

# **Denver Division- Colorado**

**DJ - Hereford Ranch**

**Critter Creek 14-18H**

**Critter Creek 14-18H**

**Original Wellbore**

**Plan: APD Directional Plan**

## **Standard Planning Report**

**30 November, 2010**

# EOG Resources Inc

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Site Critter Creek 14-18H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	Rig @ 5369.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	Rig @ 5369.00ft (TBD)
<b>Site:</b>	Critter Creek 14-18H	<b>North Reference:</b>	True
<b>Well:</b>	Critter Creek 14-18H	<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>	Critter Creek 14-18H		
<b>Site Position:</b>		<b>Northing:</b>	578,367.56ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,285,316.22ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 54' 59.242 N
		<b>Longitude:</b>	104° 28' 3.731 W
		<b>Grid Convergence:</b>	0.67 deg

<b>Well</b>	Critter Creek 14-18H		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 578,367.56 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,285,316.22 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40° 54' 59.242 N
		<b>Longitude:</b>	104° 28' 3.731 W
		<b>Ground Level:</b>	5,347.00ft

<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	12/31/2009	8.91	67.57	53,598

<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	305.34

<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	
7,037.53	0.00	0.00	7,037.53	0.00	0.00	0.00	0.00	0.00	0.00	
7,787.54	90.00	293.75	7,515.00	192.26	-437.05	12.00	12.00	0.00	293.75	
9,641.98	90.00	293.75	7,515.00	939.00	-2,134.50	0.00	0.00	0.00	0.00	Critter Creek 14-18H
12,529.03	90.00	336.07	7,515.00	2,931.17	-4,133.01	1.47	0.00	1.47	90.00	Critter Creek 14-18H

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<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	Rig @ 5369.00ft (TBD)
<b>Site:</b>	Critter Creek 14-18H	<b>North Reference:</b>	True
<b>Well:</b>	Critter Creek 14-18H	<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
1,450.00	0.00	0.00	1,450.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9-5/8"</b>									
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>Well:</b>	Critter Creek 14-18H	<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
7,037.53	0.00	0.00	7,037.53	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	7.50	293.75	7,099.82	1.64	-3.73	4.00	12.00	12.00	0.00
7,200.00	19.50	293.75	7,196.88	11.02	-25.06	26.82	12.00	12.00	0.00
7,300.00	31.50	293.75	7,286.98	28.32	-64.39	68.90	12.00	12.00	0.00
7,400.00	43.50	293.75	7,366.17	52.79	-120.00	128.42	12.00	12.00	0.00
7,500.00	55.50	293.75	7,431.01	83.35	-189.47	202.77	12.00	12.00	0.00
7,600.00	67.50	293.75	7,478.64	118.67	-269.77	288.70	12.00	12.00	0.00
7,700.00	79.50	293.75	7,507.00	157.21	-357.37	382.45	12.00	12.00	0.00
7,787.54	90.00	293.75	7,515.00	192.26	-437.05	467.72	12.00	12.00	0.00
7"									
7,800.00	90.00	293.75	7,515.00	197.28	-448.45	479.92	0.00	0.00	0.00
7,900.00	90.00	293.75	7,515.00	237.55	-539.99	577.88	0.00	0.00	0.00
8,000.00	90.00	293.75	7,515.00	277.82	-631.52	675.84	0.00	0.00	0.00
8,100.00	90.00	293.75	7,515.00	318.08	-723.06	773.80	0.00	0.00	0.00
8,200.00	90.00	293.75	7,515.00	358.35	-814.59	871.76	0.00	0.00	0.00
8,300.00	90.00	293.75	7,515.00	398.62	-906.13	969.71	0.00	0.00	0.00
8,400.00	90.00	293.75	7,515.00	438.89	-997.66	1,067.67	0.00	0.00	0.00
8,500.00	90.00	293.75	7,515.00	479.15	-1,089.19	1,165.63	0.00	0.00	0.00
8,600.00	90.00	293.75	7,515.00	519.42	-1,180.73	1,263.59	0.00	0.00	0.00
8,700.00	90.00	293.75	7,515.00	559.69	-1,272.26	1,361.55	0.00	0.00	0.00
8,800.00	90.00	293.75	7,515.00	599.96	-1,363.80	1,459.50	0.00	0.00	0.00
8,900.00	90.00	293.75	7,515.00	640.22	-1,455.33	1,557.46	0.00	0.00	0.00
9,000.00	90.00	293.75	7,515.00	680.49	-1,546.87	1,655.42	0.00	0.00	0.00
9,100.00	90.00	293.75	7,515.00	720.76	-1,638.40	1,753.38	0.00	0.00	0.00
9,200.00	90.00	293.75	7,515.00	761.03	-1,729.94	1,851.33	0.00	0.00	0.00
9,300.00	90.00	293.75	7,515.00	801.29	-1,821.47	1,949.29	0.00	0.00	0.00
9,400.00	90.00	293.75	7,515.00	841.56	-1,913.00	2,047.25	0.00	0.00	0.00
9,500.00	90.00	293.75	7,515.00	881.83	-2,004.54	2,145.21	0.00	0.00	0.00
9,600.00	90.00	293.75	7,515.00	922.10	-2,096.07	2,243.17	0.00	0.00	0.00
9,641.98	90.00	293.75	7,515.00	939.00	-2,134.50	2,284.29	0.00	0.00	0.00
9,700.00	90.00	294.60	7,515.00	962.76	-2,187.43	2,341.21	1.47	0.00	1.47
9,800.00	90.00	296.06	7,515.00	1,005.54	-2,277.82	2,439.68	1.47	0.00	1.47
9,900.00	90.00	297.53	7,515.00	1,050.62	-2,367.08	2,538.57	1.47	0.00	1.47

