



Ursa Operating Company, LLC

Rio Blanco County, Colorado

Jimmy Gulch 3K Pad

Jimmy Gulch 3K 13A-3-3-97

Wellbore #1

Plan: Design #1

Standard Planning Report

25 July, 2017



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Jimmy Gulch 3K 13A-3-3-97
Company:	Ursa Operating Company, LLC	TVD Reference:	Jimmy Gulch 3K 13A-3-3-97 @ 6733.5usft (Est KB)
Project:	Rio Blanco County, Colorado	MD Reference:	Jimmy Gulch 3K 13A-3-3-97 @ 6733.5usft (Est KB)
Site:	Jimmy Gulch 3K Pad	North Reference:	True
Well:	Jimmy Gulch 3K 13A-3-3-97	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Rio Blanco County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Jimmy Gulch 3K Pad				
Site Position:		Northing:	1,187,943.19 usft	Latitude:	39.815928222
From:	Lat/Long	Easting:	2,222,132.68 usft	Longitude:	-108.269550766
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.79 °

Well	Jimmy Gulch 3K 13A-3-3-97, SHL: Lat 39.815928222 Long -108.269550766					
Well Position	+N/-S	0.0 usft	Northing:	1,187,943.20 usft	Latitude:	39.815928222
	+E/-W	0.0 usft	Easting:	2,222,132.68 usft	Longitude:	-108.269550766
Position Uncertainty		0.0 usft	Wellhead Elevation:	6,733.5 usft	Ground Level:	6,712.5 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/21/2017	9.85	65.80	51,649

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	314.37

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,308.5	10.80	314.37	1,306.7	20.3	-20.7	3.50	3.50	0.00	314.37	
7,150.6	10.80	314.37	7,045.3	785.6	-803.1	0.00	0.00	0.00	0.00	
7,459.1	0.00	0.00	7,352.0	805.9	-823.8	3.50	-3.50	0.00	180.00	JG 3K 13A-3-3-97 TG
13,139.1	0.00	0.00	13,032.0	805.9	-823.8	0.00	0.00	0.00	0.00	

