1,009.4	652.3	1,863.6	1,818.3	45.31	41.134		
6,500.0	6,119.9	6,359.8	6,119.9	32.5	24.7	-17.14	1,009.4	652.3	1,863.6	1,818.0	45.56	40.908		
6,600.0	6,219.9	6,459.8	6,219.9	32.6	24.8	-17.14	1,009.4	652.3	1,863.6	1,817.8	45.81	40.683		
6,700.0	6,319.9	6,559.8	6,319.9	32.7	24.9	-17.14	1,009.4	652.3	1,863.6	1,817.5	46.06	40.458		
6,800.0	6,419.9	6,659.8	6,419.9	32.8	25.0	-17.14	1,009.4	652.3	1,863.6	1,817.3	46.32	40.232		
6,900.0	6,519.9	6,759.8	6,519.9	32.8	25.2	-17.14	1,009.4	652.3	1,863.6	1,817.0	46.58	40.006		
7,000.0	6,619.9	6,859.8	6,619.9	32.9	25.3	-17.14	1,009.4	652.3	1,863.6	1,816.7	46.85	39.781		
7,100.0	6,719.9	6,959.8	6,719.9	33.0	25.4	-17.14	1,009.4	652.3	1,863.6	1,816.5	47.11	39.555		
7,200.0	6,819.9	7,059.8	6,819.9	33.1	25.5	-17.14	1,009.4	652.3	1,863.6	1,816.2	47.38	39.330		
7,300.0	6,919.9	7,159.8	6,919.9	33.2	25.7	-17.14	1,009.4	652.3	1,863.6	1,815.9	47.66	39.106		
7,400.0	7,019.9	7,259.8	7,019.9	33.3	25.8	-17.14	1,009.4	652.3	1,863.6	1,815.7	47.93	38.881		
7,479.1	7,099.0	7,275.9	7,036.0	33.4	25.8	-17.14	1,009.4	652.3	1,864.7	1,816.6	48.06	38.801		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J3 - 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	-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, ES		
1,200.0	1,200.0	1,197.6	1,197.6	2.5	2.6	-123.69	64.3	0.9	65.8	60.6	5.11	12.875 SF		
1,300.0	1,299.6	1,294.6	1,294.2	2.7	2.8	-124.33	69.7	6.0	75.6	70.1	5.52	13.691		
1,400.0	1,398.8	1,390.3	1,389.2	3.0	3.0	-125.03	78.5	14.3	91.9	85.9	5.96	15.418		
1,500.0	1,497.1	1,484.2	1,481.6	3.2	3.3	-125.56	90.5	25.6	114.5	108.1	6.44	17.787		
1,600.0	1,594.3	1,575.8	1,570.9	3.6	3.5	-125.86	105.4	39.6	143.3	136.3	6.97	20.548		
1,700.0	1,690.2	1,664.7	1,656.5	4.0	3.9	-125.91	122.8	56.0	178.0	170.4	7.58	23.468		
1,800.0	1,784.4	1,750.4	1,737.9	4.5	4.3	-125.73	142.3	74.4	218.3	210.0	8.28	26.357		
1,900.0	1,876.8	1,834.6	1,816.6	5.1	4.7	-125.39	163.9	94.8	263.9	254.8	9.09	29.048		
2,000.0	1,967.1	1,921.5	1,897.6	5.9	5.2	-125.41	187.0	116.5	312.9	302.9	10.00	31.309		
2,100.0	2,054.9	2,006.5	1,976.8	6.7	5.7	-125.71	209.5	137.7	364.8	353.8	10.98	33.230		
2,200.0	2,140.2	2,089.4	2,054.0	7.8	6.2	-126.12	231.5	158.4	419.5	407.4	12.04	34.827		
2,292.0	2,216.1	2,163.6	2,123.1	8.8	6.7	-126.50	251.1	176.9	472.4	459.3	13.09	36.079		
2,300.0	2,222.6	2,170.0	2,129.0	8.9	6.8	-126.67	252.8	178.5	477.1	463.9	13.19	36.177		
2,400.0	2,303.7	2,249.5	2,203.1	10.1	7.3	-128.57	273.9	198.3	536.2	521.8	14.39	37.265		
2,500.0	2,384.9	2,328.9	2,277.1	11.4	7.8	-130.09	294.9	218.2	595.7	580.0	15.61	38.160		
2,600.0	2,466.0	2,408.4	2,351.1	12.6	8.3	-131.34	316.0	238.0	655.3	638.5	16.84	38.908		
2,700.0	2,547.2	2,487.9	2,425.2	13.9	8.9	-132.39	337.1	257.8	715.1	697.1	18.09	39.537		
2,800.0	2,628.3	2,567.4	2,499.2	15.2	9.4	-133.28	358.1	277.7	775.1	755.8	19.34	40.075		
2,900.0	2,709.5	2,646.9	2,573.2	16.4	10.0	-134.04	379.2	297.5	835.2	814.6	20.60	40.539		
3,000.0	2,790.6	2,726.4	2,647.3	17.7	10.5	-134.70	400.3	317.4	895.3	873.4	21.87	40.943		
3,100.0	2,871.8	2,805.9	2,721.3	19.0	11.1	-135.27	421.3	337.2	955.5	932.4	23.14	41.298		
3,200.0	2,952.9	2,885.4	2,795.3	20.3	11.6	-135.78	442.4	357.0	1,015.8	991.4	24.41	41.611		
3,300.0	3,034.1	2,964.8	2,869.4	21.6	12.2	-136.24	463.4	376.9	1,076.1	1,050.4	25.69	41.889		
3,400.0	3,115.2	3,044.3	2,943.4	23.0	12.8	-136.64	484.5	396.7	1,136.5	1,109.5	26.97	42.138		
3,503.1	3,198.9	3,126.3	3,019.8	24.3	13.3	-137.02	506.2	417.2	1,198.7	1,170.4	28.29	42.369		
3,600.0	3,278.9	3,204.5	3,092.6	25.4	13.9	-138.66	526.9	436.7	1,255.8	1,226.3	29.48	42.602		
3,700.0	3,364.3	3,287.5	3,169.9	26.4	14.5	-140.01	548.9	457.4	1,311.5	1,280.9	30.66	42.784		
3,800.0	3,452.3	3,372.6	3,249.2	27.3	15.1	-141.04	571.5	478.6	1,363.9	1,332.1	31.83	42.844		
3,900.0	3,542.7	3,459.6	3,330.2	28.1	15.7	-141.81	594.6	500.4	1,412.8	1,379.8	33.01	42.804		
4,000.0	3,635.1	3,548.3	3,412.8	28.8	16.4	-142.33	618.0	522.5	1,458.1	1,423.9	34.16	42.684		
4,100.0	3,729.5	3,638.4	3,496.7	29.4	17.0	-142.66	641.9	545.0	1,499.7	1,464.4	35.29	42.503		
4,200.0	3,825.4	3,733.7	3,585.5	29.9	17.7	-142.76	667.1	568.7	1,537.6	1,501.2	36.40	42.248		
4,300.0	3,922.7	3,879.2	3,723.2	30.3	18.5	-142.51	701.3	600.9	1,570.1	1,532.5	37.60	41.754		
4,400.0	4,021.1	4,031.9	3,871.1	30.6	19.1	-142.33	728.8	626.8	1,595.3	1,556.8	38.56	41.368		
4,500.0	4,120.2	4,190.2	4,027.1	30.9	19.6	-142.25	748.2	645.1	1,613.1	1,573.8	39.30	41.050		
4,600.0	4,219.9	4,352.0	4,188.3	31.0	19.9	-142.26	758.2	654.5	1,622.9	1,583.2	39.75	40.825		
4,695.1	4,315.0	4,478.8	4,315.0	31.1	20.1	-19.62	759.5	655.7	1,625.3	1,585.4	39.95	40.687		
4,700.0	4,319.9	4,483.7	4,319.9	31.1	20.1	-19.62	759.5	655.7	1,625.3	1,585.3	39.96	40.678		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J3 - 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		
4,800.0	4,419.9	4,583.7	4,419.9	31.2	20.2	-19.62	759.5	655.7	1,625.3	1,585.1	40.15	40.477		
4,900.0	4,519.9	4,683.7	4,519.9	31.3	20.3	-19.62	759.5	655.7	1,625.3	1,584.9	40.36	40.274		
5,000.0	4,619.9	4,783.7	4,619.9	31.3	20.4	-19.62	759.5	655.7	1,625.3	1,584.7	40.56	40.068		
5,100.0	4,719.9	4,883.7	4,719.9	31.4	20.5	-19.62	759.5	655.7	1,625.3	1,584.5	40.77	39.861		
5,200.0	4,819.9	4,983.7	4,819.9	31.5	20.6	-19.62	759.5	655.7	1,625.3	1,584.3	40.99	39.652		
5,300.0	4,919.9	5,083.7	4,919.9	31.5	20.7	-19.62	759.5	655.7	1,625.3	1,584.1	41.21	39.441		
5,400.0	5,019.9	5,183.7	5,019.9	31.6	20.8	-19.62	759.5	655.7	1,625.3	1,583.9	41.43	39.229		
5,500.0	5,119.9	5,283.7	5,119.9	31.7	20.9	-19.62	759.5	655.7	1,625.3	1,583.6	41.66	39.017		
5,600.0	5,219.9	5,383.7	5,219.9	31.7	21.0	-19.62	759.5	655.7	1,625.3	1,583.4	41.89	38.803		
5,700.0	5,319.9	5,483.7	5,319.9	31.8	21.2	-19.62	759.5	655.7	1,625.3	1,583.2	42.12	38.588		
5,800.0	5,419.9	5,583.7	5,419.9	31.9	21.3	-19.62	759.5	655.7	1,625.3	1,582.9	42.36	38.372		
5,900.0	5,519.9	5,683.7	5,519.9	32.0	21.4	-19.62	759.5	655.7	1,625.3	1,582.7	42.60	38.156		
6,000.0	5,619.9	5,783.7	5,619.9	32.1	21.5	-19.62	759.5	655.7	1,625.3	1,582.5	42.84	37.939		
6,100.0	5,719.9	5,883.7	5,719.9	32.1	21.6	-19.62	759.5	655.7	1,625.3	1,582.2	43.09	37.722		
6,200.0	5,819.9	5,983.7	5,819.9	32.2	21.8	-19.62	759.5	655.7	1,625.3	1,582.0	43.34	37.505		
6,300.0	5,919.9	6,083.7	5,919.9	32.3	21.9	-19.62	759.5	655.7	1,625.3	1,581.7	43.59	37.287		
6,400.0	6,019.9	6,183.7	6,019.9	32.4	22.0	-19.62	759.5	655.7	1,625.3	1,581.5	43.85	37.069		
6,500.0	6,119.9	6,283.7	6,119.9	32.5	22.2	-19.62	759.5	655.7	1,625.3	1,581.2	44.10	36.851		
6,600.0	6,219.9	6,383.7	6,219.9	32.6	22.3	-19.62	759.5	655.7	1,625.3	1,580.9	44.37	36.633		
