

# **Denver Division- Colorado**

**DJ - Hereford Ranch**

**Lion Creek 02-13H**

**Lion Creek 02-13H**

**Original Wellbore**

**Plan: APD Directional Plan**

## **Standard Planning Report**

**20 August, 2010**

# EOG RESOURCES INC.

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Site Lion Creek 02-13H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	Rig @ 5351.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	Rig @ 5351.00ft (TBD)
<b>Site:</b>	Lion Creek 02-13H	<b>North Reference:</b>	True
<b>Well:</b>	Lion Creek 02-13H	<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 02-13H		
<b>Site Position:</b>		<b>Northing:</b>	578,228.14 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,280,084.47 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 54' 58.460 N
		<b>Longitude:</b>	104° 29' 11.890 W
		<b>Grid Convergence:</b>	0.65 deg

<b>Well</b>	Lion Creek 02-13H, Sec. 13 T11N R64W		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 578,228.14 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,280,084.47 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40° 54' 58.460 N
		<b>Longitude:</b>	104° 29' 11.890 W
		<b>Ground Level:</b>	5,326.00 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	6/16/2010	8.85	67.56	53,550

<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	339.07

<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	
7,016.53	0.00	0.00	7,016.53	0.00	0.00	0.00	0.00	0.00	0.00	
7,766.54	90.00	339.07	7,494.00	445.95	-170.59	12.00	12.00	0.00	339.07	
11,659.36	90.00	339.07	7,494.00	4,081.85	-1,561.38	0.00	0.00	0.00	0.00	Lion Creek 2-13H (I

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<b>Site:</b>	Lion Creek 02-13H	<b>North Reference:</b>	True
<b>Well:</b>	Lion Creek 02-13H	<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
1,530.00	0.00	0.00	1,530.00	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>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
7,016.53	0.00	0.00	7,016.53	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	10.02	339.07	7,099.58	6.80	-2.60	7.28	12.00	12.00	0.00
7,200.00	22.02	339.07	7,195.52	32.52	-12.44	34.82	12.00	12.00	0.00
7,300.00	34.02	339.07	7,283.64	76.31	-29.19	81.70	12.00	12.00	0.00
7,400.00	46.02	339.07	7,360.09	136.26	-52.12	145.88	12.00	12.00	0.00
7,500.00	58.02	339.07	7,421.52	209.74	-80.23	224.56	12.00	12.00	0.00
7,600.00	70.02	339.07	7,465.25	293.54	-112.29	314.29	12.00	12.00	0.00
7,700.00	82.02	339.07	7,489.37	384.01	-146.89	411.15	12.00	12.00	0.00
7,766.54	90.00	339.07	7,494.00	445.96	-170.59	477.47	12.00	12.00	0.00
7"									
7,800.00	90.00	339.07	7,494.00	477.21	-182.54	510.93	0.00	0.00	0.00
7,900.00	90.00	339.07	7,494.00	570.61	-218.27	610.93	0.00	0.00	0.00
8,000.00	90.00	339.07	7,494.00	664.01	-254.00	710.93	0.00	0.00	0.00
8,100.00	90.00	339.07	7,494.00	757.41	-289.72	810.93	0.00	0.00	0.00
8,200.00	90.00	339.07	7,494.00	850.81	-325.45	910.93	0.00	0.00	0.00
8,300.00	90.00	339.07	7,494.00	944.21	-361.18	1,010.93	0.00	0.00	0.00
8,400.00	90.00	339.07	7,494.00	1,037.61	-396.91	1,110.93	0.00	0.00	0.00
8,500.00	90.00	339.07	7,494.00	1,131.01	-432.63	1,210.93	0.00	0.00	0.00
8,600.00	90.00	339.07	7,494.00	1,224.41	-468.36	1,310.93	0.00	0.00	0.00
8,700.00	90.00	339.07	7,494.00	1,317.81	-504.09	1,410.93	0.00	0.00	0.00
8,800.00	90.00	339.07	7,494.00	1,411.21	-539.81	1,510.93	0.00	0.00	0.00
8,900.00	90.00	339.07	7,494.00	1,504.61	-575.54	1,610.93	0.00	0.00	0.00
9,000.00	90.00	339.07	7,494.00	1,598.01	-611.27	1,710.93	0.00	0.00	0.00
9,100.00	90.00	339.07	7,494.00	1,691.41	-647.00	1,810.93	0.00	0.00	0.00
9,200.00	90.00	339.07	7,494.00	1,784.81	-682.72	1,910.93	0.00	0.00	0.00
9,300.00	90.00	339.07	7,494.00	1,878.21	-718.45	2,010.93	0.00	0.00	0.00
9,400.00	90.00	339.07	7,494.00	1,971.61	-754.18	2,110.93	0.00	0.00	0.00
9,500.00	90.00	339.07	7,494.00	2,065.01	-789.91	2,210.93	0.00	0.00	0.00
9,600.00	90.00	339.07	7,494.00	2,158.41	-825.63	2,310.93	0.00	0.00	0.00
9,700.00	90.00	339.07	7,494.00	2,251.81	-861.36	2,410.93	0.00	0.00	0.00
9,800.00	90.00	339.07	7,494.00	2,345.21	-897.09	2,510.93	0.00	0.00	0.00
9,900.00	90.00	339.07	7,494.00	2,438.61	-932.81	2,610.93	0.00	0.00	0.00
10,000.00	90.00	339.07	7,494.00	2,532.01	-968.54	2,710.93	0.00	0.00	0.00