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Well:	Jimmy Gulch 3K 13A-3-3-97	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
0.1	0.00	0.00	0.1	0.0	0.0	0.0	0.00	0.00	0.00	0.00
SHL 39.815928222, -108.269550766										
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	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	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	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	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	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	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	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	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	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	0.00
Start Build 3.50										
1,100.0	3.50	314.37	1,099.9	2.1	-2.2	3.1	3.50	3.50	0.00	0.00
1,163.3	5.71	314.37	1,163.0	5.7	-5.8	8.1	3.50	3.50	0.00	0.00
Green River Fm - Mahogany Bench										
1,200.0	7.00	314.37	1,199.5	8.5	-8.7	12.2	3.50	3.50	0.00	0.00
1,220.7	7.72	314.37	1,220.0	10.4	-10.6	14.9	3.50	3.50	0.00	0.00
Dissolution Surface										
1,308.5	10.80	314.37	1,306.7	20.3	-20.7	29.0	3.50	3.50	0.00	0.00
Start 5842.1 hold at 1308.5 MD										
1,400.0	10.80	314.37	1,396.6	32.3	-33.0	46.1	0.00	0.00	0.00	0.00
1,500.0	10.80	314.37	1,494.8	45.4	-46.4	64.9	0.00	0.00	0.00	0.00
1,600.0	10.80	314.37	1,593.0	58.5	-59.8	83.6	0.00	0.00	0.00	0.00
1,700.0	10.80	314.37	1,691.2	71.6	-73.1	102.3	0.00	0.00	0.00	0.00
1,800.0	10.80	314.37	1,789.5	84.7	-86.5	121.1	0.00	0.00	0.00	0.00
1,900.0	10.80	314.37	1,887.7	97.8	-99.9	139.8	0.00	0.00	0.00	0.00
2,000.0	10.80	314.37	1,985.9	110.9	-113.3	158.5	0.00	0.00	0.00	0.00
2,100.0	10.80	314.37	2,084.2	124.0	-126.7	177.3	0.00	0.00	0.00	0.00
2,200.0	10.80	314.37	2,182.4	137.1	-140.1	196.0	0.00	0.00	0.00	0.00
2,300.0	10.80	314.37	2,280.6	150.2	-153.5	214.7	0.00	0.00	0.00	0.00
2,372.7	10.80	314.37	2,352.0	159.7	-163.2	228.3	0.00	0.00	0.00	0.00
Green River Fm - Garden Gulch Mbr										
2,400.0	10.80	314.37	2,378.9	163.3	-166.9	233.5	0.00	0.00	0.00	0.00
2,500.0	10.80	314.37	2,477.1	176.4	-180.3	252.2	0.00	0.00	0.00	0.00
2,600.0	10.80	314.37	2,575.3	189.5	-193.7	270.9	0.00	0.00	0.00	0.00
2,600.7	10.80	314.37	2,576.0	189.5	-193.8	271.1	0.00	0.00	0.00	0.00
Wasatch Fm										
2,700.0	10.80	314.37	2,673.5	202.6	-207.1	289.7	0.00	0.00	0.00	0.00
2,800.0	10.80	314.37	2,771.8	215.7	-220.5	308.4	0.00	0.00	0.00	0.00
2,900.0	10.80	314.37	2,870.0	228.8	-233.9	327.1	0.00	0.00	0.00	0.00
3,000.0	10.80	314.37	2,968.2	241.9	-247.2	345.9	0.00	0.00	0.00	0.00
3,100.0	10.80	314.37	3,066.5	255.0	-260.6	364.6	0.00	0.00	0.00	0.00
3,200.0	10.80	314.37	3,164.7	268.1	-274.0	383.3	0.00	0.00	0.00	0.00
3,300.0	10.80	314.37	3,262.9	281.2	-287.4	402.1	0.00	0.00	0.00	0.00
3,400.0	10.80	314.37	3,361.1	294.3	-300.8	420.8	0.00	0.00	0.00	0.00
3,500.0	10.80	314.37	3,459.4	307.4	-314.2	439.5	0.00	0.00	0.00	0.00
3,600.0	10.80	314.37	3,557.6	320.5	-327.6	458.3	0.00	0.00	0.00	0.00
3,700.0	10.80	314.37	3,655.8	333.6	-341.0	477.0	0.00	0.00	0.00	0.00
3,800.0	10.80	314.37	3,754.1	346.7	-354.4	495.7	0.00	0.00	0.00	0.00