6,700.0	6,319.9	6,483.7	6,319.9	32.7	22.4	-19.62	759.5	655.7	1,625.3	1,580.7	44.63	36.415		
6,800.0	6,419.9	6,583.7	6,419.9	32.8	22.6	-19.62	759.5	655.7	1,625.3	1,580.4	44.90	36.198		
6,900.0	6,519.9	6,683.7	6,519.9	32.8	22.7	-19.62	759.5	655.7	1,625.3	1,580.1	45.17	35.980		
7,000.0	6,619.9	6,783.7	6,619.9	32.9	22.8	-19.62	759.5	655.7	1,625.3	1,579.9	45.45	35.763		
7,100.0	6,719.9	6,883.7	6,719.9	33.0	23.0	-19.62	759.5	655.7	1,625.3	1,579.6	45.72	35.547		
7,200.0	6,819.9	6,983.7	6,819.9	33.1	23.1	-19.62	759.5	655.7	1,625.3	1,579.3	46.00	35.331		
7,300.0	6,919.9	7,083.7	6,919.9	33.2	23.3	-19.62	759.5	655.7	1,625.3	1,579.0	46.28	35.116		
7,400.0	7,019.9	7,183.7	7,019.9	33.3	23.4	-19.62	759.5	655.7	1,625.3	1,578.7	46.57	34.901		
7,417.9	7,037.8	7,201.6	7,037.8	33.3	23.4	-19.62	759.5	655.7	1,625.3	1,578.7	46.62	34.863		
7,479.1	7,099.0	7,217.8	7,054.0	33.4	23.4	-19.62	759.5	655.7	1,625.9	1,579.2	46.73	34.796		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J4 - Wellbore #1 - Design #1													Offset Well Error:	0.0 ft
Survey Program: 0-MWD														
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	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 CC, ES		
1,200.0	1,200.0	1,198.5	1,198.4	2.5	2.6	-123.39	51.4	1.5	52.9	47.8	5.11	10.352 SF		
1,300.0	1,299.6	1,296.5	1,296.1	2.7	2.8	-123.33	55.7	7.7	61.5	56.0	5.52	11.146		
1,400.0	1,398.8	1,393.5	1,392.3	3.0	3.0	-123.20	62.8	17.8	75.8	69.9	5.96	12.723		
1,500.0	1,497.1	1,489.1	1,486.4	3.2	3.3	-122.99	72.6	31.8	95.8	89.3	6.45	14.837		
1,600.0	1,594.3	1,582.9	1,577.8	3.6	3.6	-122.68	84.7	49.2	121.1	114.1	7.02	17.254		
1,700.0	1,690.2	1,674.7	1,666.1	4.0	3.9	-122.29	99.0	69.8	151.7	144.0	7.68	19.766		
1,800.0	1,784.4	1,768.6	1,755.8	4.5	4.3	-122.52	114.8	92.5	186.1	177.7	8.44	22.060		
1,900.0	1,876.8	1,861.1	1,844.3	5.1	4.8	-123.50	130.4	114.8	223.3	214.0	9.28	24.067		
2,000.0	1,967.1	1,952.2	1,931.3	5.9	5.2	-124.84	145.7	136.8	263.4	253.2	10.20	25.837		
2,100.0	2,054.9	2,041.6	2,016.7	6.7	5.7	-126.31	160.7	158.4	306.7	295.6	11.18	27.435		
2,200.0	2,140.2	2,128.9	2,100.2	7.8	6.2	-127.76	175.4	179.5	353.4	341.1	12.22	28.909		
2,292.0	2,216.1	2,207.3	2,175.1	8.8	6.6	-129.01	188.6	198.4	399.3	386.0	13.23	30.187		
2,300.0	2,222.6	2,214.0	2,181.5	8.9	6.6	-129.23	189.8	200.0	403.4	390.1	13.32	30.290		
2,400.0	2,303.7	2,298.2	2,261.9	10.1	7.1	-131.58	203.9	220.3	455.3	440.8	14.46	31.479		
2,500.0	2,384.9	2,382.3	2,342.3	11.4	7.6	-133.47	218.1	240.6	507.6	492.0	15.62	32.502		
2,600.0	2,466.0	2,466.4	2,422.7	12.6	8.0	-135.01	232.2	261.0	560.2	543.5	16.78	33.391		
2,700.0	2,547.2	2,550.5	2,503.1	13.9	8.5	-136.29	246.4	281.3	613.1	595.2	17.94	34.169		
2,800.0	2,628.3	2,634.6	2,583.5	15.2	9.0	-137.37	260.5	301.6	666.2	647.1	19.11	34.855		
2,900.0	2,709.5	2,718.7	2,663.9	16.4	9.5	-138.29	274.7	321.9	719.5	699.2	20.29	35.462		
3,000.0	2,790.6	2,802.9	2,744.3	17.7	10.0	-139.09	288.8	342.2	772.8	751.4	21.46	36.004		
3,100.0	2,871.8	2,887.0	2,824.7	19.0	10.5	-139.78	303.0	362.5	826.3	803.6	22.64	36.489		
3,200.0	2,952.9	2,971.1	2,905.1	20.3	11.0	-140.39	317.1	382.8	879.8	856.0	23.83	36.925		
3,300.0	3,034.1	3,055.2	2,985.5	21.6	11.4	-140.93	331.3	403.1	933.4	908.4	25.01	37.320		
3,400.0	3,115.2	3,139.3	3,065.8	23.0	11.9	-141.41	345.4	423.4	987.0	960.8	26.20	37.679		
3,503.1	3,198.9	3,226.1	3,148.8	24.3	12.4	-141.86	360.0	444.4	1,042.4	1,015.0	27.42	38.016		
3,600.0	3,278.9	3,308.7	3,227.7	25.4	12.9	-143.22	373.9	464.3	1,092.8	1,064.2	28.53	38.304		
3,700.0	3,364.3	3,396.1	3,311.3	26.4	13.5	-144.30	388.6	485.5	1,141.2	1,111.6	29.64	38.504		
3,800.0	3,452.3	3,485.6	3,396.7	27.3	14.0	-145.08	403.7	507.0	1,185.9	1,155.2	30.76	38.558		
3,900.0	3,542.7	3,576.7	3,483.9	28.1	14.5	-145.61	419.0	529.1	1,226.7	1,194.9	31.87	38.490		
4,000.0	3,635.1	3,669.4	3,572.4	28.8	15.1	-145.92	434.6	551.4	1,263.6	1,230.6	32.97	38.321		
4,100.0	3,729.5	3,763.3	3,662.1	29.4	15.6	-146.03	450.4	574.1	1,296.5	1,262.4	34.06	38.069		
4,200.0	3,825.4	3,862.6	3,757.2	29.9	16.2	-145.93	466.9	597.8	1,325.3	1,290.2	35.11	37.744		
4,300.0	3,922.7	3,973.8	3,864.9	30.3	16.7	-145.77	482.7	620.5	1,349.2	1,313.2	36.02	37.458		
4,400.0	4,021.1	4,087.7	3,976.6	30.6	17.1	-145.67	495.2	638.4	1,367.9	1,331.2	36.73	37.237		
4,500.0	4,120.2	4,203.5	4,091.5	30.9	17.4	-145.61	503.9	651.0	1,381.1	1,343.9	37.27	37.063		
4,600.0	4,219.9	4,320.7	4,208.3	31.0	17.6	-145.61	508.7	657.8	1,388.9	1,351.3	37.60	36.940		
4,695.1	4,315.0	4,427.4	4,315.0	31.1	17.7	-22.95	509.6	659.1	1,391.1	1,353.4	37.75	36.851		
4,700.0	4,319.9	4,432.3	4,319.9	31.1	17.7	-22.95	509.6	659.1	1,391.1	1,353.4	37.76	36.841		

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 J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J4 - 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		
4,800.0	4,419.9	4,532.3	4,419.9	31.2	17.8	-22.95	509.6	659.1	1,391.1	1,353.1	37.97	36.636		
4,900.0	4,519.9	4,632.3	4,519.9	31.3	18.0	-22.95	509.6	659.1	1,391.1	1,352.9	38.19	36.429		
5,000.0	4,619.9	4,732.3	4,619.9	31.3	18.1	-22.95	509.6	659.1	1,391.1	1,352.7	38.41	36.221		
5,100.0	4,719.9	4,832.3	4,719.9	31.4	18.2	-22.95	509.6	659.1	1,391.1	1,352.5	38.63	36.011		
5,200.0	4,819.9	4,932.3	4,819.9	31.5	18.3	-22.95	509.6	659.1	1,391.1	1,352.3	38.86	35.800		
5,300.0	4,919.9	5,032.3	4,919.9	31.5	18.4	-22.95	509.6	659.1	1,391.1	1,352.0	39.09	35.588		
5,400.0	5,019.9	5,132.3	5,019.9	31.6	18.6	-22.95	509.6	659.1	1,391.1	1,351.8	39.32	35.376		
5,500.0	5,119.9	5,232.3	5,119.9	31.7	18.7	-22.95	509.6	659.1	1,391.1	1,351.6	39.56	35.162		
5,600.0	5,219.9	5,332.3	5,219.9	31.7	18.8	-22.95	509.6	659.1	1,391.1	1,351.3	39.81	34.948		
5,700.0	5,319.9	5,432.3	5,319.9	31.8	19.0	-22.95	509.6	659.1	1,391.1	1,351.1	40.05	34.733		
5,800.0	5,419.9	5,532.3	5,419.9	31.9	19.1	-22.95	509.6	659.1	1,391.1	1,350.8	40.30	34.518		
5,900.0	5,519.9	5,632.3	5,519.9	32.0	19.2	-22.95	509.6	659.1	1,391.1	1,350.6	40.55	34.303		
6,000.0	5,619.9	5,732.3	5,619.9	32.1	19.4	-22.95	509.6	659.1	1,391.1	1,350.3	40.81	34.087		
6,100.0	5,719.9	5,832.3	5,719.9	32.1	19.5	-22.95	509.6	659.1	1,391.1	1,350.0	41.07	33.872		
6,200.0	5,819.9	5,932.3	5,819.9	32.2	19.7	-22.95	509.6	659.1	1,391.1	1,349.8	41.33	33.657		
6,300.0	5,919.9	6,032.3	5,919.9	32.3	19.8	-22.95	509.6	659.1	1,391.1	1,349.5	41.60	33.441		
6,400.0	6,019.9	6,132.3	6,019.9	32.4	19.9	-22.95	509.6	659.1	1,391.1	1,349.2	41.87	33.226		
6,500.0	6,119.9	6,232.3	6,119.9	32.5	20.1	-22.95	509.6	659.1	1,391.1	1,349.0	42.14	33.012		