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<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	339.07	7,494.00	2,625.41	-1,004.27	2,810.93	0.00	0.00	0.00
10,200.00	90.00	339.07	7,494.00	2,718.81	-1,040.00	2,910.93	0.00	0.00	0.00
10,300.00	90.00	339.07	7,494.00	2,812.21	-1,075.72	3,010.93	0.00	0.00	0.00
10,400.00	90.00	339.07	7,494.00	2,905.61	-1,111.45	3,110.93	0.00	0.00	0.00
10,500.00	90.00	339.07	7,494.00	2,999.01	-1,147.18	3,210.93	0.00	0.00	0.00
10,600.00	90.00	339.07	7,494.00	3,092.41	-1,182.91	3,310.93	0.00	0.00	0.00
10,700.00	90.00	339.07	7,494.00	3,185.81	-1,218.63	3,410.93	0.00	0.00	0.00
10,800.00	90.00	339.07	7,494.00	3,279.21	-1,254.36	3,510.93	0.00	0.00	0.00
10,900.00	90.00	339.07	7,494.00	3,372.61	-1,290.09	3,610.93	0.00	0.00	0.00
11,000.00	90.00	339.07	7,494.00	3,466.01	-1,325.82	3,710.93	0.00	0.00	0.00
11,100.00	90.00	339.07	7,494.00	3,559.41	-1,361.54	3,810.93	0.00	0.00	0.00
11,200.00	90.00	339.07	7,494.00	3,652.81	-1,397.27	3,910.93	0.00	0.00	0.00
11,300.00	90.00	339.07	7,494.00	3,746.21	-1,433.00	4,010.93	0.00	0.00	0.00
11,400.00	90.00	339.07	7,494.00	3,839.61	-1,468.72	4,110.93	0.00	0.00	0.00
11,500.00	90.00	339.07	7,494.00	3,933.01	-1,504.45	4,210.93	0.00	0.00	0.00
11,600.00	90.00	339.07	7,494.00	4,026.41	-1,540.18	4,310.93	0.00	0.00	0.00
11,659.36	90.00	339.07	7,494.00	4,081.85	-1,561.38	4,370.29	0.00	0.00	0.00
Lion Creek 2-13H (BHL)									

