



# **Ursa Operating Company, LLC**

**Rio Blanco County, Colorado**

**Jimmy Gulch 3K Pad**

**Jimmy Gulch 3K 13B-3-3-97**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**25 July, 2017**



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

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

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

<b>Well</b>	Jimmy Gulch 3K 13B-3-3-97, SHL: Lat 39.815832805 Long -108.269565095					
<b>Well Position</b>	<b>+N/-S</b>	-34.8 usft	<b>Northing:</b>	1,187,908.58 usft	<b>Latitude:</b>	39.815832805
	<b>+E/-W</b>	-4.0 usft	<b>Easting:</b>	2,222,127.57 usft	<b>Longitude:</b>	-108.269565095
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	6,733.5 usft	<b>Ground Level:</b>	6,712.5 usft

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

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	302.32

<b>Plan Sections</b>										
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	
1,254.8	8.92	302.32	1,253.7	10.6	-16.7	3.50	3.50	0.00	302.32	
7,165.7	8.92	302.32	7,093.3	500.4	-791.0	0.00	0.00	0.00	0.00	
7,420.5	0.00	0.00	7,347.0	511.0	-807.7	3.50	-3.50	0.00	180.00	JG 3K 13B-3-3-97 TG
13,100.5	0.00	0.00	13,027.0	511.0	-807.7	0.00	0.00	0.00	0.00	

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<b>Project:</b>	Rio Blanco County, Colorado	<b>MD Reference:</b>	Jimmy Gulch 3K 13B-3-3-97 @ 6733.5usft (Est KB)
<b>Site:</b>	Jimmy Gulch 3K Pad	<b>North Reference:</b>	True
<b>Well:</b>	Jimmy Gulch 3K 13B-3-3-97	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	
0.1	0.00	0.00	0.1	0.0	0.0	0.0	0.00	0.00	0.00	
<b>SHL 39.815832805, -108.269565095</b>										
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	
<b>Start Build 3.50</b>										
1,100.0	3.50	302.32	1,099.9	1.6	-2.6	3.1	3.50	3.50	0.00	
1,158.2	5.54	302.32	1,158.0	4.1	-6.5	7.6	3.50	3.50	0.00	
<b>Green River Fm - Mahogany Bench</b>										
1,200.0	7.00	302.32	1,199.5	6.5	-10.3	12.2	3.50	3.50	0.00	
1,215.6	7.55	302.32	1,215.0	7.6	-12.0	14.2	3.50	3.50	0.00	
<b>Dissolution Surface</b>										
1,254.8	8.92	302.32	1,253.7	10.6	-16.7	19.8	3.50	3.50	0.00	
<b>Start 5910.9 hold at 1254.8 MD</b>										
1,300.0	8.92	302.32	1,298.4	14.3	-22.6	26.8	0.00	0.00	0.00	
1,400.0	8.92	302.32	1,397.2	22.6	-35.7	42.3	0.00	0.00	0.00	
1,500.0	8.92	302.32	1,496.0	30.9	-48.8	57.8	0.00	0.00	0.00	
1,600.0	8.92	302.32	1,594.8	39.2	-61.9	73.3	0.00	0.00	0.00	
1,700.0	8.92	302.32	1,693.6	47.5	-75.0	88.8	0.00	0.00	0.00	
1,800.0	8.92	302.32	1,792.4	55.8	-88.1	104.3	0.00	0.00	0.00	
1,900.0	8.92	302.32	1,891.2	64.1	-101.2	119.8	0.00	0.00	0.00	
2,000.0	8.92	302.32	1,990.0	72.3	-114.3	135.3	0.00	0.00	0.00	
2,100.0	8.92	302.32	2,088.8	80.6	-127.4	150.8	0.00	0.00	0.00	
2,200.0	8.92	302.32	2,187.5	88.9	-140.5	166.3	0.00	0.00	0.00	
2,300.0	8.92	302.32	2,286.3	97.2	-153.6	181.8	0.00	0.00	0.00	
2,361.4	8.92	302.32	2,347.0	102.3	-161.7	191.3	0.00	0.00	0.00	
<b>Green River Fm - Garden Gulch Mbr</b>										
2,400.0	8.92	302.32	2,385.1	105.5	-166.7	197.3	0.00	0.00	0.00	
2,500.0	8.92	302.32	2,483.9	113.8	-179.8	212.8	0.00	0.00	0.00	
2,588.1	8.92	302.32	2,571.0	121.1	-191.4	226.5	0.00	0.00	0.00	
<b>Wasatch Fm</b>										
2,600.0	8.92	302.32	2,582.7	122.1	-192.9	228.3	0.00	0.00	0.00	
2,700.0	8.92	302.32	2,681.5	130.3	-206.0	243.8	0.00	0.00	0.00	
2,800.0	8.92	302.32	2,780.3	138.6	-219.1	259.3	0.00	0.00	0.00	
2,900.0	8.92	302.32	2,879.1	146.9	-232.2	274.8	0.00	0.00	0.00	
3,000.0	8.92	302.32	2,977.9	155.2	-245.3	290.3	0.00	0.00	0.00	
3,100.0	8.92	302.32	3,076.7	163.5	-258.4	305.8	0.00	0.00	0.00	
3,200.0	8.92	302.32	3,175.5	171.8	-271.5	321.3	0.00	0.00	0.00	
3,300.0	8.92	302.32	3,274.3	180.1	-284.6	336.8	0.00	0.00	0.00	
3,400.0	8.92	302.32	3,373.0	188.4	-297.7	352.3	0.00	0.00	0.00	
3,500.0	8.92	302.32	3,471.8	196.6	-310.8	367.8	0.00	0.00	0.00	
3,600.0	8.92	302.32	3,570.6	204.9	-323.9	383.3	0.00	0.00	0.00	
3,700.0	8.92	302.32	3,669.4	213.2	-337.0	398.8	0.00	0.00	0.00	
3,800.0	8.92	302.32	3,768.2	221.5	-350.1	414.3	0.00	0.00	0.00	

