



Ursa Operating Company, LLC

Rio Blanco County, Colorado

Boies Ranch B-30H Pad (NAD 83)

Boies Ranch B-30H FED 21C-30-2-97

Wellbore #1

Plan: Design #1

Standard Planning Report

24 May, 2018



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Boies Ranch B-30H FED 21C-30-2-97
Company:	Ursa Operating Company, LLC	TVD Reference:	Boies Ranch B-30H FED 21C-30-2-97 @ 6296.0usft (Est 24' KB)
Project:	Rio Blanco County, Colorado	MD Reference:	Boies Ranch B-30H FED 21C-30-2-97 @ 6296.0usft (Est 24' KB)
Site:	Boies Ranch B-30H Pad (NAD 83)	North Reference:	True
Well:	Boies Ranch B-30H FED 21C-30-2-97	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	Boies Ranch B-30H Pad (NAD 83)		
Site Position:		Northing:	1,199,379.72 usft
From:	Lat/Long	Easting:	2,208,579.09 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	39.846136141
		Longitude:	-108.319069358
		Grid Convergence:	-1.82 °

Well	Boies Ranch B-30H FED 21C-30-2-97, SHL: Lat 39.846110773 Long -108.319141852		
Well Position	+N/-S	-9.2 usft	Northing: 1,199,371.14 usft
	+E/-W	-20.4 usft	Easting: 2,208,558.45 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	39.846110773
		Longitude:	-108.319141852
		Ground Level:	6,272.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/15/2018	9.79	65.80	51,572

Design	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	315.80

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,901.5	38.55	315.80	1,820.2	255.8	-248.7	3.50	3.50	0.00	315.80	
6,047.7	38.55	315.80	5,062.8	2,108.4	-2,050.2	0.00	0.00	0.00	0.00	
7,149.2	0.00	0.00	6,083.0	2,364.2	-2,298.9	3.50	-3.50	0.00	180.00	FED 21C-30-2-97 TG
12,174.2	0.00	0.00	11,108.0	2,364.2	-2,298.9	0.00	0.00	0.00	0.00	

