



## **Denver Division- Colorado**

**DJ - Hereford Ranch  
Randall Creek 04-32H  
Randall Creek 4-32H**

**Original Wellbore**

**Plan: APD**

## **Standard Planning Report**

**26 January, 2010**

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Site Randall Creek 04-32H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	RIG @ 5372.0ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 5372.0ft (TBD)
<b>Site:</b>	Randall Creek 04-32H	<b>North Reference:</b>	True
<b>Well:</b>	Randall Creek 4-32H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD		

<b>Project</b>	DJ - Hereford Ranch, Weld County		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Colorado North 501		

Site						Randall Creek 04-32H											
Site Position:			Northing:			599,050.62 ft			Latitude:			40° 58' 19.261 N					
From:			Lat/Long			Easting:			2,320,710.36 ft			Longitude:			104° 20' 19.241 W		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.75 °		

Well	Randall Creek 4-32H					
Well Position	+N/-S	0.0 ft	Northing:	599,050.62 ft	Latitude:	40° 58' 19.261 N
	+E/-W	0.0 ft	Easting:	2,320,710.36 ft	Longitude:	104° 20' 19.241 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,347.0 ft

<b>Wellbore</b>	Original Wellbore				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	1/26/2010	8.83	67.64	53,634

<b>Design</b>	APD			
<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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	171.75

<b>Plan Sections</b>										
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	
6,793.5	0.00	0.00	6,793.5	0.0	0.0	0.00	0.00	0.00	0.00	
7,543.5	90.00	167.60	7,271.0	-466.3	102.5	12.00	12.00	0.00	167.60	
9,601.7	90.00	167.60	7,271.0	-2,476.5	544.5	0.00	0.00	0.00	0.00	Randall Creek 4-32H
9,884.3	90.00	178.90	7,271.0	-2,756.7	577.6	4.00	0.00	4.00	90.00	Randall Creek 4-32H
11,295.7	90.00	178.90	7,271.0	-4,167.8	604.6	0.00	0.00	0.00	0.00	Randall Creek 4-32H

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<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 5372.0ft (TBD)
<b>Site:</b>	Randall Creek 04-32H	<b>North Reference:</b>	True
<b>Well:</b>	Randall Creek 4-32H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD		

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
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00

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<b>Well:</b>	Randall Creek 4-32H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD		