6,600.0	6,219.9	6,332.3	6,219.9	32.6	20.2	-22.95	509.6	659.1	1,391.1	1,348.7	42.42	32.798		
6,700.0	6,319.9	6,432.3	6,319.9	32.7	20.4	-22.95	509.6	659.1	1,391.1	1,348.4	42.69	32.584		
6,800.0	6,419.9	6,532.3	6,419.9	32.8	20.5	-22.95	509.6	659.1	1,391.1	1,348.1	42.97	32.371		
6,900.0	6,519.9	6,632.3	6,519.9	32.8	20.7	-22.95	509.6	659.1	1,391.1	1,347.9	43.26	32.158		
7,000.0	6,619.9	6,732.3	6,619.9	32.9	20.8	-22.95	509.6	659.1	1,391.1	1,347.6	43.54	31.947		
7,100.0	6,719.9	6,832.3	6,719.9	33.0	21.0	-22.95	509.6	659.1	1,391.1	1,347.3	43.83	31.736		
7,200.0	6,819.9	6,932.3	6,819.9	33.1	21.2	-22.95	509.6	659.1	1,391.1	1,347.0	44.13	31.526		
7,300.0	6,919.9	7,032.3	6,919.9	33.2	21.3	-22.95	509.6	659.1	1,391.1	1,346.7	44.42	31.317		
7,400.0	7,019.9	7,132.3	7,019.9	33.3	21.5	-22.95	509.6	659.1	1,391.1	1,346.4	44.72	31.109		
7,437.5	7,057.4	7,169.8	7,057.4	33.4	21.5	-22.95	509.6	659.1	1,391.1	1,346.3	44.83	31.031		
7,479.1	7,099.0	7,182.4	7,070.0	33.4	21.6	-22.95	509.6	659.1	1,391.4	1,346.5	44.91	30.984		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J5 - 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	-18.52	69.7	-23.4	73.5					
100.0	100.0	100.0	100.0	0.1	0.1	-18.52	69.7	-23.4	73.5	73.3	0.19	386.658		
200.0	200.0	200.0	200.0	0.3	0.3	-18.52	69.7	-23.4	73.5	72.9	0.64	114.938		
300.0	300.0	300.0	300.0	0.5	0.5	-18.52	69.7	-23.4	73.5	72.4	1.09	67.502		
400.0	400.0	400.0	400.0	0.8	0.8	-18.52	69.7	-23.4	73.5	72.0	1.54	47.782		
500.0	500.0	500.0	500.0	1.0	1.0	-18.52	69.7	-23.4	73.5	71.5	1.99	36.979		
600.0	600.0	600.0	600.0	1.2	1.2	-18.52	69.7	-23.4	73.5	71.1	2.44	30.160		
700.0	700.0	700.0	700.0	1.4	1.4	-18.52	69.7	-23.4	73.5	70.6	2.89	25.464		
800.0	800.0	800.0	800.0	1.7	1.7	-18.52	69.7	-23.4	73.5	70.2	3.34	22.034		
900.0	900.0	900.0	900.0	1.9	1.9	-18.52	69.7	-23.4	73.5	69.7	3.79	19.418		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-18.52	69.7	-23.4	73.5	69.3	4.24	17.357		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-18.52	69.7	-23.4	73.5	68.8	4.69	15.692 CC, ES		
1,200.0	1,200.0	1,198.7	1,198.6	2.5	2.6	-144.21	69.6	-25.9	76.4	71.3	5.10	14.991 SF		
1,300.0	1,299.6	1,295.9	1,295.5	2.7	2.8	-151.78	69.4	-33.4	86.2	80.7	5.49	15.713		
1,400.0	1,398.8	1,390.3	1,389.2	3.0	3.0	-160.78	69.0	-45.4	104.9	99.1	5.88	17.842		
1,500.0	1,497.1	1,482.8	1,480.3	3.2	3.2	-168.75	68.5	-61.1	133.5	127.2	6.28	21.261		
1,600.0	1,594.3	1,575.1	1,571.1	3.6	3.5	-174.35	68.0	-77.4	169.3	162.6	6.66	25.425		
1,700.0	1,690.2	1,665.3	1,659.9	4.0	3.8	-178.09	67.5	-93.4	210.8	203.8	7.02	30.033		
1,800.0	1,784.4	1,753.2	1,746.4	4.5	4.1	-179.36	67.0	-108.9	257.5	250.2	7.37	34.947		
1,900.0	1,876.8	1,838.5	1,830.4	5.1	4.4	-177.56	66.5	-124.1	309.1	301.4	7.71	40.093		
2,000.0	1,967.1	1,921.1	1,911.7	5.9	4.6	-176.26	66.0	-138.7	365.2	357.2	8.05	45.346		
2,100.0	2,054.9	2,000.6	1,989.9	6.7	4.9	-175.28	65.5	-152.7	425.7	417.3	8.39	50.740		
2,200.0	2,140.2	2,076.9	2,065.0	7.8	5.2	-174.51	65.1	-166.2	490.2	481.5	8.73	56.183		
2,292.0	2,216.1	2,144.0	2,131.1	8.8	5.4	-173.93	64.7	-178.1	553.1	544.0	9.04	61.214		
2,300.0	2,222.6	2,149.7	2,136.7	8.9	5.5	-173.91	64.7	-179.1	558.7	549.6	9.08	61.544		
2,400.0	2,303.7	2,221.1	2,206.9	10.1	5.7	-173.67	64.3	-191.8	628.7	619.1	9.62	65.355		
2,500.0	2,384.9	2,292.4	2,277.1	11.4	6.0	-173.48	63.9	-204.4	698.8	688.6	10.18	68.645		
2,600.0	2,466.0	2,363.7	2,347.4	12.6	6.3	-173.32	63.5	-217.0	768.9	758.1	10.75	71.498		
2,700.0	2,547.2	2,435.1	2,417.6	13.9	6.5	-173.19	63.1	-229.6	838.9	827.6	11.34	73.992		
2,800.0	2,628.3	2,506.4	2,487.8	15.2	6.8	-173.08	62.7	-242.3	909.0	897.1	11.93	76.184		
2,900.0	2,709.5	2,577.8	2,558.0	16.4	7.1	-172.98	62.2	-254.9	979.0	966.5	12.53	78.117		
3,000.0	2,790.6	2,649.1	2,628.2	17.7	7.4	-172.90	61.8	-267.5	1,049.1	1,036.0	13.14	79.833		
3,100.0	2,871.8	2,720.5	2,698.4	19.0	7.6	-172.83	61.4	-280.1	1,119.2	1,105.4	13.75	81.366		
3,200.0	2,952.9	2,791.8	2,768.6	20.3	7.9	-172.77	61.0	-292.8	1,189.2	1,174.9	14.37	82.739		
3,300.0	3,034.1	2,863.1	2,838.9	21.6	8.2	-172.71	60.6	-305.4	1,259.3	1,244.3	15.00	83.974		
3,400.0	3,115.2	2,934.5	2,909.1	23.0	8.5	-172.66	60.2	-318.0	1,329.4	1,313.8	15.62	85.091		
3,503.1	3,198.9	3,008.1	2,981.5	24.3	8.8	-172.62	59.8	-331.0	1,401.6	1,385.4	16.27	86.135		
3,600.0	3,278.9	3,078.8	3,051.2	25.4	9.0	-172.90	59.4	-343.6	1,467.8	1,450.7	17.09	85.872		
3,700.0	3,364.3	3,155.3	3,126.4	26.4	9.3	-173.12	59.0	-357.1	1,532.2	1,514.3	17.90	85.618		
3,800.0	3,452.3	3,235.0	3,204.8	27.3	9.7	-173.29	58.5	-371.2	1,592.5	1,573.9	18.66	85.333		
3,900.0	3,542.7	3,317.7	3,286.2	28.1	10.0	-173.40	58.0	-385.8	1,648.7	1,629.3	19.39	85.038		
4,000.0	3,635.1	3,403.1	3,370.3	28.8	10.3	-173.46	57.5	-401.0	1,700.5	1,680.4	20.07	84.743		
4,100.0	3,729.5	3,491.1	3,456.9	29.4	10.7	-173.49	57.0	-416.5	1,747.7	1,727.0	20.69	84.460		
4,200.0	3,825.4	3,581.5	3,545.8	29.9	11.0	-173.48	56.5	-432.5	1,790.4	1,769.1	21.26	84.195		
4,300.0	3,922.7	3,673.8	3,636.7	30.3	11.4	-173.44	56.0	-448.9	1,828.2	1,806.5	21.78	83.955		
4,400.0	4,021.1	3,768.0	3,729.4	30.6	11.8	-173.36	55.5	-465.5	1,861.3	1,839.0	22.23	83.744		
4,500.0	4,120.2	3,863.8	3,823.7	30.9	12.2	-173.26	54.9	-482.5	1,889.4	1,866.8	22.61	83.564		
4,600.0	4,219.9	3,960.8	3,919.1	31.0	12.5	-173.12	54.4	-499.7	1,912.5	1,889.6	22.93	83.416		
4,695.1	4,315.0	4,054.0	4,010.9	31.1	12.9	-64.34	53.8	-516.2	1,929.8	1,906.6	23.16	83.306		
4,700.0	4,319.9	4,058.8	4,015.6	31.1	12.9	-64.35	53.8	-517.0	1,930.5	1,907.4	23.19	83.262		

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 J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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							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	4,419.9	4,465.8	4,419.9	31.2	14.0	-64.91	52.5	-558.2	1,943.1	1,918.8	24.23	80.197			
4,900.0	4,519.9	4,565.8	4,519.9	31.3	14.1	-64.91	52.5	-558.2	1,943.1	1,918.5	24.54	79.168			
5,000.0	4,619.9	4,665.8	4,619.9	31.3	14.2	-64.91	52.5	-558.2	1,943.1	1,918.2	24.86	78.146			
5,100.0	4,719.9	4,765.8	4,719.9	31.4	14.4	-64.91	52.5	-558.2	1,943.1	1,917.9	25.19	77.138			
5,200.0	4,819.9	4,865.8	4,819.9	31.5	14.6	-64.91	52.5	-558.2	1,943.1	1,917.5	25.52	76.145			
5,300.0	4,919.9	4,965.8	4,919.9	31.5	14.7	-64.91	52.5	-558.2	1,943.1	1,917.2	25.85	75.167			
5,400.0	5,019.9	5,065.8	5,019.9	31.6	14.9	-64.91	52.5	-558.2	1,943.1	1,916.9	26.19	74.204			
5,500.0	5,119.9	5,165.8	5,119.9	31.7	15.0	-64.91	52.5	-558.2	1,943.1	1,916.5	26.52	73.257			
5,600.0	5,219.9	5,265.8	5,219.9	31.7	15.2	-64.91	52.5	-558.2	1,943.1	1,916.2	26.87	72.324			