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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)
10,000.00	90.00	298.99	7,515.00	1,097.96	-2,455.15	2,637.80	1.47	0.00	1.47
10,100.00	90.00	300.46	7,515.00	1,147.55	-2,541.99	2,737.32	1.47	0.00	1.47
10,200.00	90.00	301.93	7,515.00	1,199.34	-2,627.53	2,837.05	1.47	0.00	1.47
10,300.00	90.00	303.39	7,515.00	1,253.30	-2,711.72	2,936.94	1.47	0.00	1.47
10,400.00	90.00	304.86	7,515.00	1,309.40	-2,794.50	3,036.92	1.47	0.00	1.47
10,500.00	90.00	306.32	7,515.00	1,367.60	-2,875.81	3,136.91	1.47	0.00	1.47
10,600.00	90.00	307.79	7,515.00	1,427.86	-2,955.61	3,236.86	1.47	0.00	1.47
10,700.00	90.00	309.26	7,515.00	1,490.15	-3,033.84	3,336.71	1.47	0.00	1.47
10,800.00	90.00	310.72	7,515.00	1,554.41	-3,110.46	3,436.38	1.47	0.00	1.47
10,900.00	90.00	312.19	7,515.00	1,620.61	-3,185.40	3,535.81	1.47	0.00	1.47
11,000.00	90.00	313.66	7,515.00	1,688.71	-3,258.63	3,634.93	1.47	0.00	1.47
11,100.00	90.00	315.12	7,515.00	1,758.66	-3,330.09	3,733.68	1.47	0.00	1.47
11,200.00	90.00	316.59	7,515.00	1,830.42	-3,399.73	3,832.00	1.47	0.00	1.47
11,300.00	90.00	318.05	7,515.00	1,903.93	-3,467.52	3,929.82	1.47	0.00	1.47
11,400.00	90.00	319.52	7,515.00	1,979.15	-3,533.41	4,027.08	1.47	0.00	1.47
11,500.00	90.00	320.99	7,515.00	2,056.04	-3,597.35	4,123.71	1.47	0.00	1.47
11,600.00	90.00	322.45	7,515.00	2,134.54	-3,659.30	4,219.66	1.47	0.00	1.47
11,700.00	90.00	323.92	7,515.00	2,214.59	-3,719.22	4,314.84	1.47	0.00	1.47
11,800.00	90.00	325.38	7,515.00	2,296.15	-3,777.07	4,409.22	1.47	0.00	1.47
11,900.00	90.00	326.85	7,515.00	2,379.17	-3,832.82	4,502.71	1.47	0.00	1.47
12,000.00	90.00	328.32	7,515.00	2,463.58	-3,886.43	4,595.27	1.47	0.00	1.47
12,100.00	90.00	329.78	7,515.00	2,549.34	-3,937.85	4,686.83	1.47	0.00	1.47
12,200.00	90.00	331.25	7,515.00	2,636.39	-3,987.07	4,777.34	1.47	0.00	1.47
12,300.00	90.00	332.71	7,515.00	2,724.66	-4,034.05	4,866.72	1.47	0.00	1.47
12,400.00	90.00	334.18	7,515.00	2,814.12	-4,078.75	4,954.93	1.47	0.00	1.47
12,500.00	90.00	335.65	7,515.00	2,904.68	-4,121.14	5,041.90	1.47	0.00	1.47
12,529.03	90.00	336.07	7,515.00	2,931.17	-4,133.01	5,066.91	1.47	0.00	1.47