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Well:	Boies Ranch B-30H FED 21C-30-2-97	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
0.1	0.00	0.00	0.1	0.0	0.0	0.0	0.00	0.00	0.00
SHL 39.846110773, -108.319141852									
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
751.0	0.00	0.00	751.0	0.0	0.0	0.0	0.00	0.00	0.00
Mahogany Bench									
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 3.50									
808.0	0.28	315.80	808.0	0.0	0.0	0.0	3.50	3.50	0.00
Dissolution Surface									
900.0	3.50	315.80	899.9	2.2	-2.1	3.1	3.50	3.50	0.00
1,000.0	7.00	315.80	999.5	8.7	-8.5	12.2	3.50	3.50	0.00
1,100.0	10.50	315.80	1,098.3	19.7	-19.1	27.4	3.50	3.50	0.00
1,200.0	14.00	315.80	1,196.0	34.9	-33.9	48.6	3.50	3.50	0.00
1,300.0	17.50	315.80	1,292.3	54.3	-52.8	75.8	3.50	3.50	0.00
1,400.0	21.00	315.80	1,386.7	78.0	-75.8	108.7	3.50	3.50	0.00
1,500.0	24.50	315.80	1,478.9	105.7	-102.8	147.4	3.50	3.50	0.00
1,600.0	28.00	315.80	1,568.5	137.4	-133.6	191.6	3.50	3.50	0.00
1,700.0	31.50	315.80	1,655.3	172.9	-168.2	241.2	3.50	3.50	0.00
1,800.0	35.00	315.80	1,739.0	212.2	-206.4	296.1	3.50	3.50	0.00
1,901.5	38.55	315.80	1,820.2	255.8	-248.7	356.8	3.50	3.50	0.00
Start 4146.2 hold at 1901.5 MD									
2,000.0	38.55	315.80	1,897.3	299.8	-291.5	418.2	0.00	0.00	0.00
2,020.1	38.55	315.80	1,913.0	308.8	-300.3	430.7	0.00	0.00	0.00
Garden Gulch Mbr									
2,100.0	38.55	315.80	1,975.5	344.5	-335.0	480.5	0.00	0.00	0.00
2,200.0	38.55	315.80	2,053.7	389.2	-378.4	542.8	0.00	0.00	0.00
2,234.9	38.55	315.80	2,081.0	404.8	-393.6	564.6	0.00	0.00	0.00
Wasatch									
2,300.0	38.55	315.80	2,131.9	433.9	-421.9	605.2	0.00	0.00	0.00
2,400.0	38.55	315.80	2,210.1	478.5	-465.3	667.5	0.00	0.00	0.00
2,500.0	38.55	315.80	2,288.3	523.2	-508.8	729.8	0.00	0.00	0.00
2,600.0	38.55	315.80	2,366.5	567.9	-552.2	792.1	0.00	0.00	0.00
2,700.0	38.55	315.80	2,444.7	612.6	-595.7	854.5	0.00	0.00	0.00
2,800.0	38.55	315.80	2,522.9	657.3	-639.1	916.8	0.00	0.00	0.00
2,900.0	38.55	315.80	2,601.1	701.9	-682.6	979.1	0.00	0.00	0.00
3,000.0	38.55	315.80	2,679.3	746.6	-726.0	1,041.4	0.00	0.00	0.00
3,100.0	38.55	315.80	2,757.5	791.3	-769.5	1,103.7	0.00	0.00	0.00
3,200.0	38.55	315.80	2,835.7	836.0	-812.9	1,166.1	0.00	0.00	0.00
3,300.0	38.55	315.80	2,913.9	880.7	-856.4	1,228.4	0.00	0.00	0.00
3,400.0	38.55	315.80	2,992.1	925.3	-899.8	1,290.7	0.00	0.00	0.00
3,500.0	38.55	315.80	3,070.3	970.0	-943.3	1,353.0	0.00	0.00	0.00
3,600.0	38.55	315.80	3,148.5	1,014.7	-986.7	1,415.4	0.00	0.00	0.00
3,700.0	38.55	315.80	3,226.7	1,059.4	-1,030.2	1,477.7	0.00	0.00	0.00
3,800.0	38.55	315.80	3,305.0	1,104.1	-1,073.6	1,540.0	0.00	0.00	0.00
3,900.0	38.55	315.80	3,383.2	1,148.7	-1,117.1	1,602.3	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	38.55	315.80	3,461.4	1,193.4	-1,160.5	1,664.6	0.00	0.00	0.00
4,049.4	38.55	315.80	3,500.0	1,215.5	-1,182.0	1,695.4	0.00	0.00	0.00
Surface Casing									
4,100.0	38.55	315.80	3,539.6	1,238.1	-1,204.0	1,727.0	0.00	0.00	0.00
4,200.0	38.55	315.80	3,617.8	1,282.8	-1,247.4	1,789.3	0.00	0.00	0.00
4,300.0	38.55	315.80	3,696.0	1,327.5	-1,290.8	1,851.6	0.00	0.00	0.00
4,400.0	38.55	315.80	3,774.2	1,372.2	-1,334.3	1,913.9	0.00	0.00	0.00
4,500.0	38.55	315.80	3,852.4	1,416.8	-1,377.7	1,976.3	0.00	0.00	0.00
4,600.0	38.55	315.80	3,930.6	1,461.5	-1,421.2	2,038.6	0.00	0.00	0.00
4,700.0	38.55	315.80	4,008.8	1,506.2	-1,464.6	2,100.9	0.00	0.00	0.00
4,800.0	38.55	315.80	4,087.0	1,550.9	-1,508.1	2,163.2	0.00	0.00	0.00
4,900.0	38.55	315.80	4,165.2	1,595.6	-1,551.5	2,225.5	0.00	0.00	0.00
5,000.0	38.55	315.80	4,243.4	1,640.2	-1,595.0	2,287.9	0.00	0.00	0.00
5,100.0	38.55	315.80	4,321.6	1,684.9	-1,638.4	2,350.2	0.00	0.00	0.00
5,200.0	38.55	315.80	4,399.8	1,729.6	-1,681.9	2,412.5	0.00	0.00	0.00
5,300.0	38.55	315.80	4,478.0	1,774.3	-1,725.3	2,474.8	0.00	0.00	0.00
5,356.2	38.55	315.80	4,522.0	1,799.4	-1,749.8	2,509.9	0.00	0.00	0.00
Ft Union									
5,400.0	38.55	315.80	4,556.2	1,819.0	-1,768.8	2,537.2	0.00	0.00	0.00
5,500.0	38.55	315.80	4,634.4	1,863.6	-1,812.2	2,599.5	0.00	0.00	0.00
5,600.0	38.55	315.80	4,712.6	1,908.3	-1,855.7	2,661.8	0.00	0.00	0.00
5,700.0	38.55	315.80	4,790.8	1,953.0	-1,899.1	2,724.1	0.00	0.00	0.00
5,800.0	38.55	315.80	4,869.0	1,997.7	-1,942.6	2,786.4	0.00	0.00	0.00
5,900.0	38.55	315.80	4,947.2	2,042.4	-1,986.0	2,848.8	0.00	0.00	0.00
6,000.0	38.55	315.80	5,025.4	2,087.0	-2,029.5	2,911.1	0.00	0.00	0.00
6,047.7	38.55	315.80	5,062.8	2,108.4	-2,050.2	2,940.8	0.00	0.00	0.00
Start Drop -3.50									
6,100.0	36.72	315.80	5,104.2	2,131.2	-2,072.5	2,972.8	3.50	-3.50	0.00
6,200.0	33.22	315.80	5,186.1	2,172.3	-2,112.4	3,030.1	3.50	-3.50	0.00
6,300.0	29.72	315.80	5,271.4	2,209.8	-2,148.8	3,082.3	3.50	-3.50	0.00
6,400.0	26.22	315.80	5,359.7	2,243.4	-2,181.5	3,129.2	3.50	-3.50	0.00
6,500.0	22.72	315.80	5,450.7	2,273.1	-2,210.4	3,170.6	3.50	-3.50	0.00
6,600.0	19.22	315.80	5,544.0	2,298.7	-2,235.3	3,206.4	3.50	-3.50	0.00
6,700.0	15.72	315.80	5,639.4	2,320.3	-2,256.2	3,236.4	3.50	-3.50	0.00
6,800.0	12.22	315.80	5,736.4	2,337.6	-2,273.1	3,260.5	3.50	-3.50	0.00
6,900.0	8.72	315.80	5,834.8	2,350.6	-2,285.7	3,278.7	3.50	-3.50	0.00
6,958.8	6.67	315.80	5,893.0	2,356.2	-2,291.2	3,286.6	3.50	-3.50	0.00
Ohio Creek									
7,000.0	5.22	315.80	5,934.0	2,359.3	-2,294.2	3,290.8	3.50	-3.50	0.00
7,100.0	1.72	315.80	6,033.8	2,363.6	-2,298.4	3,296.9	3.50	-3.50	0.00
7,149.2	0.00	0.00	6,083.0	2,364.2	-2,298.9	3,297.6	3.50	-3.50	0.00
Start 5025.0 hold at 7149.2 MD - Back to Vertical - Williams Fork - Top of Gas - FED 21C-30-2-97 TGT									
7,200.0	0.00	0.00	6,133.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
7,300.0	0.00	0.00	6,233.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
7,400.0	0.00	0.00	6,333.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
7,500.0	0.00	0.00	6,433.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
7,600.0	0.00	0.00	6,533.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
7,700.0	0.00	0.00	6,633.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
7,800.0	0.00	0.00	6,733.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
7,900.0	0.00	0.00	6,833.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,000.0	0.00	0.00	6,933.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00