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<b>Wellbore:</b>	Wellbore #1		
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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)	
3,900.0	8.92	302.32	3,867.0	229.8	-363.2	429.8	0.00	0.00	0.00	
4,000.0	8.92	302.32	3,965.8	238.1	-376.3	445.3	0.00	0.00	0.00	
4,034.6	8.92	302.32	4,000.0	241.0	-380.9	450.7	0.00	0.00	0.00	
<b>Surface Casing</b>										
4,100.0	8.92	302.32	4,064.6	246.4	-389.4	460.8	0.00	0.00	0.00	
4,200.0	8.92	302.32	4,163.4	254.7	-402.5	476.3	0.00	0.00	0.00	
4,300.0	8.92	302.32	4,262.2	262.9	-415.6	491.8	0.00	0.00	0.00	
4,400.0	8.92	302.32	4,361.0	271.2	-428.7	507.3	0.00	0.00	0.00	
4,500.0	8.92	302.32	4,459.7	279.5	-441.8	522.8	0.00	0.00	0.00	
4,600.0	8.92	302.32	4,558.5	287.8	-454.9	538.3	0.00	0.00	0.00	
4,700.0	8.92	302.32	4,657.3	296.1	-468.0	553.8	0.00	0.00	0.00	
4,800.0	8.92	302.32	4,756.1	304.4	-481.1	569.3	0.00	0.00	0.00	
4,900.0	8.92	302.32	4,854.9	312.7	-494.2	584.8	0.00	0.00	0.00	
5,000.0	8.92	302.32	4,953.7	321.0	-507.3	600.3	0.00	0.00	0.00	
5,059.0	8.92	302.32	5,012.0	325.8	-515.0	609.5	0.00	0.00	0.00	
<b>Ft Union</b>										
5,100.0	8.92	302.32	5,052.5	329.2	-520.4	615.8	0.00	0.00	0.00	
5,200.0	8.92	302.32	5,151.3	337.5	-533.5	631.3	0.00	0.00	0.00	
5,300.0	8.92	302.32	5,250.1	345.8	-546.6	646.8	0.00	0.00	0.00	
5,400.0	8.92	302.32	5,348.9	354.1	-559.7	662.3	0.00	0.00	0.00	
5,500.0	8.92	302.32	5,447.7	362.4	-572.8	677.8	0.00	0.00	0.00	
5,600.0	8.92	302.32	5,546.5	370.7	-585.9	693.3	0.00	0.00	0.00	
5,700.0	8.92	302.32	5,645.2	379.0	-599.0	708.8	0.00	0.00	0.00	
5,800.0	8.92	302.32	5,744.0	387.3	-612.1	724.3	0.00	0.00	0.00	
5,900.0	8.92	302.32	5,842.8	395.5	-625.2	739.8	0.00	0.00	0.00	
6,000.0	8.92	302.32	5,941.6	403.8	-638.3	755.3	0.00	0.00	0.00	
6,100.0	8.92	302.32	6,040.4	412.1	-651.4	770.8	0.00	0.00	0.00	
6,200.0	8.92	302.32	6,139.2	420.4	-664.5	786.3	0.00	0.00	0.00	
6,300.0	8.92	302.32	6,238.0	428.7	-677.6	801.8	0.00	0.00	0.00	
6,400.0	8.92	302.32	6,336.8	437.0	-690.7	817.3	0.00	0.00	0.00	
6,500.0	8.92	302.32	6,435.6	445.3	-703.8	832.8	0.00	0.00	0.00	
6,600.0	8.92	302.32	6,534.4	453.6	-716.9	848.3	0.00	0.00	0.00	
6,700.0	8.92	302.32	6,633.2	461.8	-730.0	863.8	0.00	0.00	0.00	
6,800.0	8.92	302.32	6,732.0	470.1	-743.1	879.3	0.00	0.00	0.00	
6,900.0	8.92	302.32	6,830.7	478.4	-756.2	894.8	0.00	0.00	0.00	
7,000.0	8.92	302.32	6,929.5	486.7	-769.3	910.3	0.00	0.00	0.00	
7,100.0	8.92	302.32	7,028.3	495.0	-782.4	925.8	0.00	0.00	0.00	
7,165.7	8.92	302.32	7,093.3	500.4	-791.0	936.0	0.00	0.00	0.00	
<b>Start Drop -3.50</b>										
7,200.0	7.72	302.32	7,127.2	503.1	-795.2	941.0	3.50	-3.50	0.00	
7,300.0	4.22	302.32	7,226.6	508.6	-804.0	951.4	3.50	-3.50	0.00	
7,400.0	0.72	302.32	7,326.5	510.9	-807.6	955.7	3.50	-3.50	0.00	
7,414.5	0.21	302.32	7,341.0	511.0	-807.7	955.8	3.50	-3.50	0.00	
<b>Ohio Creek</b>										
7,420.5	0.00	0.00	7,347.0	511.0	-807.7	955.8	3.50	-3.50	961.33	
<b>Back to Vertical - Start 5680.0 hold at 7420.5 MD - Top of Gas - JG 3K 13B-3-3-97 TGT</b>										
7,500.0	0.00	0.00	7,426.5	511.0	-807.7	955.8	0.00	0.00	0.00	
7,580.5	0.00	0.00	7,507.0	511.0	-807.7	955.8	0.00	0.00	0.00	
<b>Williams Fork</b>										
7,600.0	0.00	0.00	7,526.5	511.0	-807.7	955.8	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,626.5	511.0	-807.7	955.8	0.00	0.00	0.00	