3,900.0	10.80	314.37	3,852.3	359.8	-367.8	514.5	0.00	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,000.0	10.80	314.37	3,950.5	372.9	-381.2	533.2	0.00	0.00	0.00	
4,050.4	10.80	314.37	4,000.0	379.5	-387.9	542.6	0.00	0.00	0.00	
Surface Casing										
4,100.0	10.80	314.37	4,048.8	386.0	-394.6	551.9	0.00	0.00	0.00	
4,200.0	10.80	314.37	4,147.0	399.1	-408.0	570.7	0.00	0.00	0.00	
4,300.0	10.80	314.37	4,245.2	412.2	-421.3	589.4	0.00	0.00	0.00	
4,400.0	10.80	314.37	4,343.4	425.3	-434.7	608.1	0.00	0.00	0.00	
4,500.0	10.80	314.37	4,441.7	438.4	-448.1	626.9	0.00	0.00	0.00	
4,600.0	10.80	314.37	4,539.9	451.5	-461.5	645.6	0.00	0.00	0.00	
4,700.0	10.80	314.37	4,638.1	464.6	-474.9	664.3	0.00	0.00	0.00	
4,800.0	10.80	314.37	4,736.4	477.7	-488.3	683.1	0.00	0.00	0.00	
4,900.0	10.80	314.37	4,834.6	490.8	-501.7	701.8	0.00	0.00	0.00	
5,000.0	10.80	314.37	4,932.8	503.9	-515.1	720.5	0.00	0.00	0.00	
5,085.7	10.80	314.37	5,017.0	515.1	-526.6	736.6	0.00	0.00	0.00	
Ft Union										
5,100.0	10.80	314.37	5,031.0	517.0	-528.5	739.3	0.00	0.00	0.00	
5,200.0	10.80	314.37	5,129.3	530.1	-541.9	758.0	0.00	0.00	0.00	
5,300.0	10.80	314.37	5,227.5	543.2	-555.3	776.8	0.00	0.00	0.00	
5,400.0	10.80	314.37	5,325.7	556.3	-568.7	795.5	0.00	0.00	0.00	
5,500.0	10.80	314.37	5,424.0	569.4	-582.1	814.2	0.00	0.00	0.00	
5,600.0	10.80	314.37	5,522.2	582.5	-595.4	833.0	0.00	0.00	0.00	
5,700.0	10.80	314.37	5,620.4	595.6	-608.8	851.7	0.00	0.00	0.00	
5,800.0	10.80	314.37	5,718.7	608.7	-622.2	870.4	0.00	0.00	0.00	
5,900.0	10.80	314.37	5,816.9	621.8	-635.6	889.2	0.00	0.00	0.00	
6,000.0	10.80	314.37	5,915.1	634.9	-649.0	907.9	0.00	0.00	0.00	
6,100.0	10.80	314.37	6,013.3	648.0	-662.4	926.6	0.00	0.00	0.00	
6,200.0	10.80	314.37	6,111.6	661.1	-675.8	945.4	0.00	0.00	0.00	
6,300.0	10.80	314.37	6,209.8	674.2	-689.2	964.1	0.00	0.00	0.00	
6,400.0	10.80	314.37	6,308.0	687.3	-702.6	982.8	0.00	0.00	0.00	
6,500.0	10.80	314.37	6,406.3	700.4	-716.0	1,001.6	0.00	0.00	0.00	
6,600.0	10.80	314.37	6,504.5	713.5	-729.4	1,020.3	0.00	0.00	0.00	
6,700.0	10.80	314.37	6,602.7	726.6	-742.8	1,039.0	0.00	0.00	0.00	
6,800.0	10.80	314.37	6,701.0	739.7	-756.2	1,057.8	0.00	0.00	0.00	
6,900.0	10.80	314.37	6,799.2	752.8	-769.5	1,076.5	0.00	0.00	0.00	
7,000.0	10.80	314.37	6,897.4	765.9	-782.9	1,095.2	0.00	0.00	0.00	
7,100.0	10.80	314.37	6,995.6	779.0	-796.3	1,114.0	0.00	0.00	0.00	
7,150.6	10.80	314.37	7,045.3	785.6	-803.1	1,123.4	0.00	0.00	0.00	
Start Drop -3.50										
7,200.0	9.07	314.37	7,094.0	791.5	-809.2	1,132.0	3.50	-3.50	0.00	
7,300.0	5.57	314.37	7,193.2	800.5	-818.3	1,144.7	3.50	-3.50	0.00	
7,400.0	2.07	314.37	7,292.9	805.1	-823.1	1,151.4	3.50	-3.50	0.00	
7,453.1	0.21	314.37	7,346.0	805.8	-823.8	1,152.4	3.50	-3.50	0.00	
Ohio Creek										
7,459.1	0.00	0.00	7,352.0	805.9	-823.8	1,152.4	3.50	-3.50	760.52	
Back to Vertical - Start 5680.0 hold at 7459.1 MD - Top of Gas - JG 3K 13A-3-3-97 TGT										
7,500.0	0.00	0.00	7,392.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,492.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
7,619.1	0.00	0.00	7,512.0	805.9	-823.8	1,152.4	0.00	0.00	0.00	
Williams Fork										
7,700.0	0.00	0.00	7,592.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,692.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	