5,700.0	5,319.9	5,365.8	5,319.9	31.8	15.3	-64.91	52.5	-558.2	1,943.1	1,915.8	27.21	71.408			
5,800.0	5,419.9	5,465.8	5,419.9	31.9	15.5	-64.91	52.5	-558.2	1,943.1	1,915.5	27.56	70.506			
5,900.0	5,519.9	5,565.8	5,519.9	32.0	15.7	-64.91	52.5	-558.2	1,943.1	1,915.1	27.91	69.620			
6,000.0	5,619.9	5,665.8	5,619.9	32.1	15.8	-64.91	52.5	-558.2	1,943.1	1,914.8	28.26	68.750			
6,100.0	5,719.9	5,765.8	5,719.9	32.1	16.0	-64.91	52.5	-558.2	1,943.1	1,914.4	28.62	67.894			
6,200.0	5,819.9	5,865.8	5,819.9	32.2	16.2	-64.91	52.5	-558.2	1,943.1	1,914.1	28.98	67.054			
6,300.0	5,919.9	5,965.8	5,919.9	32.3	16.3	-64.91	52.5	-558.2	1,943.1	1,913.7	29.34	66.229			
6,400.0	6,019.9	6,065.8	6,019.9	32.4	16.5	-64.91	52.5	-558.2	1,943.1	1,913.4	29.70	65.419			
6,500.0	6,119.9	6,165.8	6,119.9	32.5	16.7	-64.91	52.5	-558.2	1,943.1	1,913.0	30.07	64.623			
6,600.0	6,219.9	6,265.8	6,219.9	32.6	16.9	-64.91	52.5	-558.2	1,943.1	1,912.6	30.44	63.842			
6,700.0	6,319.9	6,365.8	6,319.9	32.7	17.0	-64.91	52.5	-558.2	1,943.1	1,912.2	30.81	63.076			
6,800.0	6,419.9	6,465.8	6,419.9	32.8	17.2	-64.91	52.5	-558.2	1,943.1	1,911.9	31.18	62.323			
6,900.0	6,519.9	6,565.8	6,519.9	32.8	17.4	-64.91	52.5	-558.2	1,943.1	1,911.5	31.55	61.584			
7,000.0	6,619.9	6,665.8	6,619.9	32.9	17.6	-64.91	52.5	-558.2	1,943.1	1,911.1	31.93	60.859			
7,100.0	6,719.9	6,765.8	6,719.9	33.0	17.8	-64.91	52.5	-558.2	1,943.1	1,910.7	32.30	60.148			
7,200.0	6,819.9	6,865.8	6,819.9	33.1	17.9	-64.91	52.5	-558.2	1,943.1	1,910.4	32.68	59.449			
7,300.0	6,919.9	6,965.8	6,919.9	33.2	18.1	-64.91	52.5	-558.2	1,943.1	1,910.0	33.07	58.764			
7,400.0	7,019.9	7,065.8	7,019.9	33.3	18.3	-64.91	52.5	-558.2	1,943.1	1,909.6	33.45	58.091			
7,479.1	7,099.0	7,145.0	7,099.0	33.4	18.5	-64.91	52.5	-558.2	1,943.1	1,909.3	33.75	57.568			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J6 - 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	-22.08	57.2	-23.2	61.8						
100.0	100.0	100.0	100.0	0.1	0.1	-22.08	57.2	-23.2	61.8	61.6	0.19	324.749			
200.0	200.0	200.0	200.0	0.3	0.3	-22.08	57.2	-23.2	61.8	61.1	0.64	96.535			
300.0	300.0	300.0	300.0	0.5	0.5	-22.08	57.2	-23.2	61.8	60.7	1.09	56.694			
400.0	400.0	400.0	400.0	0.8	0.8	-22.08	57.2	-23.2	61.8	60.2	1.54	40.131			
500.0	500.0	500.0	500.0	1.0	1.0	-22.08	57.2	-23.2	61.8	59.8	1.99	31.058			
600.0	600.0	600.0	600.0	1.2	1.2	-22.08	57.2	-23.2	61.8	59.3	2.44	25.331			
700.0	700.0	700.0	700.0	1.4	1.4	-22.08	57.2	-23.2	61.8	58.9	2.89	21.387			
800.0	800.0	800.0	800.0	1.7	1.7	-22.08	57.2	-23.2	61.8	58.4	3.34	18.506			
900.0	900.0	900.0	900.0	1.9	1.9	-22.08	57.2	-23.2	61.8	58.0	3.79	16.309			
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-22.08	57.2	-23.2	61.8	57.5	4.24	14.578			
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-22.08	57.2	-23.2	61.8	57.1	4.69	13.179 CC, ES			
1,200.0	1,200.0	1,200.0	1,200.0	2.5	2.5	-148.45	56.1	-25.6	63.9	58.8	5.09	12.537 SF			
1,300.0	1,299.6	1,298.8	1,298.4	2.7	2.7	-157.84	52.7	-32.5	71.5	66.1	5.47	13.082			
1,400.0	1,398.8	1,395.1	1,393.9	3.0	3.0	-169.08	47.3	-43.7	87.5	81.6	5.85	14.945			
1,500.0	1,497.1	1,488.4	1,485.7	3.2	3.2	-178.89	40.1	-58.6	113.3	107.1	6.26	18.113			
1,600.0	1,594.3	1,581.4	1,576.9	3.6	3.5	174.39	32.2	-74.9	147.2	140.5	6.66	22.108			
1,700.0	1,690.2	1,672.5	1,666.3	4.0	3.8	170.30	24.5	-90.9	187.0	179.9	7.06	26.491			
1,800.0	1,784.4	1,761.5	1,753.6	4.5	4.1	167.75	16.9	-106.6	231.9	224.4	7.46	31.068			
1,900.0	1,876.8	1,848.2	1,838.7	5.1	4.4	166.12	9.6	-121.8	281.4	273.6	7.87	35.742			
2,000.0	1,967.1	1,932.4	1,921.2	5.9	4.7	165.02	2.4	-136.6	335.4	327.1	8.31	40.381			
2,100.0	2,054.9	2,013.7	2,000.9	6.7	5.0	164.25	-4.5	-150.9	393.6	384.8	8.74	45.020			
2,200.0	2,140.2	2,092.0	2,077.7	7.8	5.3	163.67	-11.1	-164.6	455.8	446.6	9.20	49.558			
2,292.0	2,216.1	2,161.1	2,145.5	8.8	5.6	163.22	-17.0	-176.8	516.4	506.7	9.63	53.615			
2,300.0	2,222.6	2,167.0	2,151.3	8.9	5.6	163.25	-17.5	-177.8	521.8	512.1	9.68	53.891			
2,400.0	2,303.7	2,240.7	2,223.6	10.1	5.9	163.54	-23.8	-190.7	589.4	579.1	10.33	57.043			
2,500.0	2,384.9	2,314.3	2,295.8	11.4	6.2	163.77	-30.0	-203.7	657.1	646.1	11.00	59.728			
2,600.0	2,466.0	2,387.9	2,368.0	12.6	6.5	163.95	-36.3	-216.6	724.7	713.0	11.68	62.030			
2,700.0	2,547.2	2,461.6	2,440.2	13.9	6.8	164.11	-42.5	-229.5	792.4	780.0	12.38	64.018			
2,800.0	2,628.3	2,535.2	2,512.4	15.2	7.1	164.24	-48.8	-242.5	860.0	846.9	13.08	65.750			
2,900.0	2,709.5	2,608.8	2,584.6	16.4	7.4	164.35	-55.0	-255.4	927.7	913.9	13.79	67.269			
3,000.0	2,790.6	2,682.5	2,656.9	17.7	7.7	164.45	-61.3	-268.3	995.3	980.8	14.51	68.606			
3,100.0	2,871.8	2,756.1	2,729.1	19.0	8.0	164.53	-67.5	-281.3	1,063.0	1,047.7	15.23	69.792			
3,200.0	2,952.9	2,829.7	2,801.3	20.3	8.3	164.61	-73.8	-294.2	1,130.6	1,114.7	15.96	70.850			
3,300.0	3,034.1	2,903.4	2,873.5	21.6	8.6	164.67	-80.0	-307.1	1,198.3	1,181.6	16.69	71.799			
3,400.0	3,115.2	2,977.0	2,945.7	23.0	9.0	164.73	-86.3	-320.0	1,265.9	1,248.5	17.42	72.651			
3,503.1	3,198.9	3,052.9	3,020.2	24.3	9.3	164.78	-92.7	-333.4	1,335.7	1,317.5	18.19	73.445			
3,600.0	3,278.9	3,125.8	3,091.7	25.4	9.6	165.45	-98.9	-346.2	1,399.5	1,380.4	19.04	73.482			
3,700.0	3,364.3	3,204.3	3,168.7	26.4	9.9	165.98	-105.6	-360.0	1,461.5	1,441.6	19.89	73.459			
3,800.0	3,452.3	3,285.7	3,248.6	27.3	10.3	166.38	-112.5	-374.3	1,519.4	1,498.7	20.72	73.320			
3,900.0	3,542.7	3,370.0	3,331.2	28.1	10.6	166.66	-119.6	-389.1	1,573.1	1,551.6	21.52	73.100			
4,000.0	3,635.1	3,456.8	3,416.4	28.8	11.0	166.86	-127.0	-404.3	1,622.5	1,600.2	22.28	72.825			
4,100.0	3,729.5	3,546.0	3,503.8	29.4	11.4	166.97	-134.6	-420.0	1,667.4	1,644.4	22.99	72.515			
4,200.0	3,825.4	3,637.2	3,593.3	29.9	11.8	167.00	-142.3	-436.0	1,707.7	1,684.0	23.66	72.182			
4,300.0	3,922.7	3,730.3	3,684.5	30.3	12.2	166.97	-150.2	-452.3	1,743.3	1,719.0	24.27	71.837			
4,400.0	4,021.1	3,824.9	3,777.4	30.6	12.6	166.86	-158.3	-469.0	1,774.1	1,749.3	24.82	71.486			
4,500.0	4,120.2	3,920.9	3,871.5	30.9	13.0	166.70	-166.4	-485.8	1,800.1	1,774.8	25.31	71.134			
4,600.0	4,219.9	4,017.9	3,966.6	31.0	13.4	166.47	-174.7	-502.9	1,821.3	1,795.5	25.73	70.783			
4,695.1	4,315.0	4,127.7	4,074.4	31.1	13.9	-71.18	-183.9	-522.0	1,836.8	1,810.7	26.13	70.294			
4,700.0	4,319.9	4,143.3	4,089.7	31.1	13.9	-71.24	-185.1	-524.5	1,837.4	1,811.2	26.19	70.152			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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		Valley Farms J - Valley Farms J6 - Wellbore #1 - Design #1											Offset Site Error:		0.0 ft			
Survey Program:		0-MWD													Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance											