### Targets

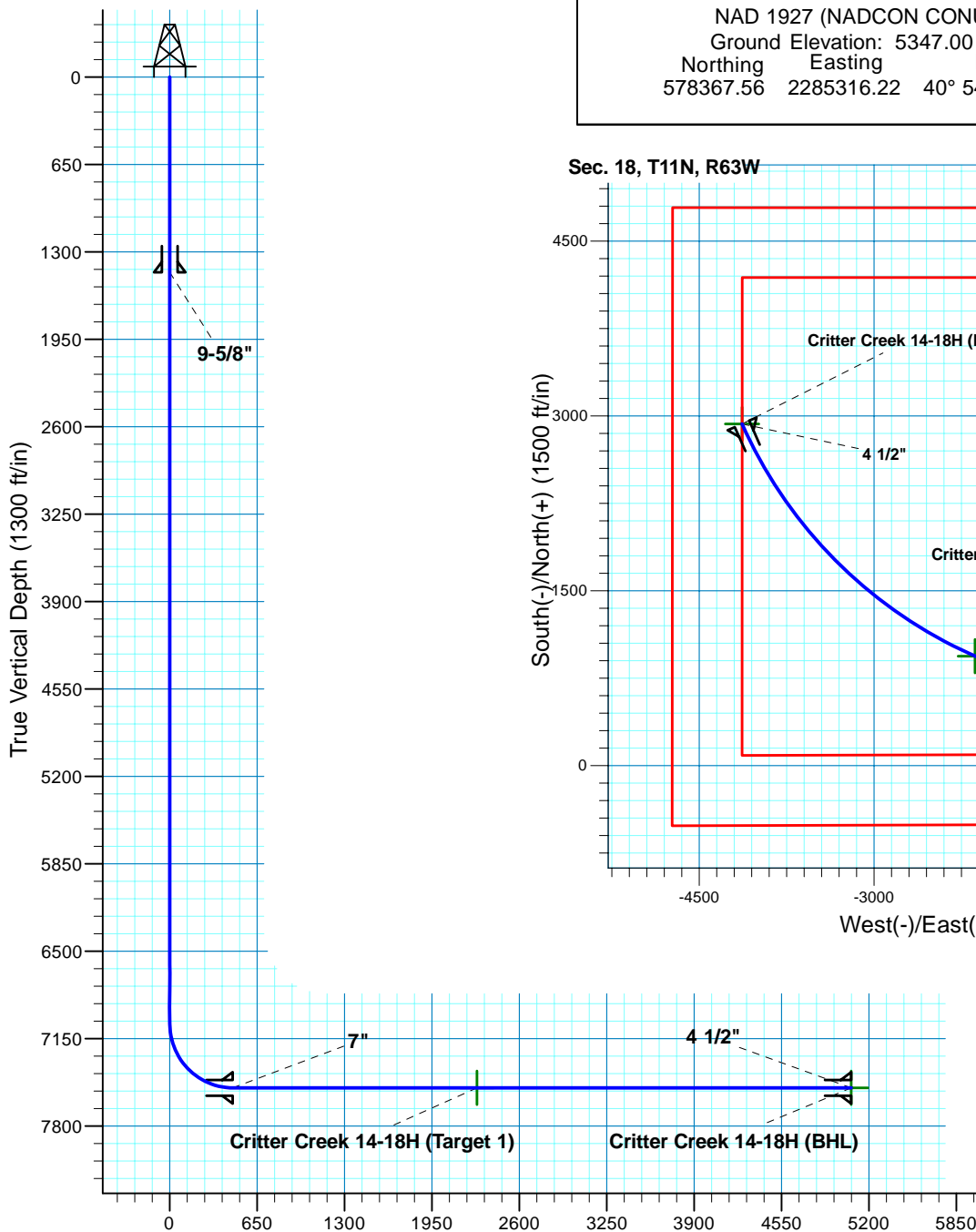
Target Name	- hit/miss target	- Shape	Dip Angle (deg)	Dip Dir. (deg)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Critter Creek 14-18H (	- plan hits target center	- Point	0.00	0.00	7,515.00	2,931.17	-4,133.01	581,250.41	2,281,149.37	40° 55' 28.200 N	104° 28' 57.569 W
Critter Creek 14-18H (	- plan hits target center	- Point	0.00	0.00	7,515.00	939.00	-2,134.50	579,281.64	2,283,170.94	40° 55' 8.519 N	104° 28' 31.533 W

