

# **Denver Division- Colorado**

**DJ - Hereford Ranch**

**Geary Creek 13-21H**

**Geary Creek 13-21H**

**Original Wellbore**

**Plan: APD Directional Plan**

## **Standard Planning Report**

**25 February, 2011**

# EOG Resources Inc

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Site Geary Creek 13-21H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	RIG @ 5192.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 5192.00ft (TBD)
<b>Site:</b>	Geary Creek 13-21H	<b>North Reference:</b>	True
<b>Well:</b>	Geary Creek 13-21H	<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>	Geary Creek 13-21H		
<b>Site Position:</b>		<b>Northing:</b>	541,681.71 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,295,982.97 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 48' 55.530 N
		<b>Longitude:</b>	104° 25' 50.570 W
		<b>Grid Convergence:</b>	0.69 deg

<b>Well</b>	Geary Creek 13-21H		
<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° 48' 55.530 N
		<b>Longitude:</b>	104° 25' 50.570 W
		<b>Ground Level:</b>	5,170.00 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	2/25/2011	8.72	67.46	53,433

<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	332.43

<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	
6,679.53	0.00	0.00	6,679.53	0.00	0.00	0.00	0.00	0.00	0.00	
7,429.54	90.00	332.43	7,157.00	423.26	-220.95	12.00	12.00	0.00	332.43	
11,514.16	90.00	332.43	7,157.00	4,044.21	-2,111.17	0.00	0.00	0.00	0.00	Geary Creek 13-21H

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<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	RIG @ 5192.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 5192.00ft (TBD)
<b>Site:</b>	Geary Creek 13-21H	<b>North Reference:</b>	True
<b>Well:</b>	Geary Creek 13-21H	<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
1,220.00	0.00	0.00	1,220.00	0.00	0.00	0.00	0.00	0.00	0.00
9-5/8"									
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
1,600.00	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>	Geary Creek 13-21H	<b>North Reference:</b>	True
<b>Well:</b>	Geary Creek 13-21H	<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
6,679.53	0.00	0.00	6,679.53	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	2.46	332.43	6,699.99	0.39	-0.20	0.44	12.00	12.00	0.00
6,800.00	14.46	332.43	6,798.73	13.40	-7.00	15.12	12.00	12.00	0.00
6,900.00	26.46	332.43	6,892.25	44.33	-23.14	50.00	12.00	12.00	0.00
7,000.00	38.46	332.43	6,976.48	91.81	-47.93	103.57	12.00	12.00	0.00
7,100.00	50.46	332.43	7,047.72	153.78	-80.28	173.48	12.00	12.00	0.00
7,200.00	62.46	332.43	7,102.88	227.53	-118.78	256.67	12.00	12.00	0.00
7,300.00	74.46	332.43	7,139.54	309.84	-161.74	349.51	12.00	12.00	0.00
7,400.00	86.46	332.43	7,156.09	397.10	-207.29	447.95	12.00	12.00	0.00
7,429.54	90.00	332.43	7,157.00	423.27	-220.96	477.47	12.00	12.00	0.00
7"									
7,500.00	90.00	332.43	7,157.00	485.73	-253.56	547.93	0.00	0.00	0.00
7,600.00	90.00	332.43	7,157.00	574.38	-299.84	647.93	0.00	0.00	0.00
7,700.00	90.00	332.43	7,157.00	663.03	-346.11	747.93	0.00	0.00	0.00
7,800.00	90.00	332.43	7,157.00	751.67	-392.39	847.93	0.00	0.00	0.00
7,900.00	90.00	332.43	7,157.00	840.32	-438.67	947.93	0.00	0.00	0.00
8,000.00	90.00	332.43	7,157.00	928.97	-484.94	1,047.93	0.00	0.00	0.00
8,100.00	90.00	332.43	7,157.00	1,017.62	-531.22	1,147.93	0.00	0.00	0.00
8,200.00	90.00	332.43	7,157.00	1,106.27	-577.50	1,247.93	0.00	0.00	0.00
8,300.00	90.00	332.43	7,157.00	1,194.92	-623.77	1,347.93	0.00	0.00	0.00
8,400.00	90.00	332.43	7,157.00	1,283.56	-670.05	1,447.93	0.00	0.00	0.00
8,500.00	90.00	332.43	7,157.00	1,372.21	-716.33	1,547.93	0.00	0.00	0.00
8,600.00	90.00	332.43	7,157.00	1,460.86	-762.60	1,647.93	0.00	0.00	0.00
8,700.00	90.00	332.43	7,157.00	1,549.51	-808.88	1,747.93	0.00	0.00	0.00
8,800.00	90.00	332.43	7,157.00	1,638.16	-855.15	1,847.93	0.00	0.00	0.00
8,900.00	90.00	332.43	7,157.00	1,726.80	-901.43	1,947.93	0.00	0.00	0.00
9,000.00	90.00	332.43	7,157.00	1,815.45	-947.71	2,047.93	0.00	0.00	0.00
9,100.00	90.00	332.43	7,157.00	1,904.10	-993.98	2,147.93	0.00	0.00	0.00
9,200.00	90.00	332.43	7,157.00	1,992.75	-1,040.26	2,247.93	0.00	0.00	0.00
9,300.00	90.00	332.43	7,157.00	2,081.40	-1,086.54	2,347.93	0.00	0.00	0.00
9,400.00	90.00	332.43	7,157.00	2,170.05	-1,132.81	2,447.93	0.00	0.00	0.00
9,500.00	90.00	332.43	7,157.00	2,258.69	-1,179.09	2,547.93	0.00	0.00	0.00
9,600.00	90.00	332.43	7,157.00	2,347.34	-1,225.37	2,647.93	0.00	0.00	0.00
9,700.00	90.00	332.43	7,157.00	2,435.99	-1,271.64	2,747.93	0.00	0.00	0.00
9,800.00	90.00	332.43	7,157.00	2,524.64	-1,317.92	2,847.93	0.00	0.00	0.00
9,900.00	90.00	332.43	7,157.00	2,613.29	-1,364.20	2,947.93	0.00	0.00	0.00
10,000.00	90.00	332.43	7,157.00	2,701.93	-1,410.47	3,047.93	0.00	0.00	0.00