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
4,800.0	4,419.9	4,468.1	4,412.8	31.2	14.7	-71.88	-197.9	-550.9	1,843.9	1,816.8	27.09	68.060						
4,900.0	4,519.9	4,575.2	4,519.9	31.3	14.8	-71.88	-197.9	-550.9	1,843.9	1,816.6	27.38	67.344						
5,000.0	4,619.9	4,675.2	4,619.9	31.3	14.9	-71.88	-197.9	-550.9	1,843.9	1,816.3	27.66	66.662						
5,100.0	4,719.9	4,775.2	4,719.9	31.4	15.1	-71.88	-197.9	-550.9	1,843.9	1,816.0	27.95	65.983						
5,200.0	4,819.9	4,875.2	4,819.9	31.5	15.2	-71.88	-197.9	-550.9	1,843.9	1,815.7	28.23	65.308						
5,300.0	4,919.9	4,975.2	4,919.9	31.5	15.4	-71.88	-197.9	-550.9	1,843.9	1,815.4	28.53	64.637						
5,400.0	5,019.9	5,075.2	5,019.9	31.6	15.5	-71.88	-197.9	-550.9	1,843.9	1,815.1	28.82	63.971						
5,500.0	5,119.9	5,175.2	5,119.9	31.7	15.7	-71.88	-197.9	-550.9	1,843.9	1,814.8	29.13	63.311						
5,600.0	5,219.9	5,275.2	5,219.9	31.7	15.8	-71.88	-197.9	-550.9	1,843.9	1,814.5	29.43	62.655						
5,700.0	5,319.9	5,375.2	5,319.9	31.8	15.9	-71.88	-197.9	-550.9	1,843.9	1,814.2	29.74	62.006						
5,800.0	5,419.9	5,475.2	5,419.9	31.9	16.1	-71.88	-197.9	-550.9	1,843.9	1,813.9	30.05	61.363						
5,900.0	5,519.9	5,575.2	5,519.9	32.0	16.3	-71.88	-197.9	-550.9	1,843.9	1,813.6	30.36	60.726						
6,000.0	5,619.9	5,675.2	5,619.9	32.1	16.4	-71.88	-197.9	-550.9	1,843.9	1,813.2	30.68	60.095						
6,100.0	5,719.9	5,775.2	5,719.9	32.1	16.6	-71.88	-197.9	-550.9	1,843.9	1,812.9	31.01	59.472						
6,200.0	5,819.9	5,875.2	5,819.9	32.2	16.7	-71.88	-197.9	-550.9	1,843.9	1,812.6	31.33	58.855						
6,300.0	5,919.9	5,975.2	5,919.9	32.3	16.9	-71.88	-197.9	-550.9	1,843.9	1,812.3	31.66	58.245						
6,400.0	6,019.9	6,075.2	6,019.9	32.4	17.0	-71.88	-197.9	-550.9	1,843.9	1,811.9	31.99	57.643						
6,500.0	6,119.9	6,175.2	6,119.9	32.5	17.2	-71.88	-197.9	-550.9	1,843.9	1,811.6	32.32	57.048						
6,600.0	6,219.9	6,275.2	6,219.9	32.6	17.4	-71.88	-197.9	-550.9	1,843.9	1,811.3	32.66	56.461						
6,700.0	6,319.9	6,375.2	6,319.9	32.7	17.5	-71.88	-197.9	-550.9	1,843.9	1,810.9	33.00	55.880						
6,800.0	6,419.9	6,475.2	6,419.9	32.8	17.7	-71.88	-197.9	-550.9	1,843.9	1,810.6	33.34	55.308						
6,900.0	6,519.9	6,575.2	6,519.9	32.8	17.9	-71.88	-197.9	-550.9	1,843.9	1,810.2	33.68	54.743						
7,000.0	6,619.9	6,675.2	6,619.9	32.9	18.0	-71.88	-197.9	-550.9	1,843.9	1,809.9	34.03	54.185						
7,100.0	6,719.9	6,775.2	6,719.9	33.0	18.2	-71.88	-197.9	-550.9	1,843.9	1,809.6	34.38	53.635						
7,200.0	6,819.9	6,875.2	6,819.9	33.1	18.4	-71.88	-197.9	-550.9	1,843.9	1,809.2	34.73	53.093						
7,300.0	6,919.9	6,975.2	6,919.9	33.2	18.5	-71.88	-197.9	-550.9	1,843.9	1,808.8	35.08	52.558						
7,400.0	7,019.9	7,075.2	7,019.9	33.3	18.7	-71.88	-197.9	-550.9	1,843.9	1,808.5	35.44	52.030						
7,479.1	7,099.0	7,154.3	7,099.0	33.4	18.9	-71.88	-197.9	-550.9	1,843.9	1,808.2	35.72	51.618						

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J7 - 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	-27.30	44.7	-23.1	50.3					
100.0	100.0	100.0	100.0	0.1	0.1	-27.30	44.7	-23.1	50.3	50.1	0.19	264.507		
200.0	200.0	200.0	200.0	0.3	0.3	-27.30	44.7	-23.1	50.3	49.7	0.64	78.627		
300.0	300.0	300.0	300.0	0.5	0.5	-27.30	44.7	-23.1	50.3	49.2	1.09	46.177		
400.0	400.0	400.0	400.0	0.8	0.8	-27.30	44.7	-23.1	50.3	48.8	1.54	32.687		
500.0	500.0	500.0	500.0	1.0	1.0	-27.30	44.7	-23.1	50.3	48.3	1.99	25.297		
600.0	600.0	600.0	600.0	1.2	1.2	-27.30	44.7	-23.1	50.3	47.9	2.44	20.632		
700.0	700.0	700.0	700.0	1.4	1.4	-27.30	44.7	-23.1	50.3	47.4	2.89	17.420		
800.0	800.0	800.0	800.0	1.7	1.7	-27.30	44.7	-23.1	50.3	47.0	3.34	15.073		
900.0	900.0	900.0	900.0	1.9	1.9	-27.30	44.7	-23.1	50.3	46.5	3.79	13.283		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-27.30	44.7	-23.1	50.3	46.1	4.24	11.874		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-27.30	44.7	-23.1	50.3	45.6	4.69	10.735 CC, ES		
1,200.0	1,200.0	1,200.5	1,200.5	2.5	2.5	-154.24	42.9	-25.0	52.0	46.9	5.09	10.216 SF		
1,300.0	1,299.6	1,300.1	1,299.7	2.7	2.7	-165.08	37.5	-30.7	58.6	53.1	5.45	10.736		
1,400.0	1,398.8	1,397.6	1,396.4	3.0	2.9	-177.82	28.9	-40.0	72.9	67.0	5.83	12.488		
1,500.0	1,497.1	1,492.2	1,489.4	3.2	3.2	171.46	17.3	-52.4	96.5	90.2	6.24	15.456		
1,600.0	1,594.3	1,583.6	1,578.5	3.6	3.5	163.65	3.1	-67.5	129.1	122.4	6.68	19.321		
1,700.0	1,690.2	1,674.9	1,667.1	4.0	3.8	158.80	-12.0	-83.7	168.5	161.3	7.16	23.547		
1,800.0	1,784.4	1,764.4	1,753.8	4.5	4.1	156.08	-26.8	-99.6	212.7	205.1	7.65	27.802		
1,900.0	1,876.8	1,851.7	1,838.6	5.1	4.5	154.52	-41.3	-115.1	261.3	253.1	8.17	31.967		
2,000.0	1,967.1	1,936.7	1,921.0	5.9	4.9	153.60	-55.4	-130.2	314.0	305.3	8.74	35.914		
2,100.0	2,054.9	2,019.1	2,000.9	6.7	5.2	153.03	-69.0	-144.8	370.6	361.3	9.34	39.697		
2,200.0	2,140.2	2,098.7	2,078.1	7.8	5.6	152.63	-82.2	-158.9	431.1	421.1	9.97	43.251		
2,292.0	2,216.1	2,169.2	2,146.5	8.8	5.9	152.34	-93.9	-171.4	489.9	479.3	10.58	46.300		
2,300.0	2,222.6	2,175.2	2,152.4	8.9	6.0	152.41	-94.9	-172.5	495.2	484.5	10.64	46.519		
2,400.0	2,303.7	2,250.5	2,225.4	10.1	6.3	153.19	-107.4	-185.8	560.8	549.4	11.45	48.996		
2,500.0	2,384.9	2,325.7	2,298.4	11.4	6.7	153.80	-119.8	-199.1	626.5	614.2	12.27	51.075		
2,600.0	2,466.0	2,400.9	2,371.3	12.6	7.0	154.30	-132.3	-212.5	692.3	679.2	13.10	52.839		
2,700.0	2,547.2	2,476.2	2,444.3	13.9	7.4	154.72	-144.8	-225.8	758.0	744.1	13.95	54.344		
2,800.0	2,628.3	2,551.4	2,517.3	15.2	7.8	155.07	-157.3	-239.2	823.8	809.0	14.80	55.644		
2,900.0	2,709.5	2,626.6	2,590.3	16.4	8.1	155.36	-169.7	-252.5	889.6	873.9	15.67	56.775		
3,000.0	2,790.6	2,701.8	2,663.3	17.7	8.5	155.62	-182.2	-265.9	955.4	938.9	16.54	57.767		
3,100.0	2,871.8	2,777.1	2,736.2	19.0	8.9	155.84	-194.7	-279.2	1,021.2	1,003.8	17.41	58.640		
3,200.0	2,952.9	2,852.3	2,809.2	20.3	9.3	156.04	-207.1	-292.6	1,087.0	1,068.7	18.30	59.415		
3,300.0	3,034.1	2,927.5	2,882.2	21.6	9.6	156.21	-219.6	-305.9	1,152.9	1,133.7	19.18	60.107		
3,400.0	3,115.2	3,002.8	2,955.2	23.0	10.0	156.36	-232.1	-319.2	1,218.7	1,198.6	20.07	60.728		
3,503.1	3,198.9	3,080.4	3,030.4	24.3	10.4	156.51	-244.9	-333.0	1,286.6	1,265.6	20.99	61.302		
3,600.0	3,278.9	3,154.7	3,102.6	25.4	10.8	157.52	-257.3	-346.2	1,348.7	1,326.8	21.92	61.538		
3,700.0	3,364.3	3,234.4	3,179.9	26.4	11.2	158.34	-270.5	-360.3	1,409.0	1,386.2	22.84	61.686		
3,800.0	3,452.3	3,317.0	3,260.0	27.3	11.6	158.95	-284.1	-375.0	1,465.4	1,441.6	23.76	61.675		
3,900.0	3,542.7	3,402.1	3,342.5	28.1	12.0	159.40	-298.3	-390.1	1,517.7	1,493.0	24.66	61.544		
4,000.0	3,635.1	3,489.5	3,427.4	28.8	12.5	159.71	-312.7	-405.6	1,565.8	1,540.3	25.53	61.323		