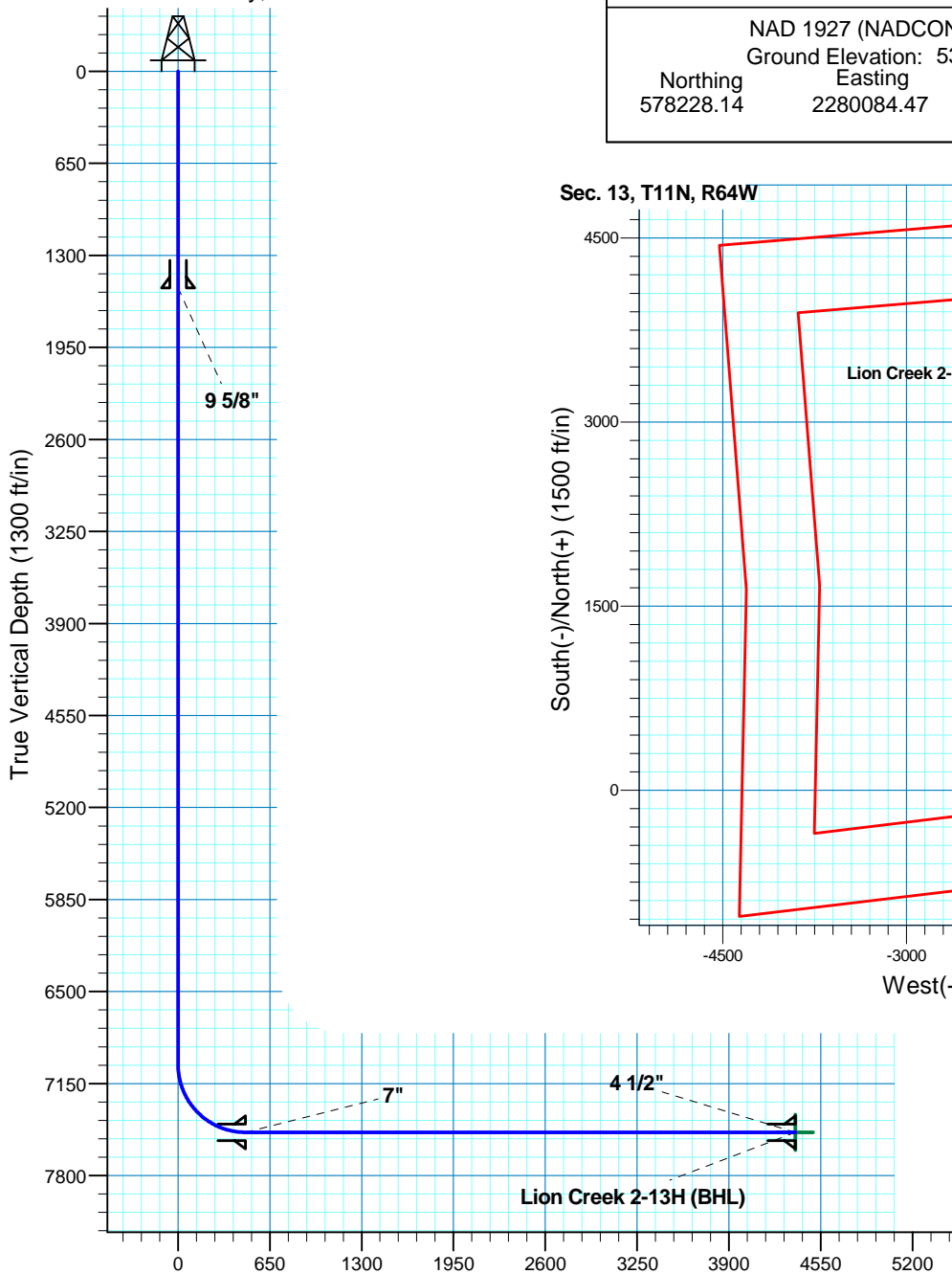
Targets									
Target Name	Dip Angle (deg)	Dip Dir. (deg)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Lion Creek 2-13H (BHL)	0.00	0.00	7,494.00	4,081.85	-1,561.38	582,291.87	2,278,476.55	40° 55' 38.791 N	104° 29' 32.230 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,530.00	1,530.00	9 5/8"	9-5/8	13-1/2	
7,766.54	7,494.00	7"	7	8-3/4	
11,659.36	7,494.00	4 1/2"	4-1/2	6	

