

Denver Division- Colorado

DJ - Hereford Ranch

Garden Creek 21-32H

Garden Creek 21-32H

Original Wellbore

Plan: APD Plan (Plat Cert 12/8/14)

Standard Planning Report

09 December, 2014

EOG Resources, Inc.

Planning Report

Database:	EDM_DENVER	Local Co-ordinate Reference:	Well Garden Creek 21-32H
Company:	Denver Division- Colorado	TVD Reference:	Rig @ 5184.0usft (TBD)
Project:	DJ - Hereford Ranch	MD Reference:	Rig @ 5184.0usft (TBD)
Site:	Garden Creek 21-32H	North Reference:	True
Well:	Garden Creek 21-32H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	APD Plan (Plat Cert 12/8/14)		

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

Site		Garden Creek 21-32H			
Site Position:		Northing:	567,471.89 usft	Latitude:	40° 53' 7.130 N
From:	Lat/Long	Easting:	2,321,787.67 usft	Longitude:	104° 20' 10.601 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.75 °

Well		Garden Creek 21-32H				
Well Position	+N/-S	0.0 usft	Northing:	567,471.91 usft	Latitude:	40° 53' 7.131 N
	+E/-W	0.1 usft	Easting:	2,321,787.81 usft	Longitude:	104° 20' 10.599 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,162.0 usft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/21/2010	8.73	67.55	53,523

Design	APD Plan (Plat Cert 12/8/14)			
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	322.05

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	
6,663.5	0.00	0.00	6,663.5	0.0	0.0	0.00	0.00	0.00	0.00	
7,413.5	90.00	322.05	7,141.0	376.5	-293.6	12.00	12.00	0.00	322.05	Garden Creek 21-32H
13,630.8	90.00	322.05	7,141.0	5,279.4	-4,116.7	0.00	0.00	0.00	0.00	Garden Creek 21-32H

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Well:	Garden Creek 21-32H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	APD Plan (Plat Cert 12/8/14)		

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
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
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
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