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<b>Wellbore:</b>	Wellbore #1		
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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)	
7,800.0	0.00	0.00	7,726.5	511.0	-807.7	955.8	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,826.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,926.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,026.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,126.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,226.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,326.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,426.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,526.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,626.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,726.5	511.0	-807.7	955.8	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,826.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,926.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,026.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,126.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,226.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,326.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,426.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,526.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,626.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,726.5	511.0	-807.7	955.8	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,826.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,926.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,100.0	0.00	0.00	10,026.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,126.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,226.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,326.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,500.0	0.00	0.00	10,426.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,600.0	0.00	0.00	10,526.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,700.0	0.00	0.00	10,626.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,800.0	0.00	0.00	10,726.5	511.0	-807.7	955.8	0.00	0.00	0.00	
10,900.0	0.00	0.00	10,826.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,000.0	0.00	0.00	10,926.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,050.5	0.00	0.00	10,977.0	511.0	-807.7	955.8	0.00	0.00	0.00	
<b>Cameo</b>										
11,100.0	0.00	0.00	11,026.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,200.0	0.00	0.00	11,126.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,300.0	0.00	0.00	11,226.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,400.0	0.00	0.00	11,326.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,500.0	0.00	0.00	11,426.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,550.5	0.00	0.00	11,477.0	511.0	-807.7	955.8	0.00	0.00	0.00	
<b>Rollins</b>										
11,600.0	0.00	0.00	11,526.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,700.0	0.00	0.00	11,626.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,717.5	0.00	0.00	11,644.0	511.0	-807.7	955.8	0.00	0.00	0.00	
<b>Cozzette Fm</b>										
11,800.0	0.00	0.00	11,726.5	511.0	-807.7	955.8	0.00	0.00	0.00	
11,900.0	0.00	0.00	11,826.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,000.0	0.00	0.00	11,926.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,074.5	0.00	0.00	12,001.0	511.0	-807.7	955.8	0.00	0.00	0.00	
<b>Corcoran</b>										
12,100.0	0.00	0.00	12,026.5	511.0	-807.7	955.8	0.00	0.00	0.00	