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8,100.0	0.00	0.00	7,033.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,200.0	0.00	0.00	7,133.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,300.0	0.00	0.00	7,233.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,400.0	0.00	0.00	7,333.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,500.0	0.00	0.00	7,433.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,600.0	0.00	0.00	7,533.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,700.0	0.00	0.00	7,633.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,800.0	0.00	0.00	7,733.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
8,900.0	0.00	0.00	7,833.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,000.0	0.00	0.00	7,933.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,100.0	0.00	0.00	8,033.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,200.0	0.00	0.00	8,133.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,300.0	0.00	0.00	8,233.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,400.0	0.00	0.00	8,333.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,500.0	0.00	0.00	8,433.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,600.0	0.00	0.00	8,533.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,700.0	0.00	0.00	8,633.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,800.0	0.00	0.00	8,733.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
9,900.0	0.00	0.00	8,833.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,000.0	0.00	0.00	8,933.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,100.0	0.00	0.00	9,033.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,200.0	0.00	0.00	9,133.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,258.2	0.00	0.00	9,192.0	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
Cameo									
10,300.0	0.00	0.00	9,233.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,400.0	0.00	0.00	9,333.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,500.0	0.00	0.00	9,433.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,600.0	0.00	0.00	9,533.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,700.0	0.00	0.00	9,633.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,800.0	0.00	0.00	9,733.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,884.2	0.00	0.00	9,818.0	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
Rollins									
10,900.0	0.00	0.00	9,833.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
10,947.2	0.00	0.00	9,881.0	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
Cozzette									
11,000.0	0.00	0.00	9,933.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,100.0	0.00	0.00	10,033.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,200.0	0.00	0.00	10,133.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,281.2	0.00	0.00	10,215.0	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
Corcoran									
11,300.0	0.00	0.00	10,233.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,400.0	0.00	0.00	10,333.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,500.0	0.00	0.00	10,433.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,600.0	0.00	0.00	10,533.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,700.0	0.00	0.00	10,633.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,800.0	0.00	0.00	10,733.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
11,900.0	0.00	0.00	10,833.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
12,000.0	0.00	0.00	10,933.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
12,100.0	0.00	0.00	11,033.8	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
12,174.2	0.00	0.00	11,108.0	2,364.2	-2,298.9	3,297.6	0.00	0.00	0.00
BHL 39.8526005, -108.3273300 - TD at 12174.2									