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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
6,663.5	0.00	0.00	6,663.5	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	4.38	322.05	6,700.0	1.1	-0.9	1.4	12.00	12.00	0.00
6,800.0	16.38	322.05	6,798.1	15.3	-11.9	19.4	12.00	12.00	0.00
6,900.0	28.38	322.05	6,890.4	45.3	-35.3	57.4	12.00	12.00	0.00
7,000.0	40.38	322.05	6,972.8	89.7	-69.9	113.7	12.00	12.00	0.00
7,100.0	52.38	322.05	7,041.7	146.7	-114.4	186.0	12.00	12.00	0.00
7,200.0	64.38	322.05	7,094.0	213.7	-166.6	271.0	12.00	12.00	0.00
7,300.0	76.38	322.05	7,127.5	287.9	-224.5	365.0	12.00	12.00	0.00
7,400.0	88.38	322.05	7,140.8	365.9	-285.3	464.0	12.00	12.00	0.00
7,413.5	90.00	322.05	7,141.0	376.5	-293.6	477.5	12.00	12.00	0.00
7,500.0	90.00	322.05	7,141.0	444.7	-346.8	564.0	0.00	0.00	0.00
7,600.0	90.00	322.05	7,141.0	523.6	-408.3	664.0	0.00	0.00	0.00
7,700.0	90.00	322.05	7,141.0	602.5	-469.8	764.0	0.00	0.00	0.00
7,800.0	90.00	322.05	7,141.0	681.3	-531.3	864.0	0.00	0.00	0.00
7,900.0	90.00	322.05	7,141.0	760.2	-592.8	964.0	0.00	0.00	0.00
8,000.0	90.00	322.05	7,141.0	839.0	-654.2	1,064.0	0.00	0.00	0.00
8,100.0	90.00	322.05	7,141.0	917.9	-715.7	1,164.0	0.00	0.00	0.00
8,200.0	90.00	322.05	7,141.0	996.8	-777.2	1,264.0	0.00	0.00	0.00
8,300.0	90.00	322.05	7,141.0	1,075.6	-838.7	1,364.0	0.00	0.00	0.00
8,400.0	90.00	322.05	7,141.0	1,154.5	-900.2	1,464.0	0.00	0.00	0.00
8,500.0	90.00	322.05	7,141.0	1,233.3	-961.7	1,564.0	0.00	0.00	0.00
8,600.0	90.00	322.05	7,141.0	1,312.2	-1,023.2	1,664.0	0.00	0.00	0.00
8,700.0	90.00	322.05	7,141.0	1,391.1	-1,084.7	1,764.0	0.00	0.00	0.00
8,800.0	90.00	322.05	7,141.0	1,469.9	-1,146.2	1,864.0	0.00	0.00	0.00
8,900.0	90.00	322.05	7,141.0	1,548.8	-1,207.7	1,964.0	0.00	0.00	0.00
9,000.0	90.00	322.05	7,141.0	1,627.6	-1,269.2	2,064.0	0.00	0.00	0.00
9,100.0	90.00	322.05	7,141.0	1,706.5	-1,330.6	2,164.0	0.00	0.00	0.00
9,200.0	90.00	322.05	7,141.0	1,785.4	-1,392.1	2,264.0	0.00	0.00	0.00
9,300.0	90.00	322.05	7,141.0	1,864.2	-1,453.6	2,364.0	0.00	0.00	0.00
9,400.0	90.00	322.05	7,141.0	1,943.1	-1,515.1	2,464.0	0.00	0.00	0.00
9,500.0	90.00	322.05	7,141.0	2,021.9	-1,576.6	2,564.0	0.00	0.00	0.00
9,600.0	90.00	322.05	7,141.0	2,100.8	-1,638.1	2,664.0	0.00	0.00	0.00
9,700.0	90.00	322.05	7,141.0	2,179.7	-1,699.6	2,764.0	0.00	0.00	0.00
9,800.0	90.00	322.05	7,141.0	2,258.5	-1,761.1	2,864.0	0.00	0.00	0.00
9,900.0	90.00	322.05	7,141.0	2,337.4	-1,822.6	2,964.0	0.00	0.00	0.00
10,000.0	90.00	322.05	7,141.0	2,416.2	-1,884.1	3,064.0	0.00	0.00	0.00
10,100.0	90.00	322.05	7,141.0	2,495.1	-1,945.6	3,164.0	0.00	0.00	0.00
10,200.0	90.00	322.05	7,141.0	2,573.9	-2,007.1	3,264.0	0.00	0.00	0.00
10,300.0	90.00	322.05	7,141.0	2,652.8	-2,068.5	3,364.0	0.00	0.00	0.00
10,400.0	90.00	322.05	7,141.0	2,731.7	-2,130.0	3,464.0	0.00	0.00	0.00
10,500.0	90.00	322.05	7,141.0	2,810.5	-2,191.5	3,564.0	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)	
10,600.0	90.00	322.05	7,141.0	2,889.4	-2,253.0	3,664.0	0.00	0.00	0.00	
10,700.0	90.00	322.05	7,141.0	2,968.2	-2,314.5	3,764.0	0.00	0.00	0.00	