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Jimmy Gulch 3K 13B-3-3-97
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	Jimmy Gulch 3K 13B-3-3-97 @ 6733.5usft (Est KB)
<b>Project:</b>	Rio Blanco County, Colorado	<b>MD Reference:</b>	Jimmy Gulch 3K 13B-3-3-97 @ 6733.5usft (Est KB)
<b>Site:</b>	Jimmy Gulch 3K Pad	<b>North Reference:</b>	True
<b>Well:</b>	Jimmy Gulch 3K 13B-3-3-97	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)	
12,200.0	0.00	0.00	12,126.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,300.0	0.00	0.00	12,226.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,400.0	0.00	0.00	12,326.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,500.0	0.00	0.00	12,426.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,600.0	0.00	0.00	12,526.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,700.0	0.00	0.00	12,626.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,800.0	0.00	0.00	12,726.5	511.0	-807.7	955.8	0.00	0.00	0.00	
12,900.0	0.00	0.00	12,826.5	511.0	-807.7	955.8	0.00	0.00	0.00	
13,000.0	0.00	0.00	12,926.5	511.0	-807.7	955.8	0.00	0.00	0.00	
13,100.5	0.00	0.00	13,027.0	511.0	-807.7	955.8	0.00	0.00	0.00	
<b>TD at 13100.5 - BHL 39.8172356, -108.2724405</b>										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
JG 3K 13B-3-3-97 TGT	0.00	0.00	7,347.0	511.0	-807.7	1,188,444.56	2,221,336.20	39.817235600	-108.272440500
- hit/miss target									
- Shape									
- plan hits target center									
- Rectangle (sides W100.0 H40.0 D5,680.0)									

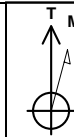
Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,158.2	1,158.0	Green River Fm - Mahogany Bench		0.00		
1,215.6	1,215.0	Dissolution Surface		0.00		
2,361.4	2,347.0	Green River Fm - Garden Gulch Mbr		0.00		
2,588.1	2,571.0	Wasatch Fm		0.00		
5,059.0	5,012.0	Ft Union		0.00		
7,414.5	7,341.0	Ohio Creek		0.00		
7,420.5	7,347.0	Top of Gas		0.00		
7,580.5	7,507.0	Williams Fork		0.00		
11,050.5	10,977.0	Cameo		0.00		
11,550.5	11,477.0	Rollins		0.00		
11,717.5	11,644.0	Cozzette Fm		0.00		
12,074.5	12,001.0	Corcoran		0.00		

