

# **Denver Division- Colorado**

**DJ - Hereford Ranch**

**Lion Creek 09-35H**

**Lion Creek 09-35H**

**Original Wellbore**

**Plan: APD Directional Plan**

## **Standard Planning Report**

**27 August, 2010**

# EOG RESOURCES INC.

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Site Lion Creek 09-35H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	Rig @ 5363.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	Rig @ 5363.00ft (TBD)
<b>Site:</b>	Lion Creek 09-35H	<b>North Reference:</b>	True
<b>Well:</b>	Lion Creek 09-35H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD Directional Plan		

<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		

<b>Site</b>	Lion Creek 09-35H		
<b>Site Position:</b>		<b>Northing:</b>	562,160.15ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,275,053.45ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 52' 20.269 N
		<b>Longitude:</b>	104° 30' 19.760 W
		<b>Grid Convergence:</b>	0.64 deg

<b>Well</b>	Lion Creek 09-35H		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40° 52' 20.269 N
		<b>Longitude:</b>	104° 30' 19.760 W
		<b>Ground Level:</b>	22.00 ft

<b>Wellbore</b>	Original Wellbore				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (deg)</b>	<b>Dip Angle (deg)</b>	<b>Field Strength (nT)</b>
	IGRF200510	8/27/2010	8.83	67.51	53,505

<b>Design</b>	APD Directional Plan				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (deg)</b>	
	0.00	0.00	0.00	299.95	

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (deg)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,071.53	0.00	0.00	7,071.53	0.00	0.00	0.00	0.00	0.00	0.00	
7,821.54	90.00	287.17	7,549.00	140.95	-456.19	12.00	12.00	0.00	287.17	
10,179.43	90.00	287.17	7,549.00	837.00	-2,709.00	0.00	0.00	0.00	0.00	Lion Creek 9-35 (T&E)
12,276.69	90.00	349.36	7,549.00	2,326.29	-4,037.65	2.97	0.00	2.97	90.00	Lion Creek 9-35 (BI)

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<b>Site:</b>	Lion Creek 09-35H	<b>North Reference:</b>	True
<b>Well:</b>	Lion Creek 09-35H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD Directional Plan		

Planned Survey									
Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,520.00	0.00	0.00	1,520.00	0.00	0.00	0.00	0.00	0.00	0.00
9-5/8"									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00

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<b>Site:</b>	Lion Creek 09-35H	<b>North Reference:</b>	True
<b>Well:</b>	Lion Creek 09-35H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD Directional Plan		

### Planned Survey

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,071.53	0.00	0.00	7,071.53	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	3.42	287.17	7,099.98	0.25	-0.81	0.83	12.00	12.00	0.00
7,200.00	15.42	287.17	7,198.46	5.07	-16.41	16.75	12.00	12.00	0.00
7,300.00	27.42	287.17	7,291.38	15.83	-51.24	52.30	12.00	12.00	0.00
7,400.00	39.42	287.17	7,374.70	32.06	-103.76	105.91	12.00	12.00	0.00
7,500.00	51.42	287.17	7,444.77	53.04	-171.68	175.24	12.00	12.00	0.00
7,600.00	63.42	287.17	7,498.52	77.87	-252.04	257.26	12.00	12.00	0.00
7,700.00	75.42	287.17	7,533.62	105.46	-341.32	348.39	12.00	12.00	0.00
7,800.00	87.42	287.17	7,548.51	134.59	-435.62	444.64	12.00	12.00	0.00
7,821.54	90.00	287.17	7,549.00	140.95	-456.19	465.64	12.00	12.00	0.00
7"									
7,900.00	90.00	287.17	7,549.00	164.11	-531.16	542.16	0.00	0.00	0.00
8,000.00	90.00	287.17	7,549.00	193.63	-626.70	639.68	0.00	0.00	0.00
8,100.00	90.00	287.17	7,549.00	223.15	-722.24	737.21	0.00	0.00	0.00
8,200.00	90.00	287.17	7,549.00	252.67	-817.79	834.73	0.00	0.00	0.00
8,300.00	90.00	287.17	7,549.00	282.19	-913.33	932.25	0.00	0.00	0.00
8,400.00	90.00	287.17	7,549.00	311.71	-1,008.87	1,029.78	0.00	0.00	0.00
8,500.00	90.00	287.17	7,549.00	341.23	-1,104.42	1,127.30	0.00	0.00	0.00
8,600.00	90.00	287.17	7,549.00	370.75	-1,199.96	1,224.82	0.00	0.00	0.00
8,700.00	90.00	287.17	7,549.00	400.27	-1,295.50	1,322.35	0.00	0.00	0.00
8,800.00	90.00	287.17	7,549.00	429.79	-1,391.05	1,419.87	0.00	0.00	0.00
8,900.00	90.00	287.17	7,549.00	459.31	-1,486.59	1,517.39	0.00	0.00	0.00
9,000.00	90.00	287.17	7,549.00	488.83	-1,582.13	1,614.91	0.00	0.00	0.00
9,100.00	90.00	287.17	7,549.00	518.35	-1,677.68	1,712.44	0.00	0.00	0.00
9,200.00	90.00	287.17	7,549.00	547.87	-1,773.22	1,809.96	0.00	0.00	0.00
9,300.00	90.00	287.17	7,549.00	577.39	-1,868.76	1,907.48	0.00	0.00	0.00
9,400.00	90.00	287.17	7,549.00	606.91	-1,964.31	2,005.01	0.00	0.00	0.00
9,500.00	90.00	287.17	7,549.00	636.43	-2,059.85	2,102.53	0.00	0.00	0.00
9,600.00	90.00	287.17	7,549.00	665.95	-2,155.39	2,200.05	0.00	0.00	0.00
9,700.00	90.00	287.17	7,549.00	695.47	-2,250.94	2,297.58	0.00	0.00	0.00
9,800.00	90.00	287.17	7,549.00	724.99	-2,346.48	2,395.10	0.00	0.00	0.00
9,900.00	90.00	287.17	7,549.00	754.51	-2,442.03	2,492.62	0.00	0.00	0.00
10,000.00	90.00	287.17	7,549.00	784.03	-2,537.57	2,590.15	0.00	0.00	0.00