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<b>Site:</b>	Geary Creek 13-21H	<b>North Reference:</b>	True
<b>Well:</b>	Geary Creek 13-21H	<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	332.43	7,157.00	2,790.58	-1,456.75	3,147.93	0.00	0.00	0.00
10,200.00	90.00	332.43	7,157.00	2,879.23	-1,503.02	3,247.93	0.00	0.00	0.00
10,300.00	90.00	332.43	7,157.00	2,967.88	-1,549.30	3,347.93	0.00	0.00	0.00
10,400.00	90.00	332.43	7,157.00	3,056.53	-1,595.58	3,447.93	0.00	0.00	0.00
10,500.00	90.00	332.43	7,157.00	3,145.17	-1,641.85	3,547.93	0.00	0.00	0.00
10,600.00	90.00	332.43	7,157.00	3,233.82	-1,688.13	3,647.93	0.00	0.00	0.00
10,700.00	90.00	332.43	7,157.00	3,322.47	-1,734.41	3,747.93	0.00	0.00	0.00
10,800.00	90.00	332.43	7,157.00	3,411.12	-1,780.68	3,847.93	0.00	0.00	0.00
10,900.00	90.00	332.43	7,157.00	3,499.77	-1,826.96	3,947.93	0.00	0.00	0.00
11,000.00	90.00	332.43	7,157.00	3,588.42	-1,873.24	4,047.93	0.00	0.00	0.00
11,100.00	90.00	332.43	7,157.00	3,677.06	-1,919.51	4,147.93	0.00	0.00	0.00
11,200.00	90.00	332.43	7,157.00	3,765.71	-1,965.79	4,247.93	0.00	0.00	0.00
11,300.00	90.00	332.43	7,157.00	3,854.36	-2,012.06	4,347.93	0.00	0.00	0.00
11,400.00	90.00	332.43	7,157.00	3,943.01	-2,058.34	4,447.93	0.00	0.00	0.00
11,500.00	90.00	332.43	7,157.00	4,031.66	-2,104.62	4,547.93	0.00	0.00	0.00
11,514.16	90.00	332.43	7,157.00	4,044.21	-2,111.17	4,562.09	0.00	0.00	0.00