4,100.0	3,729.5	3,579.0	3,514.2	29.4	12.9	159.89	-327.6	-421.5	1,609.5	1,583.2	26.37	61.035		
4,200.0	3,825.4	3,670.4	3,602.9	29.9	13.4	159.95	-342.7	-437.7	1,648.9	1,621.7	27.17	60.698		
4,300.0	3,922.7	3,763.4	3,693.1	30.3	13.9	159.91	-358.2	-454.2	1,683.7	1,655.8	27.91	60.323		
4,400.0	4,021.1	3,857.8	3,784.6	30.6	14.4	159.77	-373.8	-470.9	1,714.0	1,685.4	28.60	59.921		
4,500.0	4,120.2	3,953.2	3,877.2	30.9	14.8	159.54	-389.6	-487.8	1,739.7	1,710.5	29.24	59.498		
4,600.0	4,219.9	4,049.5	3,970.6	31.0	15.3	159.20	-405.6	-504.9	1,760.8	1,730.9	29.81	59.057		
4,695.1	4,315.0	4,251.2	4,168.5	31.1	16.0	-78.93	-432.0	-533.2	1,773.7	1,743.1	30.60	57.972		
4,700.0	4,319.9	4,261.9	4,179.1	31.1	16.0	-78.97	-433.0	-534.3	1,774.1	1,743.5	30.64	57.910		

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 J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
4,800.0	4,419.9	4,483.7	4,400.0	31.2	16.5	-79.41	-444.6	-546.7	1,778.7	1,747.4	31.25	56.910			
4,900.0	4,519.9	4,603.5	4,519.9	31.3	16.6	-79.42	-444.9	-547.0	1,778.8	1,747.2	31.53	56.422			
5,000.0	4,619.9	4,703.5	4,619.9	31.3	16.7	-79.42	-444.9	-547.0	1,778.8	1,747.0	31.76	55.998			
5,100.0	4,719.9	4,803.5	4,719.9	31.4	16.9	-79.42	-444.9	-547.0	1,778.8	1,746.7	32.01	55.572			
5,200.0	4,819.9	4,903.5	4,819.9	31.5	17.0	-79.42	-444.9	-547.0	1,778.8	1,746.5	32.26	55.144			
5,300.0	4,919.9	5,003.5	4,919.9	31.5	17.1	-79.42	-444.9	-547.0	1,778.8	1,746.2	32.51	54.716			
5,400.0	5,019.9	5,103.5	5,019.9	31.6	17.2	-79.42	-444.9	-547.0	1,778.8	1,746.0	32.77	54.288			
5,500.0	5,119.9	5,203.5	5,119.9	31.7	17.4	-79.42	-444.9	-547.0	1,778.8	1,745.7	33.03	53.860			
5,600.0	5,219.9	5,303.5	5,219.9	31.7	17.5	-79.42	-444.9	-547.0	1,778.8	1,745.5	33.29	53.431			
5,700.0	5,319.9	5,403.5	5,319.9	31.8	17.6	-79.42	-444.9	-547.0	1,778.8	1,745.2	33.56	53.004			
5,800.0	5,419.9	5,503.5	5,419.9	31.9	17.7	-79.42	-444.9	-547.0	1,778.8	1,744.9	33.83	52.577			
5,900.0	5,519.9	5,603.5	5,519.9	32.0	17.9	-79.42	-444.9	-547.0	1,778.8	1,744.6	34.11	52.151			
6,000.0	5,619.9	5,703.5	5,619.9	32.1	18.0	-79.42	-444.9	-547.0	1,778.8	1,744.4	34.39	51.727			
6,100.0	5,719.9	5,803.5	5,719.9	32.1	18.2	-79.42	-444.9	-547.0	1,778.8	1,744.1	34.67	51.304			
6,200.0	5,819.9	5,903.5	5,819.9	32.2	18.3	-79.42	-444.9	-547.0	1,778.8	1,743.8	34.96	50.883			
6,300.0	5,919.9	6,003.5	5,919.9	32.3	18.4	-79.42	-444.9	-547.0	1,778.8	1,743.5	35.25	50.464			
6,400.0	6,019.9	6,103.5	6,019.9	32.4	18.6	-79.42	-444.9	-547.0	1,778.8	1,743.2	35.54	50.047			
6,500.0	6,119.9	6,203.5	6,119.9	32.5	18.7	-79.42	-444.9	-547.0	1,778.8	1,742.9	35.84	49.633			
6,600.0	6,219.9	6,303.5	6,219.9	32.6	18.9	-79.42	-444.9	-547.0	1,778.8	1,742.6	36.14	49.221			
6,700.0	6,319.9	6,403.5	6,319.9	32.7	19.0	-79.42	-444.9	-547.0	1,778.8	1,742.3	36.44	48.812			
6,800.0	6,419.9	6,503.5	6,419.9	32.8	19.2	-79.42	-444.9	-547.0	1,778.8	1,742.0	36.75	48.405			
6,900.0	6,519.9	6,603.5	6,519.9	32.8	19.3	-79.42	-444.9	-547.0	1,778.8	1,741.7	37.06	48.002			
7,000.0	6,619.9	6,703.5	6,619.9	32.9	19.5	-79.42	-444.9	-547.0	1,778.8	1,741.4	37.37	47.601			
7,100.0	6,719.9	6,803.5	6,719.9	33.0	19.6	-79.42	-444.9	-547.0	1,778.8	1,741.1	37.68	47.204			
7,200.0	6,819.9	6,903.5	6,819.9	33.1	19.8	-79.42	-444.9	-547.0	1,778.8	1,740.8	38.00	46.810			
7,300.0	6,919.9	7,003.5	6,919.9	33.2	19.9	-79.42	-444.9	-547.0	1,778.8	1,740.4	38.32	46.419			
7,400.0	7,019.9	7,103.5	7,019.9	33.3	20.1	-79.42	-444.9	-547.0	1,778.8	1,740.1	38.64	46.032			
7,479.1	7,099.0	7,182.6	7,099.0	33.4	20.2	-79.42	-444.9	-547.0	1,778.8	1,739.9	38.90	45.728			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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	-35.42	32.2	-22.9	39.5					
100.0	100.0	100.0	100.0	0.1	0.1	-35.42	32.2	-22.9	39.5	39.3	0.19	207.799		
200.0	200.0	200.0	200.0	0.3	0.3	-35.42	32.2	-22.9	39.5	38.9	0.64	61.770		
300.0	300.0	300.0	300.0	0.5	0.5	-35.42	32.2	-22.9	39.5	38.4	1.09	36.277		
400.0	400.0	400.0	400.0	0.8	0.8	-35.42	32.2	-22.9	39.5	38.0	1.54	25.679		
500.0	500.0	500.0	500.0	1.0	1.0	-35.42	32.2	-22.9	39.5	37.5	1.99	19.873		
600.0	600.0	600.0	600.0	1.2	1.2	-35.42	32.2	-22.9	39.5	37.1	2.44	16.209		
700.0	700.0	700.0	700.0	1.4	1.4	-35.42	32.2	-22.9	39.5	36.6	2.89	13.685		
800.0	800.0	800.0	800.0	1.7	1.7	-35.42	32.2	-22.9	39.5	36.2	3.34	11.841		
900.0	900.0	900.0	900.0	1.9	1.9	-35.42	32.2	-22.9	39.5	35.7	3.79	10.436		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-35.42	32.2	-22.9	39.5	35.3	4.24	9.328		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-35.42	32.2	-22.9	39.5	34.8	4.69	8.433 CC, ES		
1,200.0	1,200.0	1,200.5	1,200.5	2.5	2.5	-162.95	30.0	-24.4	41.2	36.1	5.09	8.106 SF		
1,300.0	1,299.6	1,300.2	1,299.8	2.7	2.7	-174.87	23.7	-29.0	47.8	42.4	5.44	8.785		
1,400.0	1,398.8	1,398.2	1,397.0	3.0	2.9	171.99	13.3	-36.4	61.9	56.1	5.82	10.634		
1,500.0	1,497.1	1,493.7	1,490.9	3.2	3.2	161.64	-0.7	-46.4	84.6	78.4	6.24	13.556		
1,600.0	1,594.3	1,586.1	1,580.8	3.6	3.5	154.44	-17.9	-58.6	115.5	108.8	6.71	17.209		
1,700.0	1,690.2	1,674.8	1,666.1	4.0	3.8	149.45	-37.7	-72.7	153.8	146.6	7.24	21.236		
1,800.0	1,784.4	1,762.6	1,749.6	4.5	4.2	145.98	-59.8	-88.5	198.5	190.6	7.84	25.304		
1,900.0	1,876.8	1,849.8	1,832.5	5.1	4.6	144.03	-81.9	-104.2	247.3	238.8	8.50	29.083		
2,000.0	1,967.1	1,934.9	1,913.4	5.9	5.1	142.96	-103.5	-119.6	299.8	290.6	9.23	32.492		
2,100.0	2,054.9	2,017.7	1,992.0	6.7	5.5	142.35	-124.4	-134.6	355.8	345.8	10.00	35.595		
2,200.0	2,140.2	2,097.9	2,068.3	7.8	5.9	141.98	-144.8	-149.1	415.2	404.4	10.82	38.359		
2,292.0	2,216.1	2,169.2	2,136.1	8.8	6.4	141.73	-162.9	-162.0	472.9	461.2	11.64	40.624		
2,300.0	2,222.6	2,175.3	2,141.9	8.9	6.4	141.83	-164.4	-163.1	478.0	466.3	11.72	40.794		
2,400.0	2,303.7	2,251.6	2,214.3	10.1	6.8	142.95	-183.8	-176.9	542.3	529.6	12.70	42.689		
2,500.0	2,384.9	2,327.8	2,286.8	11.4	7.3	143.83	-203.1	-190.7	606.7	592.9	13.71	44.251		
2,600.0	2,466.0	2,404.0	2,359.2	12.6	7.7	144.54	-222.4	-204.4	671.1	656.4	14.73	45.555		
2,700.0	2,547.2	2,480.3	2,431.6	13.9	8.2	145.13	-241.7	-218.2	735.6	719.8	15.77	46.652		
2,800.0	2,628.3	2,556.5	2,504.1	15.2	8.6	145.63	-261.1	-232.0	800.1	783.3	16.81	47.588		
2,900.0	2,709.5	2,632.7	2,576.5	16.4	9.1	146.05	-280.4	-245.8	864.7	846.8	17.87	48.394		
3,000.0	2,790.6	2,708.9	2,649.0	17.7	9.6	146.41	-299.7	-259.6	929.2	910.3	18.93	49.095		
3,100.0	2,871.8	2,785.2	2,721.4	19.0	10.0	146.73	-319.0	-273.3	993.8	973.8	19.99	49.706		
3,200.0	2,952.9	2,861.4	2,793.8	20.3	10.5	147.01	-338.4	-287.1	1,058.4	1,037.4	21.07	50.244		