# Lion Creek 02-13H

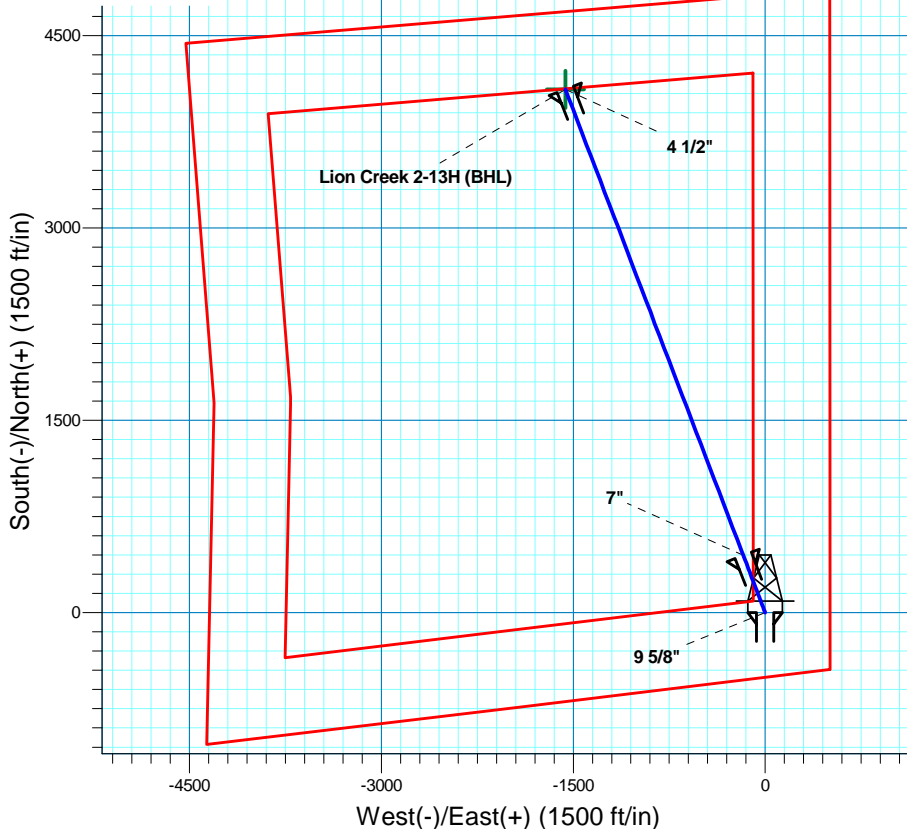
Section 13 T11N R64W

Weld County, CO



Vertical Section at 339.07deg (1300 ft/in)

## Sec. 13, T11N, R64W



Azimuths to True North  
Magnetic North: 8.85°  
Magnetic Field  
Strength: 53549.9snT  
Dip Angle: 67.55°  
Date: 6/16/2010  
Model: IGRF200510

Project: DJ - Hereford Ranch  
Site: Lion Creek 02-13H  
Well: Lion Creek 02-13H  
Plan: APD Directional Plan

### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	7016.53	0.00	0.00	7016.53	0.00	0.00	0.00	0.00	0.00	
3	7766.54	90.00	339.07	7494.00	445.95	-170.59	12.00	339.07	477.47	
4	11659.36	90.00	339.07	7494.00	4081.85	-1561.38	0.00	0.00	4370.29	Lion Creek 2-13H (BHL)

### TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Lion Creek 2-13H (BHL)	7494.00	4081.85	-1561.38	582291.87	2278476.55	40°55' 38.791 N	104°29' 32.230 W	Point