4 1/2" - Geary Creek 13-21H (BHL)

### Targets

#### Target Name

- hit/miss target	Dip Angle (deg)	Dip Dir. (deg)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
Geary Creek 13-21H (	0.00	0.00	7,157.00	4,044.21	-2,111.17	545,700.17	2,293,823.19	40° 49' 35.490 N	104° 26' 18.031 W
- plan hits target center									
- Point									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,220.00	1,220.00	9-5/8"	9-5/8	13-1/2
7,429.54	7,157.00	7"	7	8-3/4
11,514.16	7,157.00	4 1/2"	4-1/2	6

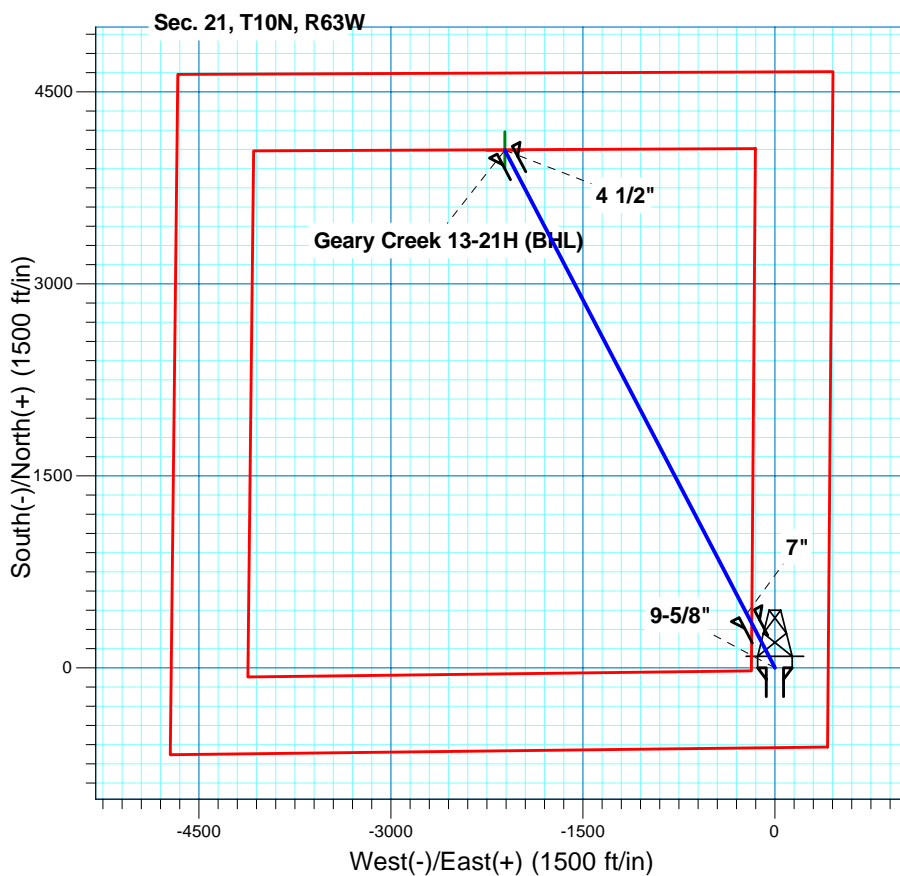
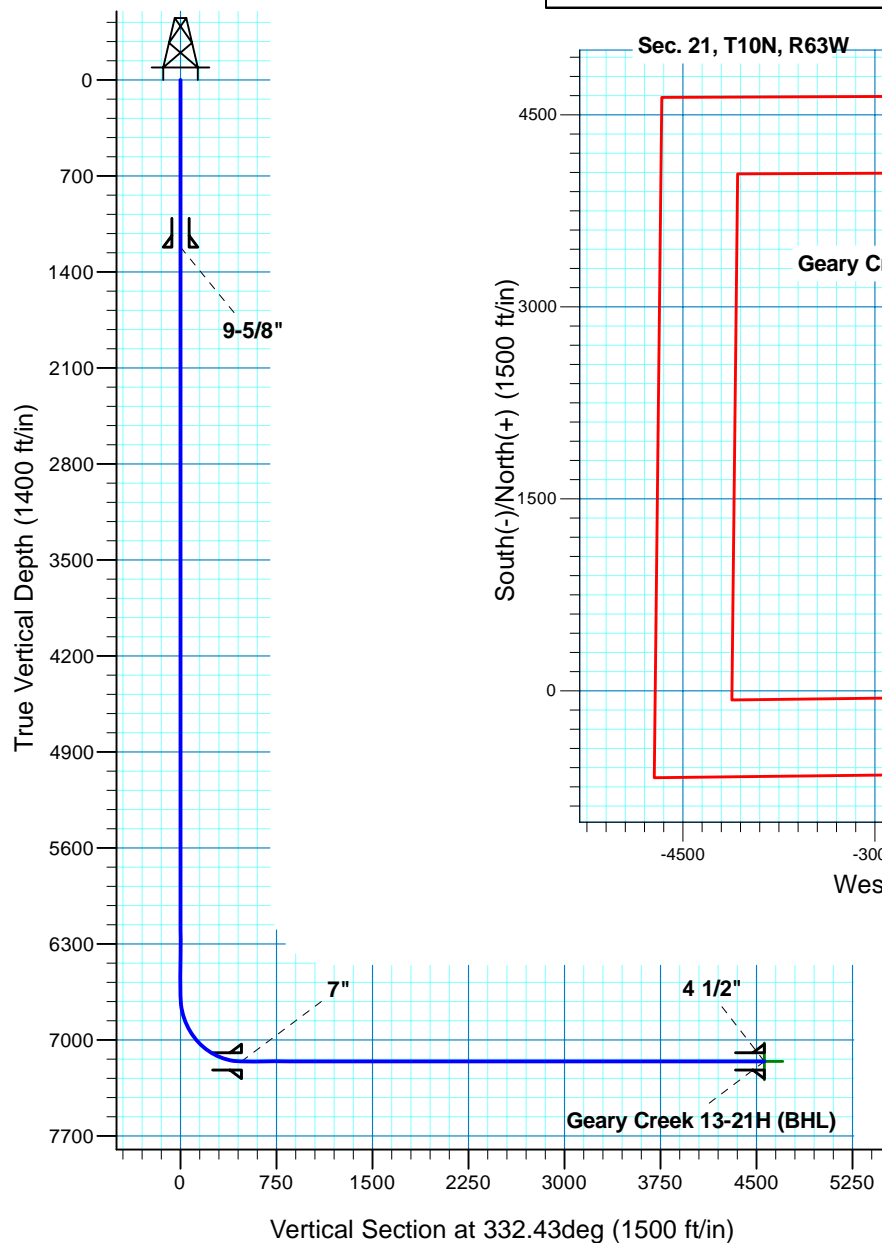
# Geary Creek 13-21H

## Section 21 T10N R63W

### Weld County, CO

#### Surface Location

NAD 1927 (NADCON CONUS) Colorado North 501  
 Ground Elevation: 5170.00 RIG @ 5192.00ft (TBD)  
 Northing Easting Latitude Longitude  
 541681.71 2295982.97 40° 48' 55.530 N 104° 25' 50.570 W



**T M**  
 Azimuths to True North  
 Magnetic North: 8.72°  
 Magnetic Field  
 Strength: 53432.5nT  
 Dip Angle: 67.46°  
 Date: 2/25/2011  
 Model: IGRF200510

Project: DJ - Hereford Ranch  
 Site: Geary Creek 13-21H  
 Well: Geary Creek 13-21H  
 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	6679.53	0.00	0.00	6679.53	0.00	0.00	0.00	0.00	0.00	
3	7429.54	90.00	332.43	7157.00	423.26	-220.95	12.00	332.43	477.47	
4	11514.16	90.00	332.43	7157.00	4044.21	-2111.17	0.00	0.00	4562.09	Geary Creek 13-21H (BHL)

#### TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Geary Creek 13-21H (BHL)	7157.00	4044.21	-2111.17	545700.17	2293823.19	40° 49' 35.490 N	104° 26' 18.031 W	Point