3,300.0	3,034.1	2,937.6	2,866.3	21.6	11.0	147.25	-357.7	-300.9	1,123.1	1,100.9	22.14	50.722		
3,400.0	3,115.2	3,013.9	2,938.7	23.0	11.4	147.47	-377.0	-314.7	1,187.7	1,164.5	23.22	51.148		
3,503.1	3,198.9	3,092.5	3,013.4	24.3	11.9	147.67	-397.0	-328.9	1,254.4	1,230.0	24.34	51.541		
3,600.0	3,278.9	3,167.7	3,084.9	25.4	12.4	149.01	-416.0	-342.5	1,315.4	1,290.0	25.38	51.821		
3,700.0	3,364.3	3,248.0	3,161.2	26.4	12.9	150.09	-436.4	-357.0	1,374.9	1,348.5	26.43	52.029		
3,800.0	3,452.3	3,330.9	3,240.0	27.3	13.4	150.91	-457.4	-372.0	1,430.7	1,403.2	27.47	52.083		
3,900.0	3,542.7	3,416.1	3,321.0	28.1	13.9	151.51	-479.0	-387.4	1,482.6	1,454.1	28.50	52.016		
4,000.0	3,635.1	3,503.4	3,404.0	28.8	14.5	151.93	-501.2	-403.2	1,530.7	1,501.1	29.52	51.855		
4,100.0	3,729.5	3,592.6	3,488.7	29.4	15.1	152.18	-523.8	-419.3	1,574.6	1,544.1	30.50	51.622		
4,200.0	3,825.4	3,683.3	3,574.9	29.9	15.6	152.27	-546.8	-435.7	1,614.5	1,583.0	31.45	51.335		
4,300.0	3,922.7	3,775.4	3,662.4	30.3	16.2	152.23	-570.1	-452.3	1,650.2	1,617.8	32.35	51.008		
4,400.0	4,021.1	3,868.6	3,751.0	30.6	16.8	152.06	-593.8	-469.2	1,681.7	1,648.5	33.20	50.650		
4,500.0	4,120.2	3,962.7	3,840.4	30.9	17.4	151.77	-617.6	-486.2	1,709.0	1,675.0	34.00	50.271		
4,600.0	4,219.9	4,137.8	4,008.8	31.0	18.1	150.90	-656.4	-513.9	1,730.1	1,695.1	34.99	49.444		
4,695.1	4,315.0	4,321.0	4,189.0	31.1	18.7	-87.09	-683.4	-533.1	1,741.5	1,705.8	35.70	48.778		
4,700.0	4,319.9	4,330.6	4,198.5	31.1	18.8	-87.13	-684.4	-533.8	1,741.8	1,706.1	35.74	48.742		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
4,800.0	4,419.9	4,528.8	4,395.9	31.2	19.1	-87.55	-696.8	-542.7	1,746.0	1,709.7	36.28	48.122			
4,900.0	4,519.9	4,652.7	4,519.9	31.3	19.3	-87.57	-697.3	-543.0	1,746.2	1,709.6	36.53	47.805			
5,000.0	4,619.9	4,752.7	4,619.9	31.3	19.4	-87.57	-697.3	-543.0	1,746.2	1,709.4	36.73	47.539			
5,100.0	4,719.9	4,852.7	4,719.9	31.4	19.5	-87.57	-697.3	-543.0	1,746.2	1,709.2	36.94	47.270			
5,200.0	4,819.9	4,952.7	4,819.9	31.5	19.6	-87.57	-697.3	-543.0	1,746.2	1,709.0	37.15	46.998			
5,300.0	4,919.9	5,052.7	4,919.9	31.5	19.7	-87.57	-697.3	-543.0	1,746.2	1,708.8	37.37	46.725			
5,400.0	5,019.9	5,152.7	5,019.9	31.6	19.8	-87.57	-697.3	-543.0	1,746.2	1,708.6	37.59	46.449			
5,500.0	5,119.9	5,252.7	5,119.9	31.7	19.9	-87.57	-697.3	-543.0	1,746.2	1,708.3	37.82	46.172			
5,600.0	5,219.9	5,352.7	5,219.9	31.7	20.0	-87.57	-697.3	-543.0	1,746.2	1,708.1	38.05	45.893			
5,700.0	5,319.9	5,452.7	5,319.9	31.8	20.1	-87.57	-697.3	-543.0	1,746.2	1,707.9	38.28	45.613			
5,800.0	5,419.9	5,552.7	5,419.9	31.9	20.2	-87.57	-697.3	-543.0	1,746.2	1,707.6	38.52	45.332			
5,900.0	5,519.9	5,652.7	5,519.9	32.0	20.3	-87.57	-697.3	-543.0	1,746.2	1,707.4	38.76	45.050			
6,000.0	5,619.9	5,752.7	5,619.9	32.1	20.4	-87.57	-697.3	-543.0	1,746.2	1,707.2	39.01	44.767			
6,100.0	5,719.9	5,852.7	5,719.9	32.1	20.6	-87.57	-697.3	-543.0	1,746.2	1,706.9	39.25	44.483			
6,200.0	5,819.9	5,952.7	5,819.9	32.2	20.7	-87.57	-697.3	-543.0	1,746.2	1,706.7	39.51	44.199			
6,300.0	5,919.9	6,052.7	5,919.9	32.3	20.8	-87.57	-697.3	-543.0	1,746.2	1,706.4	39.76	43.915			
6,400.0	6,019.9	6,152.7	6,019.9	32.4	20.9	-87.57	-697.3	-543.0	1,746.2	1,706.1	40.02	43.631			
6,500.0	6,119.9	6,252.7	6,119.9	32.5	21.1	-87.57	-697.3	-543.0	1,746.2	1,705.9	40.28	43.347			
6,600.0	6,219.9	6,352.7	6,219.9	32.6	21.2	-87.57	-697.3	-543.0	1,746.2	1,705.6	40.55	43.063			
6,700.0	6,319.9	6,452.7	6,319.9	32.7	21.3	-87.57	-697.3	-543.0	1,746.2	1,705.3	40.82	42.779			
6,800.0	6,419.9	6,552.7	6,419.9	32.8	21.4	-87.57	-697.3	-543.0	1,746.2	1,705.1	41.09	42.496			
6,900.0	6,519.9	6,652.7	6,519.9	32.8	21.6	-87.57	-697.3	-543.0	1,746.2	1,704.8	41.36	42.214			
7,000.0	6,619.9	6,752.7	6,619.9	32.9	21.7	-87.57	-697.3	-543.0	1,746.2	1,704.5	41.64	41.932			
7,100.0	6,719.9	6,852.7	6,719.9	33.0	21.8	-87.57	-697.3	-543.0	1,746.2	1,704.2	41.92	41.651			
7,200.0	6,819.9	6,952.7	6,819.9	33.1	22.0	-87.57	-697.3	-543.0	1,746.2	1,704.0	42.21	41.370			
7,300.0	6,919.9	7,052.7	6,919.9	33.2	22.1	-87.57	-697.3	-543.0	1,746.2	1,703.7	42.49	41.091			
7,400.0	7,019.9	7,152.7	7,019.9	33.3	22.3	-87.57	-697.3	-543.0	1,746.2	1,703.4	42.78	40.813			
7,479.1	7,099.0	7,231.8	7,099.0	33.4	22.4	-87.57	-697.3	-543.0	1,746.2	1,703.1	43.02	40.594			

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J9 - 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	-49.12	19.7	-22.8	30.1					
100.0	100.0	100.0	100.0	0.1	0.1	-49.12	19.7	-22.8	30.1	29.9	0.19	158.328		
200.0	200.0	200.0	200.0	0.3	0.3	-49.12	19.7	-22.8	30.1	29.5	0.64	47.064		
300.0	300.0	300.0	300.0	0.5	0.5	-49.12	19.7	-22.8	30.1	29.0	1.09	27.640		
400.0	400.0	400.0	400.0	0.8	0.8	-49.12	19.7	-22.8	30.1	28.6	1.54	19.566		
500.0	500.0	500.0	500.0	1.0	1.0	-49.12	19.7	-22.8	30.1	28.1	1.99	15.142		
600.0	600.0	600.0	600.0	1.2	1.2	-49.12	19.7	-22.8	30.1	27.7	2.44	12.350		
700.0	700.0	700.0	700.0	1.4	1.4	-49.12	19.7	-22.8	30.1	27.2	2.89	10.427		
800.0	800.0	800.0	800.0	1.7	1.7	-49.12	19.7	-22.8	30.1	26.8	3.34	9.022		
900.0	900.0	900.0	900.0	1.9	1.9	-49.12	19.7	-22.8	30.1	26.3	3.79	7.951		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-49.12	19.7	-22.8	30.1	25.9	4.24	7.107		
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-49.12	19.7	-22.8	30.1	25.4	4.69	6.425 CC, ES		
1,200.0	1,200.0	1,200.2	1,200.2	2.5	2.5	-177.04	17.4	-24.0	32.2	27.2	5.08	6.342 SF		
1,300.0	1,299.6	1,299.7	1,299.3	2.7	2.7	171.13	10.5	-27.6	39.9	34.4	5.44	7.328		
1,400.0	1,398.8	1,397.7	1,396.5	3.0	2.9	159.55	-0.8	-33.6	54.8	48.9	5.82	9.404		
1,500.0	1,497.1	1,493.6	1,490.8	3.2	3.2	151.17	-16.0	-41.7	77.3	71.1	6.25	12.369		
1,600.0	1,594.3	1,586.7	1,581.4	3.6	3.4	145.55	-34.8	-51.6	107.2	100.4	6.75	15.890		
1,700.0	1,690.2	1,676.5	1,667.8	4.0	3.8	141.69	-56.6	-63.2	143.7	136.4	7.31	19.656		
1,800.0	1,784.4	1,762.7	1,749.5	4.5	4.2	138.85	-80.9	-76.1	186.5	178.6	7.97	23.415		
1,900.0	1,876.8	1,845.0	1,826.2	5.1	4.6	136.59	-107.1	-90.0	235.1	226.4	8.71	26.991		
2,000.0	1,967.1	1,927.6	1,902.2	5.9	5.1	134.78	-135.6	-105.1	288.6	279.0	9.56	30.175		
2,100.0	2,054.9	2,009.9	1,978.0	6.7	5.6	133.67	-164.2	-120.2	345.2	334.7	10.50	32.877		
2,200.0	2,140.2	2,090.0	2,051.6	7.8	6.2	132.97	-192.0	-135.0	404.9	393.4	11.52	35.162		
2,292.0	2,216.1	2,161.5	2,117.4	8.8	6.7	132.51	-216.8	-148.1	462.3	449.8	12.52	36.939		
2,300.0	2,222.6	2,167.7	2,123.0	8.9	6.7	132.62	-219.0	-149.3	467.4	454.8	12.61	37.075		
2,400.0	2,303.7	2,244.2	2,193.4	10.1	7.3	133.80	-245.5	-163.3	531.3	517.5	13.78	38.561		
2,500.0	2,384.9	2,320.7	2,263.8	11.4	7.8	134.74	-272.1	-177.4	595.3	580.3	14.98	39.752		