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Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,900.0	0.00	0.00	7,792.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,892.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,992.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,092.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,192.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,292.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,392.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,492.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,592.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,692.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,792.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,892.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,100.0	0.00	0.00	8,992.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,092.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,192.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,292.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,392.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,492.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,592.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,692.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,792.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,892.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,100.0	0.00	0.00	9,992.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,092.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,192.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,292.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,500.0	0.00	0.00	10,392.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,600.0	0.00	0.00	10,492.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,700.0	0.00	0.00	10,592.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,800.0	0.00	0.00	10,692.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
10,900.0	0.00	0.00	10,792.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,000.0	0.00	0.00	10,892.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,089.1	0.00	0.00	10,982.0	805.9	-823.8	1,152.4	0.00	0.00	0.00	
Cameo										
11,100.0	0.00	0.00	10,992.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,200.0	0.00	0.00	11,092.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,300.0	0.00	0.00	11,192.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,400.0	0.00	0.00	11,292.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,500.0	0.00	0.00	11,392.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,589.1	0.00	0.00	11,482.0	805.9	-823.8	1,152.4	0.00	0.00	0.00	
Rollins										
11,600.0	0.00	0.00	11,492.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,700.0	0.00	0.00	11,592.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,756.1	0.00	0.00	11,649.0	805.9	-823.8	1,152.4	0.00	0.00	0.00	
Cozzette Fm										
11,800.0	0.00	0.00	11,692.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
11,900.0	0.00	0.00	11,792.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,000.0	0.00	0.00	11,892.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,100.0	0.00	0.00	11,992.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,113.1	0.00	0.00	12,006.0	805.9	-823.8	1,152.4	0.00	0.00	0.00	
Corcoran										
12,200.0	0.00	0.00	12,092.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Jimmy Gulch 3K 13A-3-3-97
Company:	Ursa Operating Company, LLC	TVD Reference:	Jimmy Gulch 3K 13A-3-3-97 @ 6733.5usft (Est KB)
Project:	Rio Blanco County, Colorado	MD Reference:	Jimmy Gulch 3K 13A-3-3-97 @ 6733.5usft (Est KB)
Site:	Jimmy Gulch 3K Pad	North Reference:	True
Well:	Jimmy Gulch 3K 13A-3-3-97	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,300.0	0.00	0.00	12,192.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,400.0	0.00	0.00	12,292.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,500.0	0.00	0.00	12,392.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,600.0	0.00	0.00	12,492.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,700.0	0.00	0.00	12,592.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,800.0	0.00	0.00	12,692.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
12,900.0	0.00	0.00	12,792.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
13,000.0	0.00	0.00	12,892.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
13,100.0	0.00	0.00	12,992.9	805.9	-823.8	1,152.4	0.00	0.00	0.00	
13,139.1	0.00	0.00	13,032.0	805.9	-823.8	1,152.4	0.00	0.00	0.00	
TD at 13139.1 - BHL 39.8181404, -108.2724835										