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Jimmy Gulch 3K 13B-3-3-97
<b>Company:</b>	Ursa Operating Company, LLC	<b>TVD Reference:</b>	Jimmy Gulch 3K 13B-3-3-97 @ 6733.5usft (Est KB)
<b>Project:</b>	Rio Blanco County, Colorado	<b>MD Reference:</b>	Jimmy Gulch 3K 13B-3-3-97 @ 6733.5usft (Est KB)
<b>Site:</b>	Jimmy Gulch 3K Pad	<b>North Reference:</b>	True
<b>Well:</b>	Jimmy Gulch 3K 13B-3-3-97	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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 39.815832805, -108.269565095
1,000.0	1,000.0	0.0	0.0	Start Build 3.50
1,254.8	1,253.7	10.6	-16.7	Start 5910.9 hold at 1254.8 MD
4,034.6	4,000.0	241.0	-380.9	Surface Casing
7,165.7	7,093.3	500.4	-791.0	Start Drop -3.50
7,420.5	7,347.0	511.0	-807.7	Back to Vertical
7,420.5	7,347.0	511.0	-807.7	Start 5680.0 hold at 7420.5 MD
13,100.5	13,027.0	511.0	-807.7	TD at 13100.5
13,100.5	13,027.0	511.0	-807.7	BHL 39.8172356, -108.2724405



Well Name: Jimmy Gulch 3K 13B-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 Slot  
 0.0 0.0 1187908.58 2222127.57 39.815832805 -108.269565095  
 Est KB Jimmy Gulch 3K 13B-3-3-97 @ 6733.5usft (Est KB)



Azimuths to True North  
 Magnetic North: 9.85°  
 Magnetic Field  
 Strength: 51649.3snT  
 Dip Angle: 65.80°  
 Date: 7/21/2017  
 Model: IGRF2015

Jimmy Gulch 3K Pad  
 Jimmy Gulch 3K 13B-3-3-97  
 Design #1  
 19:11, 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 13B-3-3-97 TGT	7347.0	511.0	-807.7	1188444.57	2221336.20	39.817235600	-108.272440500	Rectangle (Sides: L40.0 W100.0)

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	1254.8	8.92	302.32	1253.7	10.6	-16.7	3.50	302.32	19.8	
4	7165.7	8.92	302.32	7093.3	500.4	-791.0	0.00	0.00	936.0	
5	7420.5	0.00	0.00	7347.0	511.0	-807.7	3.50	180.00	955.8	JG 3K 13B-3-3-97 TGT
6	13100.5	0.00	0.00	13027.0	511.0	-807.7	0.00	0.00	955.8	

ANNOTATIONS

TVD	MD	Annotation
0.1	0.1	SHL 39.815832805, -108.269565095
1000.0	1000.0	Start Build 3.50
1253.7	1254.8	Start 5910.9 hold at 1254.8 MD
4000.0	4034.6	Surface Casing
7093.3	7165.7	Start Drop -3.50
7347.0	7420.5	Back to Vertical
7347.0	7420.5	Start 5680.0 hold at 7420.5 MD
13027.0	13100.5	TD at 13100.5
13027.0	13100.5	BHL 39.8172356, -108.2724405

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
1158.0	1158.2	Mahogany Bench	0.00	
1215.0	1215.6	Dissolution Surface	0.00	
2347.0	2361.4	Garden Gulch Mbr	0.00	
2571.0	2588.1	Wasatch Fm	0.00	
5012.0	5059.0	Ft Union	0.00	
7341.0	7414.5	Ohio Creek	0.00	
7347.0	7420.5	Top of Gas	0.00	
7507.0	7580.5	Williams Fork	0.00	
10977.0	11050.5	Cameo	0.00	
11477.0	11550.5	Rollins	0.00	
11644.0	11717.5	Cozzette Fm	0.00	
12001.0	12074.5	Corcoran	0.00	