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Boies Ranch B-30H FED 21C-30-2-97
Company:	Ursa Operating Company, LLC	TVD Reference:	Boies Ranch B-30H FED 21C-30-2-97 @ 6296.0usft (Est 24' KB)
Project:	Rio Blanco County, Colorado	MD Reference:	Boies Ranch B-30H FED 21C-30-2-97 @ 6296.0usft (Est 24' KB)
Site:	Boies Ranch B-30H Pad (NAD 83)	North Reference:	True
Well:	Boies Ranch B-30H FED 21C-30-2-97	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

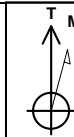
Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
FED 21C-30-2-97 TGT	0.00	0.00	6,083.0	2,364.2	-2,298.9	1,201,807.13	2,206,335.86	39.852600500	-108.327330000
- plan hits target center									
- Rectangle (sides W100.0 H40.0 D5,025.0)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
751.0	751.0	Mahogany Bench		0.00		
808.0	808.0	Dissolution Surface		0.00		
2,020.1	1,913.0	Garden Gulch Mbr		0.00		
2,234.9	2,081.0	Wasatch		0.00		
5,356.2	4,522.0	Ft Union		0.00		
6,958.8	5,893.0	Ohio Creek		0.00		
7,149.2	6,083.0	Williams Fork		0.00		
7,149.2	6,083.0	Top of Gas		0.00		
10,258.2	9,192.0	Cameo		0.00		
10,884.2	9,818.0	Rollins		0.00		
10,947.2	9,881.0	Cozzette		0.00		
11,281.2	10,215.0	Corcoran		0.00		