2,600.0	2,466.0	2,397.2	2,334.1	12.6	8.4	135.49	-298.7	-191.5	659.3	643.2	16.19	40.721		
2,700.0	2,547.2	2,473.8	2,404.5	13.9	8.9	136.12	-325.3	-205.6	723.5	706.0	17.43	41.516		
2,800.0	2,628.3	2,550.3	2,474.9	15.2	9.5	136.64	-351.8	-219.7	787.6	768.9	18.67	42.181		
2,900.0	2,709.5	2,626.8	2,545.2	16.4	10.1	137.08	-378.4	-233.8	851.8	831.9	19.93	42.745		
3,000.0	2,790.6	2,703.4	2,615.6	17.7	10.6	137.46	-405.0	-247.9	916.0	894.8	21.19	43.227		
3,100.0	2,871.8	2,779.9	2,686.0	19.0	11.2	137.79	-431.6	-262.0	980.2	957.8	22.46	43.640		
3,200.0	2,952.9	2,856.4	2,756.3	20.3	11.8	138.08	-458.1	-276.0	1,044.5	1,020.7	23.74	43.999		
3,300.0	3,034.1	2,932.9	2,826.7	21.6	12.4	138.34	-484.7	-290.1	1,108.7	1,083.7	25.02	44.314		
3,400.0	3,115.2	3,009.5	2,897.1	23.0	13.0	138.57	-511.3	-304.2	1,173.0	1,146.7	26.31	44.593		
3,503.1	3,198.9	3,088.4	2,969.7	24.3	13.6	138.78	-538.7	-318.7	1,239.3	1,211.7	27.63	44.846		
3,600.0	3,278.9	3,163.8	3,039.0	25.4	14.1	140.39	-564.9	-332.6	1,300.1	1,271.3	28.84	45.081		
3,700.0	3,364.3	3,244.0	3,112.7	26.4	14.7	141.70	-592.7	-347.4	1,359.8	1,329.8	30.03	45.279		
3,800.0	3,452.3	3,326.4	3,188.5	27.3	15.4	142.71	-621.3	-362.6	1,416.1	1,384.9	31.23	45.352		
3,900.0	3,542.7	3,410.9	3,266.2	28.1	16.0	143.46	-650.7	-378.1	1,469.0	1,436.6	32.41	45.326		
4,000.0	3,635.1	3,497.2	3,345.6	28.8	16.7	143.98	-680.6	-394.0	1,518.3	1,484.8	33.57	45.224		
4,100.0	3,729.5	3,585.0	3,426.3	29.4	17.4	144.31	-711.1	-410.2	1,564.0	1,529.3	34.71	45.064		
4,200.0	3,825.4	3,674.2	3,508.3	29.9	18.0	144.46	-742.1	-426.6	1,606.1	1,570.3	35.80	44.861		
4,300.0	3,922.7	3,764.4	3,591.3	30.3	18.7	144.44	-773.4	-443.2	1,644.4	1,607.5	36.85	44.629		
4,400.0	4,021.1	3,855.4	3,675.0	30.6	19.4	144.28	-805.0	-459.9	1,679.0	1,641.2	37.83	44.379		
4,500.0	4,120.2	4,005.1	3,814.1	30.9	20.3	143.53	-853.9	-485.8	1,708.9	1,669.9	39.01	43.807		
4,600.0	4,219.9	4,191.8	3,992.8	31.0	21.2	142.65	-901.3	-510.9	1,730.5	1,690.4	40.08	43.176		
4,695.1	4,315.0	4,378.3	4,175.7	31.1	21.8	-95.34	-933.1	-527.8	1,742.5	1,701.6	40.83	42.676		
4,700.0	4,319.9	4,388.1	4,185.4	31.1	21.8	-95.38	-934.3	-528.4	1,742.8	1,702.0	40.87	42.647		

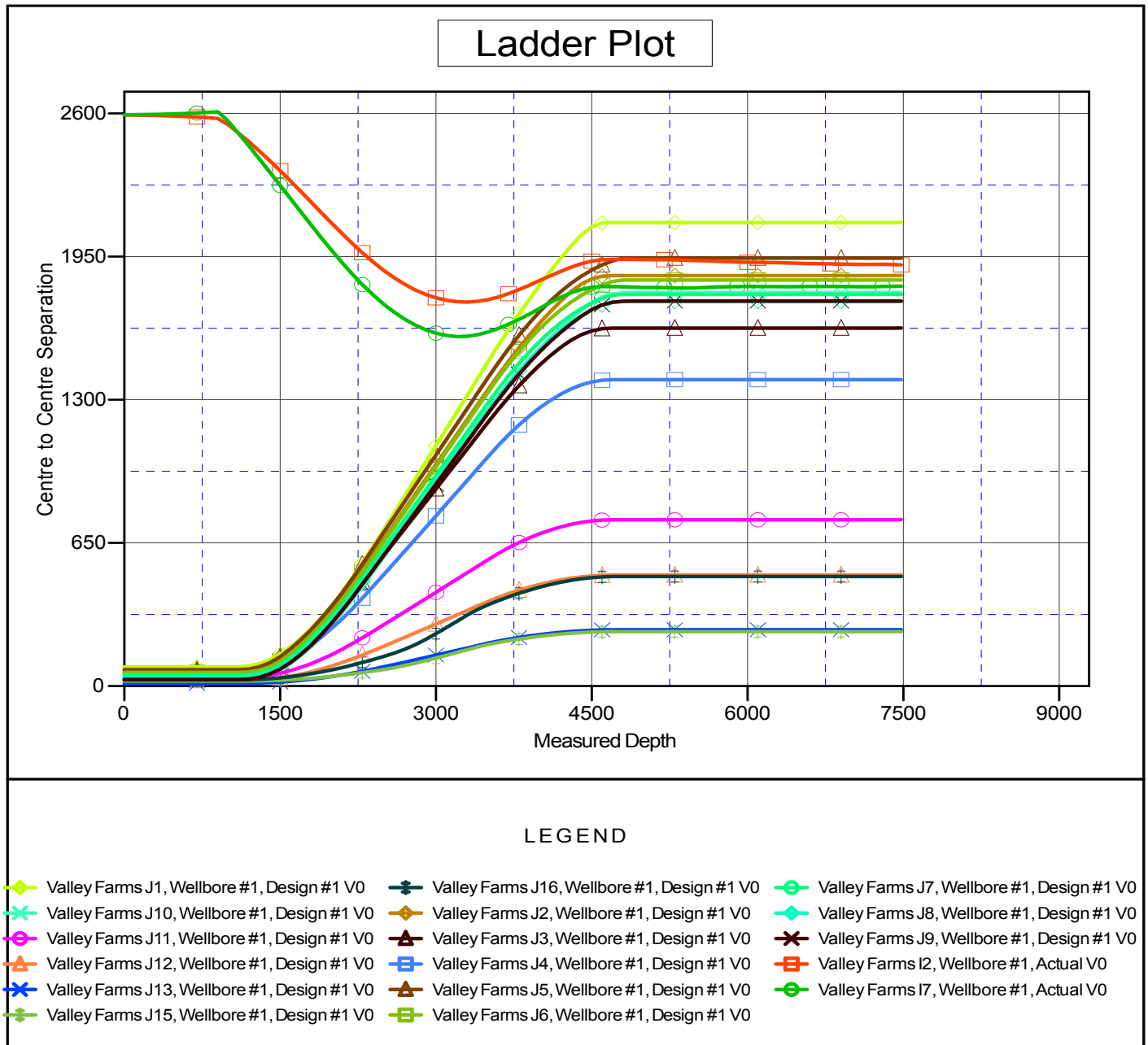
Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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	4,419.9	4,590.2	4,386.6	31.2	22.2	-95.86	-949.8	-536.7	1,747.7	1,706.3	41.41	42.204		
4,900.0	4,519.9	4,723.5	4,519.9	31.3	22.3	-95.89	-950.8	-537.2	1,748.0	1,706.3	41.64	41.976		
5,000.0	4,619.9	4,823.5	4,619.9	31.3	22.4	-95.89	-950.8	-537.2	1,748.0	1,706.2	41.82	41.796		
5,100.0	4,719.9	4,923.5	4,719.9	31.4	22.5	-95.89	-950.8	-537.2	1,748.0	1,706.0	42.01	41.613		
5,200.0	4,819.9	5,023.5	4,819.9	31.5	22.6	-95.89	-950.8	-537.2	1,748.0	1,705.8	42.19	41.427		
5,300.0	4,919.9	5,123.5	4,919.9	31.5	22.7	-95.89	-950.8	-537.2	1,748.0	1,705.6	42.39	41.240		
5,400.0	5,019.9	5,223.5	5,019.9	31.6	22.8	-95.89	-950.8	-537.2	1,748.0	1,705.4	42.58	41.051		
5,500.0	5,119.9	5,323.5	5,119.9	31.7	22.9	-95.89	-950.8	-537.2	1,748.0	1,705.2	42.78	40.859		
5,600.0	5,219.9	5,423.5	5,219.9	31.7	23.0	-95.89	-950.8	-537.2	1,748.0	1,705.0	42.98	40.666		
5,700.0	5,319.9	5,523.5	5,319.9	31.8	23.1	-95.89	-950.8	-537.2	1,748.0	1,704.8	43.19	40.471		
5,800.0	5,419.9	5,623.5	5,419.9	31.9	23.2	-95.89	-950.8	-537.2	1,748.0	1,704.6	43.40	40.275		
5,900.0	5,519.9	5,723.5	5,519.9	32.0	23.3	-95.89	-950.8	-537.2	1,748.0	1,704.4	43.62	40.077		
6,000.0	5,619.9	5,823.5	5,619.9	32.1	23.4	-95.89	-950.8	-537.2	1,748.0	1,704.2	43.83	39.878		
6,100.0	5,719.9	5,923.5	5,719.9	32.1	23.5	-95.89	-950.8	-537.2	1,748.0	1,703.9	44.05	39.678		
6,200.0	5,819.9	6,023.5	5,819.9	32.2	23.6	-95.89	-950.8	-537.2	1,748.0	1,703.7	44.28	39.476		
6,300.0	5,919.9	6,123.5	5,919.9	32.3	23.7	-95.89	-950.8	-537.2	1,748.0	1,703.5	44.51	39.274		
6,400.0	6,019.9	6,223.5	6,019.9	32.4	23.8	-95.89	-950.8	-537.2	1,748.0	1,703.2	44.74	39.070		
6,500.0	6,119.9	6,323.5	6,119.9	32.5	23.9	-95.89	-950.8	-537.2	1,748.0	1,703.0	44.97	38.866		
6,600.0	6,219.9	6,423.5	6,219.9	32.6	24.0	-95.89	-950.8	-537.2	1,748.0	1,702.8	45.21	38.662		
6,700.0	6,319.9	6,523.5	6,319.9	32.7	24.1	-95.89	-950.8	-537.2	1,748.0	1,702.5	45.45	38.456		
6,800.0	6,419.9	6,623.5	6,419.9	32.8	24.2	-95.89	-950.8	-537.2	1,748.0	1,702.3	45.70	38.251		
6,900.0	6,519.9	6,723.5	6,519.9	32.8	24.3	-95.89	-950.8	-537.2	1,748.0	1,702.0	45.95	38.045		
7,000.0	6,619.9	6,823.5	6,619.9	32.9	24.5	-95.89	-950.8	-537.2	1,748.0	1,701.8	46.20	37.838		
7,100.0	6,719.9	6,923.5	6,719.9	33.0	24.6	-95.89	-950.8	-537.2	1,748.0	1,701.5	46.45	37.632		
7,200.0	6,819.9	7,023.5	6,819.9	33.1	24.7	-95.89	-950.8	-537.2	1,748.0	1,701.3	46.71	37.425		
7,300.0	6,919.9	7,123.5	6,919.9	33.2	24.8	-95.89	-950.8	-537.2	1,748.0	1,701.0	46.97	37.218		
7,400.0	7,019.9	7,223.5	7,019.9	33.3	25.0	-95.89	-950.8	-537.2	1,748.0	1,700.8	47.23	37.011		
7,479.1	7,099.0	7,302.6	7,099.0	33.4	25.0	-95.89	-950.8	-537.2	1,748.0	1,700.5	47.44	36.848		

Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J14 @ 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 J14
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.34°

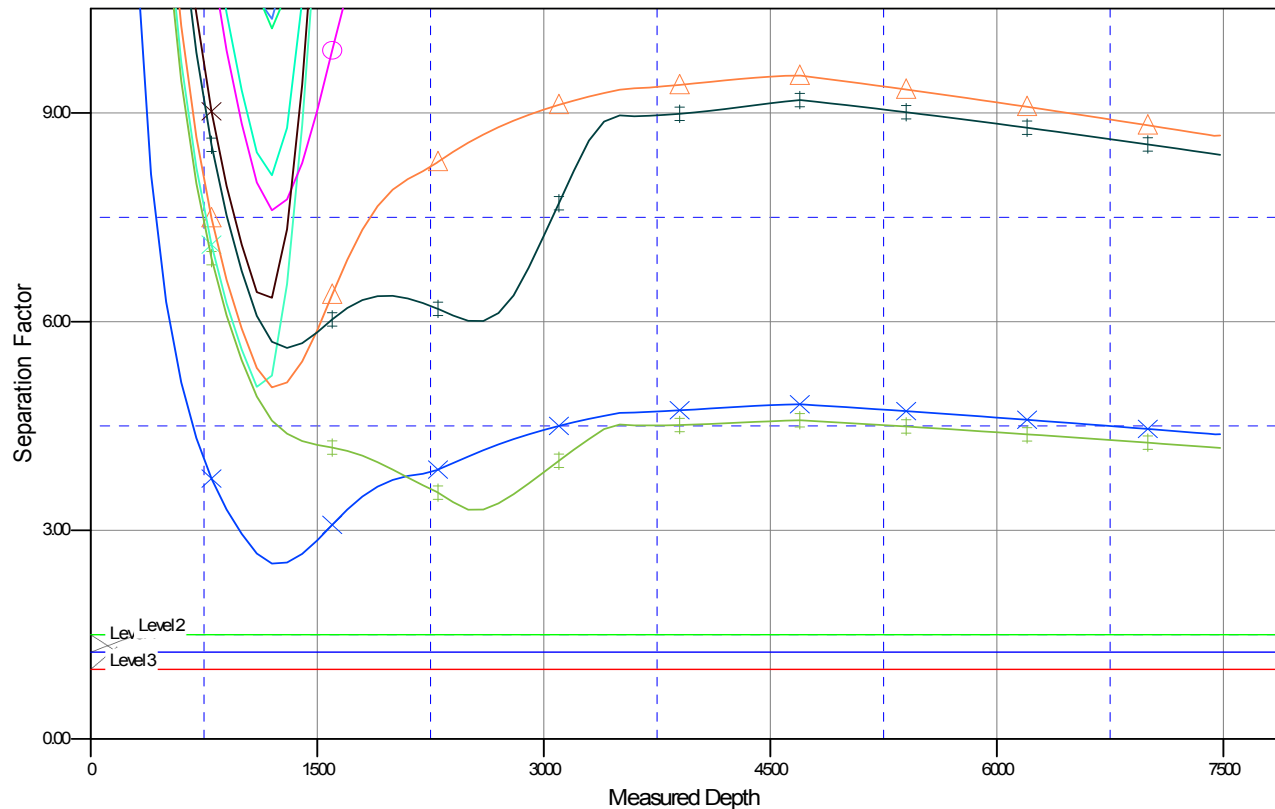


Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well Valley Farms J14
Project:	Rockies Region	TVD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Reference Site:	Valley Farms J	MD Reference:	Valley Farms J14 @ 5552.4ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Valley Farms J14	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 J14 @ 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 J14
Coordinate System is US State Plane 1983, Colorado Central Zone
Grid Convergence at Surface is: -1.34°

Separation Factor Plot



LEGEND

- Valley Farms J1, Wellbore #1, Design #1 V0
- Valley Farms J10, Wellbore #1, Design #1 V0
- Valley Farms J11, Wellbore #1, Design #1 V0
- Valley Farms J12, Wellbore #1, Design #1 V0
- Valley Farms J13, Wellbore #1, Design #1 V0
- Valley Farms J15, Wellbore #1, Design #1 V0
- Valley Farms J16, Wellbore #1, Design #1 V0
- Valley Farms J2, Wellbore #1, Design #1 V0
- Valley Farms J3, Wellbore #1, Design #1 V0
- Valley Farms J4, Wellbore #1, Design #1 V0
- Valley Farms J5, Wellbore #1, Design #1 V0
- Valley Farms J6, Wellbore #1, Design #1 V0
- Valley Farms J7, Wellbore #1, Design #1 V0
- Valley Farms J8, Wellbore #1, Design #1 V0
- Valley Farms J9, Wellbore #1, Design #1 V0
- Valley Farms J12, Wellbore #1, Actual V0
- Valley Farms J17, Wellbore #1, Actual V0