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,450.00	1,450.00	9-5/8"	9-5/8	13-1/2
7,787.54	7,515.00	7"	7	8-3/4
12,529.03	7,515.00	4 1/2"	4-1/2	6

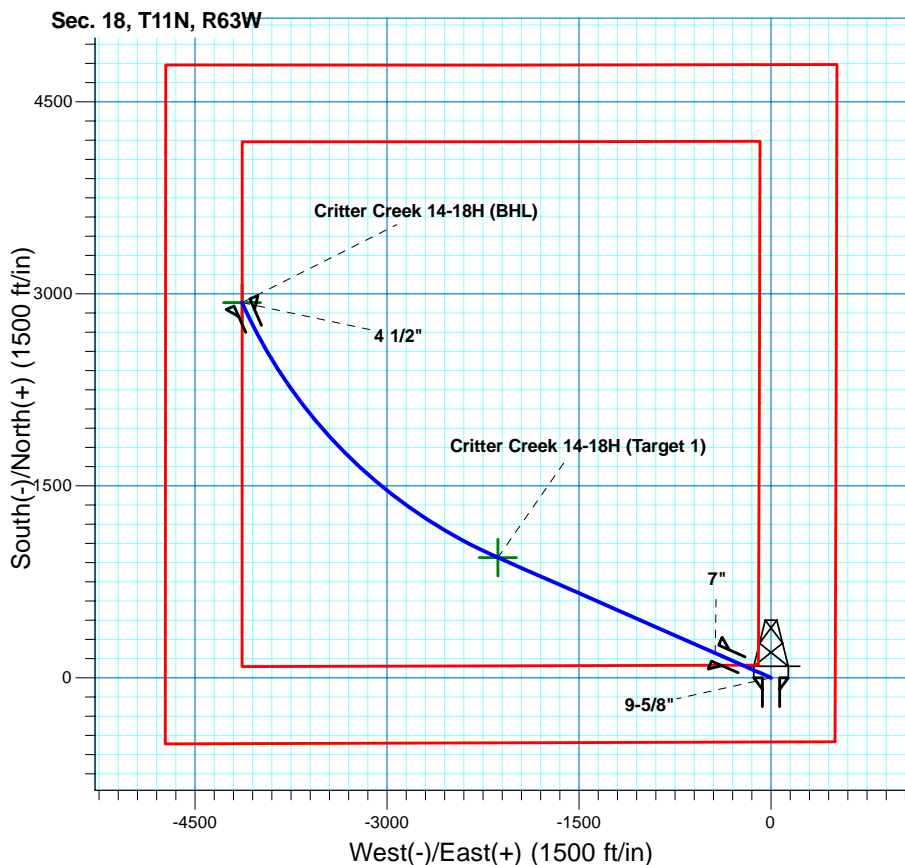
# Critter Creek 14-18H

Section 18 T11N R63W  
Weld County, CO



Vertical Section at 305.34deg (1300 ft/in)

Surface Location					
NAD 1927 (NADCON CONUS) Colorado North 501					
Ground Elevation: 5347.00 Rig @ 5369.00ft (TBD)					
Northing	Easting	Latitude	Longitude		
578367.56	2285316.22	40° 54' 59.242 N	104° 28' 3.731 W		



**T M**  
Azimuths to True North  
Magnetic North: 8.90°  
Magnetic Field  
Strength: 53598.4snT  
Dip Angle: 67.57°  
Date: 12/31/2009  
Model: IGRF200510

Project: DJ - Hereford Ranch  
Site: Critter Creek 14-18H  
Well: Critter Creek 14-18H  
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	7037.53	0.00	0.00	7037.53	0.00	0.00	0.00	0.00	0.00	
3	7787.54	90.00	293.75	7515.00	192.26	-437.05	12.00	293.75	467.72	
4	9641.98	90.00	293.75	7515.00	939.00	-2134.50	0.00	0.00	2284.29	Critter Creek 14-18H (Target 1)
5	12529.03	90.00	336.07	7515.00	2931.17	-4133.01	1.47	90.00	5066.91	Critter Creek 14-18H (BHL)
TARGET DETAILS										
Name	TVD	+N-/S	+E-/W	Northing	Easting	Latitude	Longitude	Shape		
Critter Creek 14-18H (BHL)	7515.00	2931.17	-4133.01	581250.41	2281149.37	40° 55' 28.200 N	104° 28' 57.569 W	Point		
Critter Creek 14-18H (Target 1)	7515.00	939.00	-2134.50	579281.64	2283170.94	40° 55' 8.519 N	104° 28' 31.533 W	Point		