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
0.1	0.1	0.0	0.0	SHL 39.846110773, -108.319141852
800.0	800.0	0.0	0.0	Start Build 3.50
1,901.5	1,820.2	255.8	-248.7	Start 4146.2 hold at 1901.5 MD
4,049.4	3,500.0	1,215.5	-1,182.0	Surface Casing
6,047.7	5,062.8	2,108.4	-2,050.2	Start Drop -3.50
7,149.2	6,083.0	2,364.2	-2,298.9	Start 5025.0 hold at 7149.2 MD
7,149.2	6,083.0	2,364.2	-2,298.9	Back to Vertical
12,174.2	11,108.0	2,364.2	-2,298.9	BHL 39.8526005, -108.3273300
12,174.2	11,108.0	2,364.2	-2,298.9	TD at 12174.2



Well Name: Boies Ranch B-30H FED 21C-30-2-97
Surface Location: Boies Ranch B-30H Pad (NAD 83)
North American Datum 1983, US State Plane 1983, Colorado Northern Zone
Ground Elevation: 6272.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1199371.14 2208558.45 39.846110773 -108.319141852
Est 24' KB Boies Ranch B-30H FED 21C-30-2-97 @ 6296.0usft (Est 24' KB)



Azimuths to True North
Magnetic North: 9.79°
Magnetic Field
Strength: 51571.5nT
Dip Angle: 65.80°
Date: 5/15/2018
Model: IGRF2015

Boies Ranch B-30H Pad (NAD 83)
Boies Ranch B-30H FED 21C-30-2-97
Design #1
13:51, May 24 2018

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
FED 21C-30-2-97 TGT	6083.0	2364.2	-2298.9	1201807.14	2206335.86	39.852600500	-108.327330000	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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1901.5	38.55	315.80	1820.2	255.8	-248.7	3.50	315.80	356.8	
4	6047.7	38.55	315.80	5062.8	2108.4	-2050.2	0.00	0.00	2940.8	
5	7149.2	0.00	0.00	6083.0	2364.2	-2298.9	3.50	180.00	3297.6	FED 21C-30-2-97 TGT
6	12174.2	0.00	0.00	11108.0	2364.2	-2298.9	0.00	0.00	3297.6	

ANNOTATIONS

TVD	MD	Annotation
0.1	0.1	SHL 39.846110773, -108.319141852
800.0	800.0	Start Build 3.50
1820.2	1901.5	Start 4146.2 hold at 1901.5 MD
3500.0	4049.4	Surface Casing
5062.8	6047.7	Start Drop -3.50
6083.0	7149.2	Start 5025.0 hold at 7149.2 MD
6083.0	7149.2	Back to Vertical
11108.0	12174.2	BHL 39.8526005, -108.3273300
11108.0	12174.2	TD at 12174.2

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	DipAngle	DipDir
751.0	751.0	Mahogany Bench	0.00	
808.0	808.0	Dissolution Surface	0.00	
1913.0	2020.1	Garden Gulch Mbr	0.00	
2081.0	2234.9	Wasatch	0.00	
4522.0	5356.2	Ft Union	0.00	
5893.0	6958.8	Ohio Creek	0.00	
6083.0	7149.2	Top of Gas	0.00	
6083.0	7149.2	Williams Fork	0.00	
9192.0	10258.2	Cameo	0.00	
9818.0	10884.2	Rollins	0.00	
9881.0	10947.2	Cozzette	0.00	
10215.0	11281.2	Corcoran	0.00	