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<b>Site:</b>	Lion Creek 09-35H	<b>North Reference:</b>	True
<b>Well:</b>	Lion Creek 09-35H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD Directional Plan		

Planned Survey									
Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,100.00	90.00	287.17	7,549.00	813.55	-2,633.11	2,687.67	0.00	0.00	0.00
10,179.43	90.00	287.17	7,549.00	837.00	-2,709.00	2,765.13	0.00	0.00	0.00
<b>Lion Creek 9-35 (Target 1)</b>									
10,200.00	90.00	287.78	7,549.00	843.18	-2,728.62	2,785.22	2.97	0.00	2.97
10,300.00	90.00	290.74	7,549.00	876.16	-2,823.01	2,883.47	2.97	0.00	2.97
10,400.00	90.00	293.71	7,549.00	913.99	-2,915.57	2,982.55	2.97	0.00	2.97
10,500.00	90.00	296.67	7,549.00	956.55	-3,006.05	3,082.20	2.97	0.00	2.97
10,600.00	90.00	299.64	7,549.00	1,003.73	-3,094.21	3,182.14	2.97	0.00	2.97
10,700.00	90.00	302.61	7,549.00	1,055.41	-3,179.80	3,282.11	2.97	0.00	2.97
10,800.00	90.00	305.57	7,549.00	1,111.45	-3,262.61	3,381.83	2.97	0.00	2.97
10,900.00	90.00	308.54	7,549.00	1,171.70	-3,342.41	3,481.05	2.97	0.00	2.97
11,000.00	90.00	311.50	7,549.00	1,236.00	-3,418.99	3,579.50	2.97	0.00	2.97
11,100.00	90.00	314.47	7,549.00	1,304.17	-3,492.14	3,676.92	2.97	0.00	2.97
11,200.00	90.00	317.43	7,549.00	1,376.03	-3,561.66	3,773.03	2.97	0.00	2.97
11,300.00	90.00	320.40	7,549.00	1,451.39	-3,627.37	3,867.59	2.97	0.00	2.97
11,400.00	90.00	323.36	7,549.00	1,530.06	-3,689.10	3,960.35	2.97	0.00	2.97
11,500.00	90.00	326.33	7,549.00	1,611.81	-3,746.67	4,051.04	2.97	0.00	2.97
11,600.00	90.00	329.29	7,549.00	1,696.42	-3,799.94	4,139.44	2.97	0.00	2.97
11,700.00	90.00	332.26	7,549.00	1,783.68	-3,848.76	4,225.31	2.97	0.00	2.97
11,800.00	90.00	335.22	7,549.00	1,873.35	-3,893.00	4,308.41	2.97	0.00	2.97
11,900.00	90.00	338.19	7,549.00	1,965.19	-3,932.55	4,388.52	2.97	0.00	2.97
12,000.00	90.00	341.15	7,549.00	2,058.95	-3,967.29	4,465.42	2.97	0.00	2.97
12,100.00	90.00	344.12	7,549.00	2,154.38	-3,997.13	4,538.92	2.97	0.00	2.97
12,200.00	90.00	347.08	7,549.00	2,251.23	-4,022.00	4,608.82	2.97	0.00	2.97
12,276.69	90.00	349.36	7,549.00	2,326.29	-4,037.65	4,659.86	2.97	0.00	2.97
<b>Lion Creek 9-35 (BHL)</b>									

Targets									
Target Name	Dip Angle (deg)	Dip Dir. (deg)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Lion Creek 9-35 (Target 1)	0.00	0.00	7,549.00	837.00	-2,709.00	562,966.71	2,272,335.24	40° 52' 28.538 N	104° 30' 55.023 W
- plan hits target center									
- Point									
Lion Creek 9-35 (BHL)	0.00	0.00	7,549.00	2,326.29	-4,037.65	564,441.01	2,270,989.97	40° 52' 43.252 N	104° 31' 12.320 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,520.00	1,520.00	9-5/8"	9-5/8	13-1/2	
7,821.54	7,549.00	7"	7	8-3/4	
12,276.69	7,549.00	4 1/2"	4-1/2	6	

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Lion Creek 9-35 (BHL)	7549.00	2326.29	-4037.65	564441.01	2270989.97	40°52' 43.252 N	104°31' 12.320 W	Point
Lion Creek 9-35 (Target 1)	7549.00	837.00	-2709.00	562966.71	2272335.24	40°52' 28.538 N	104°30' 55.023 W	Poi nt