10,800.0	90.00	322.05	7,141.0	3,047.1	-2,376.0	3,864.0	0.00	0.00	0.00	
10,900.0	90.00	322.05	7,141.0	3,126.0	-2,437.5	3,964.0	0.00	0.00	0.00	
11,000.0	90.00	322.05	7,141.0	3,204.8	-2,499.0	4,064.0	0.00	0.00	0.00	
11,100.0	90.00	322.05	7,141.0	3,283.7	-2,560.5	4,164.0	0.00	0.00	0.00	
11,200.0	90.00	322.05	7,141.0	3,362.5	-2,622.0	4,264.0	0.00	0.00	0.00	
11,300.0	90.00	322.05	7,141.0	3,441.4	-2,683.5	4,364.0	0.00	0.00	0.00	
11,400.0	90.00	322.05	7,141.0	3,520.3	-2,744.9	4,464.0	0.00	0.00	0.00	
11,500.0	90.00	322.05	7,141.0	3,599.1	-2,806.4	4,564.0	0.00	0.00	0.00	
11,600.0	90.00	322.05	7,141.0	3,678.0	-2,867.9	4,664.0	0.00	0.00	0.00	
11,700.0	90.00	322.05	7,141.0	3,756.8	-2,929.4	4,764.0	0.00	0.00	0.00	
11,800.0	90.00	322.05	7,141.0	3,835.7	-2,990.9	4,864.0	0.00	0.00	0.00	
11,900.0	90.00	322.05	7,141.0	3,914.6	-3,052.4	4,964.0	0.00	0.00	0.00	
12,000.0	90.00	322.05	7,141.0	3,993.4	-3,113.9	5,064.0	0.00	0.00	0.00	
12,100.0	90.00	322.05	7,141.0	4,072.3	-3,175.4	5,164.0	0.00	0.00	0.00	
12,200.0	90.00	322.05	7,141.0	4,151.1	-3,236.9	5,264.0	0.00	0.00	0.00	
12,300.0	90.00	322.05	7,141.0	4,230.0	-3,298.4	5,364.0	0.00	0.00	0.00	
12,400.0	90.00	322.05	7,141.0	4,308.9	-3,359.9	5,464.0	0.00	0.00	0.00	
12,500.0	90.00	322.05	7,141.0	4,387.7	-3,421.3	5,564.0	0.00	0.00	0.00	
12,600.0	90.00	322.05	7,141.0	4,466.6	-3,482.8	5,664.0	0.00	0.00	0.00	
12,700.0	90.00	322.05	7,141.0	4,545.4	-3,544.3	5,764.0	0.00	0.00	0.00	
12,800.0	90.00	322.05	7,141.0	4,624.3	-3,605.8	5,864.0	0.00	0.00	0.00	
12,900.0	90.00	322.05	7,141.0	4,703.2	-3,667.3	5,964.0	0.00	0.00	0.00	
13,000.0	90.00	322.05	7,141.0	4,782.0	-3,728.8	6,064.0	0.00	0.00	0.00	
13,100.0	90.00	322.05	7,141.0	4,860.9	-3,790.3	6,164.0	0.00	0.00	0.00	
13,200.0	90.00	322.05	7,141.0	4,939.7	-3,851.8	6,264.0	0.00	0.00	0.00	
13,300.0	90.00	322.05	7,141.0	5,018.6	-3,913.3	6,364.0	0.00	0.00	0.00	
13,400.0	90.00	322.05	7,141.0	5,097.5	-3,974.8	6,464.0	0.00	0.00	0.00	
13,500.0	90.00	322.05	7,141.0	5,176.3	-4,036.3	6,564.0	0.00	0.00	0.00	
13,600.0	90.00	322.05	7,141.0	5,255.2	-4,097.8	6,664.0	0.00	0.00	0.00	
13,630.8	90.00	322.05	7,141.0	5,279.4	-4,116.7	6,694.7	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
Garden Creek 21-32H P	0.00	0.00	7,141.0	5,279.4	-4,116.7	572,696.88	2,317,602.20	40° 53' 59.292 N		104° 21' 4.205 W
- hit/miss target										
- Shape										
- plan hits target center										
- Point										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,087.0	1,087.0	9 5/8" Surface	9-5/8	13-1/2	
7,413.0	7,141.0	7" Intermediate	7	8-3/4	
13,630.0	7,141.0	4 1/2" Liner	4-1/2	6-1/8	

EOG Resources, Inc.

Planning Report

Database:	EDM_DENVER	Local Co-ordinate Reference:	Well Garden Creek 21-32H
Company:	Denver Division- Colorado	TVD Reference:	Rig @ 5184.0usft (TBD)
Project:	DJ - Hereford Ranch	MD Reference:	Rig @ 5184.0usft (TBD)
Site:	Garden Creek 21-32H	North Reference:	True
Well:	Garden Creek 21-32H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	APD Plan (Plat Cert 12/8/14)		