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)
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,793.5	0.00	0.00	6,793.5	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.78	167.60	6,800.0	0.0	0.0	0.0	12.00	12.00	0.00
6,900.0	12.78	167.60	6,899.1	-11.5	2.5	11.8	12.00	12.00	0.00
7,000.0	24.78	167.60	6,993.6	-42.9	9.4	43.8	12.00	12.00	0.00
7,100.0	36.78	167.60	7,079.4	-92.8	20.4	94.8	12.00	12.00	0.00
7,200.0	48.78	167.60	7,152.7	-159.0	35.0	162.4	12.00	12.00	0.00
7,300.0	60.78	167.60	7,210.2	-238.7	52.5	243.7	12.00	12.00	0.00
7,400.0	72.78	167.60	7,249.6	-328.2	72.2	335.2	12.00	12.00	0.00
7,500.0	84.78	167.60	7,269.0	-423.9	93.2	432.9	12.00	12.00	0.00
7,543.5	90.00	167.60	7,271.0	-466.3	102.5	476.2	12.00	12.00	0.00
7"									
7,600.0	90.00	167.60	7,271.0	-521.5	114.7	532.5	0.01	0.01	0.00
7,700.0	90.00	167.60	7,271.0	-619.1	136.1	632.3	0.00	0.00	0.00
7,800.0	90.00	167.60	7,271.0	-716.8	157.6	732.0	0.00	0.00	0.00
7,900.0	90.00	167.60	7,271.0	-814.5	179.1	831.7	0.00	0.00	0.00
8,000.0	90.00	167.60	7,271.0	-912.1	200.5	931.5	0.00	0.00	0.00
8,100.0	90.00	167.60	7,271.0	-1,009.8	222.0	1,031.2	0.00	0.00	0.00
8,200.0	90.00	167.60	7,271.0	-1,107.5	243.5	1,131.0	0.00	0.00	0.00
8,300.0	90.00	167.60	7,271.0	-1,205.1	265.0	1,230.7	0.00	0.00	0.00
8,400.0	90.00	167.60	7,271.0	-1,302.8	286.4	1,330.4	0.00	0.00	0.00
8,500.0	90.00	167.60	7,271.0	-1,400.5	307.9	1,430.2	0.00	0.00	0.00
8,600.0	90.00	167.60	7,271.0	-1,498.1	329.4	1,529.9	0.00	0.00	0.00
8,700.0	90.00	167.60	7,271.0	-1,595.8	350.9	1,629.7	0.00	0.00	0.00
8,800.0	90.00	167.60	7,271.0	-1,693.5	372.3	1,729.4	0.00	0.00	0.00
8,900.0	90.00	167.60	7,271.0	-1,791.1	393.8	1,829.1	0.00	0.00	0.00
9,000.0	90.00	167.60	7,271.0	-1,888.8	415.3	1,928.9	0.00	0.00	0.00
9,100.0	90.00	167.60	7,271.0	-1,986.5	436.8	2,028.6	0.00	0.00	0.00
9,200.0	90.00	167.60	7,271.0	-2,084.2	458.2	2,128.3	0.00	0.00	0.00
9,300.0	90.00	167.60	7,271.0	-2,181.8	479.7	2,228.1	0.00	0.00	0.00
9,400.0	90.00	167.60	7,271.0	-2,279.5	501.2	2,327.8	0.00	0.00	0.00
9,500.0	90.00	167.60	7,271.0	-2,377.2	522.7	2,427.6	0.00	0.00	0.00
9,600.0	90.00	167.60	7,271.0	-2,474.8	544.1	2,527.3	0.00	0.00	0.00
9,601.7	90.00	167.60	7,271.0	-2,476.5	544.5	2,529.0	0.00	0.00	0.00
Randall Creek 4-32H (Target 1)									
9,700.0	90.00	171.53	7,271.0	-2,573.1	562.3	2,627.2	4.00	0.00	4.00
9,800.0	90.00	175.53	7,271.0	-2,672.5	573.6	2,727.1	4.00	0.00	4.00
9,884.3	90.00	178.90	7,271.0	-2,756.7	577.6	2,811.1	4.00	0.00	4.00
9,900.0	90.00	178.90	7,271.0	-2,772.4	577.9	2,826.6	0.00	0.00	0.00
10,000.0	90.00	178.90	7,271.0	-2,872.3	579.9	2,925.8	0.00	0.00	0.00

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<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD		

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)
10,100.0	90.00	178.90	7,271.0	-2,972.3	581.8	3,025.1	0.00	0.00	0.00
10,200.0	90.00	178.90	7,271.0	-3,072.3	583.7	3,124.3	0.00	0.00	0.00
10,300.0	90.00	178.90	7,271.0	-3,172.3	585.6	3,223.5	0.00	0.00	0.00
10,400.0	90.00	178.90	7,271.0	-3,272.3	587.5	3,322.7	0.00	0.00	0.00
10,500.0	90.00	178.90	7,271.0	-3,372.3	589.4	3,421.9	0.00	0.00	0.00
10,600.0	90.00	178.90	7,271.0	-3,472.2	591.3	3,521.2	0.00	0.00	0.00
10,700.0	90.00	178.90	7,271.0	-3,572.2	593.2	3,620.4	0.00	0.00	0.00
10,800.0	90.00	178.90	7,271.0	-3,672.2	595.2	3,719.6	0.00	0.00	0.00
10,900.0	90.00	178.90	7,271.0	-3,772.2	597.1	3,818.8	0.00	0.00	0.00
11,000.0	90.00	178.90	7,271.0	-3,872.2	599.0	3,918.0	0.00	0.00	0.00
11,100.0	90.00	178.90	7,271.0	-3,972.1	600.9	4,017.3	0.00	0.00	0.00
11,200.0	90.00	178.90	7,271.0	-4,072.1	602.8	4,116.5	0.00	0.00	0.00
11,295.7	90.00	178.90	7,271.0	-4,167.8	604.6	4,211.4	0.00	0.00	0.00
4 1/2" - Randall Creek 4-32H (BHL)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,400.0	1,400.0	9 5/8"	9-5/8	12-1/4	
7,543.5	7,271.0	7"	7	8-3/4	
11,295.7	7,271.0	4 1/2"	4-1/2	6-1/4	