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
JG 3K 13A-3-3-97 TGT - plan hits target center - Rectangle (sides W40.0 H100.0 D5,680.0)	0.00	0.00	7,352.0	805.9	-823.8	1,188,774.37	2,221,334.43	39.818140400	-108.272483500

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,163.3	1,163.0	Green River Fm - Mahogany Bench		0.00		
1,220.7	1,220.0	Dissolution Surface		0.00		
2,372.7	2,352.0	Green River Fm - Garden Gulch Mbr		0.00		
2,600.7	2,576.0	Wasatch Fm		0.00		
5,085.7	5,017.0	Ft Union		0.00		
7,453.1	7,346.0	Ohio Creek		0.00		
7,459.1	7,352.0	Top of Gas		0.00		
7,619.1	7,512.0	Williams Fork		0.00		
11,089.1	10,982.0	Cameo		0.00		
11,589.1	11,482.0	Rollins		0.00		
11,756.1	11,649.0	Cozzette Fm		0.00		
12,113.1	12,006.0	Corcoran		0.00		

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Jimmy Gulch 3K 13A-3-3-97
Company:	Ursa Operating Company, LLC	TVD Reference:	Jimmy Gulch 3K 13A-3-3-97 @ 6733.5usft (Est KB)
Project:	Rio Blanco County, Colorado	MD Reference:	Jimmy Gulch 3K 13A-3-3-97 @ 6733.5usft (Est KB)
Site:	Jimmy Gulch 3K Pad	North Reference:	True
Well:	Jimmy Gulch 3K 13A-3-3-97	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.1	0.1	0.0	0.0	SHL 39.815928222, -108.269550766
1,000.0	1,000.0	0.0	0.0	Start Build 3.50
1,308.5	1,306.7	20.3	-20.7	Start 5842.1 hold at 1308.5 MD
4,050.4	4,000.0	379.5	-387.9	Surface Casing
7,150.6	7,045.3	785.6	-803.1	Start Drop -3.50
7,459.1	7,352.0	805.9	-823.8	Back to Vertical
7,459.1	7,352.0	805.9	-823.8	Start 5680.0 hold at 7459.1 MD
13,139.1	13,032.0	805.9	-823.8	TD at 13139.1
13,139.1	13,032.0	805.9	-823.8	BHL 39.8181404, -108.2724835



Well Name: Jimmy Gulch 3K 13A-3-3-97
 Surface Location: Jimmy Gulch 3K Pad
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 6712.5
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.0 0.0 1187943.20 2222132.68 39.815928222 -108.269550766
 Est KB Jimmy Gulch 3K 13A-3-3-97 @ 6733.5usft (Est KB)



Azimuths to True North
 Magnetic North: 9.85°
 Magnetic Field
 Strength: 51649.4snT
 Dip Angle: 65.80°
 Date: 7/21/2017
 Model: IGRF2015

Jimmy Gulch 3K Pad
 Jimmy Gulch 3K 13A-3-3-97
 Design #1
 18:47, July 25 2017

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
JG 3K 13A-3-3-97 TGT	7352.0	805.9	-823.8	1188774.37	2221334.44	39.818140400	-108.272483500	Rectangle (Sides: L100.0 W40.0)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1308.5	10.80	314.37	1306.7	20.3	-20.7	3.50	314.37	29.0	
4	7150.6	10.80	314.37	7045.3	785.6	-803.1	0.00	0.00	1123.4	
5	7459.1	0.00	0.00	7352.0	805.9	-823.8	3.50	180.00	1152.4	JG 3K 13A-3-3-97 TGT
6	13139.1	0.00	0.00	13032.0	805.9	-823.8	0.00	0.00	1152.4	

ANNOTATIONS

TVD	MD	Annotation
0.1	0.1	SHL 39.815928222, -108.269550766
1000.0	1000.0	Start Build 3.50
1306.7	1308.5	Start 5842.1 hold at 1308.5 MD
4000.0	4050.4	Surface Casing
7045.3	7150.6	Start Drop -3.50
7352.0	7459.1	Back to Vertical
7352.0	7459.1	Start 5680.0 hold at 7459.1 MD
13032.0	13139.1	TD at 13139.1
13032.0	13139.1	BHL 39.8181404, -108.2724835

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
1163.0	1163.3	Mahogany Bench	0.00	
1220.0	1220.7	Dissolution Surface	0.00	
2352.0	2372.7	Garden Gulch Mbr	0.00	
2576.0	2600.7	Wasatch Fm	0.00	
5017.0	5085.7	Ft Union	0.00	
7346.0	7453.1	Ohio Creek	0.00	
7352.0	7459.1	Top of Gas	0.00	
7512.0	7619.1	Williams Fork	0.00	
10982.0	11089.1	Cameo	0.00	
11482.0	11589.1	Rollins	0.00	
11649.0	11756.1	Cozzette Fm	0.00	
12006.0	12113.1	Corcoran	0.00	

