



Denver Division- Colorado

DJ - Hereford Ranch

Spring #04-10H

Spring #04-10H

Original Wellbore

Plan: APD Directional Plan

Standard Planning Report

28 October, 2010



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Spring #04-10H
Company:	Denver Division- Colorado	TVD Reference:	WELL @ 5689.0ft (Original Well Elev)
Project:	DJ - Hereford Ranch	MD Reference:	WELL @ 5689.0ft (Original Well Elev)
Site:	Spring #04-10H	North Reference:	True
Well:	Spring #04-10H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	APD Directional Plan		

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		Spring #04-10H			
Site Position:		Northing:	554,946.66 ft	Latitude:	40° 51' 18.260 N
From:	Lat/Long	Easting:	2,172,231.25 ft	Longitude:	104° 52' 38.750 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.40 °

Well	Spring #04-10H					
Well Position	+N/-S	0.0 ft	Northing:	554,946.66 ft	Latitude:	40° 51' 18.260 N
	+E/-W	0.0 ft	Easting:	2,172,231.25 ft	Longitude:	104° 52' 38.750 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,667.0 ft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2009/12/31	9.12	67.45	53,521

Design	APD Directional Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	152.80

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
7,674.5	0.00	0.00	7,674.5	0.0	0.0	0.00	0.00	0.00	0.00	
8,424.5	90.00	152.80	8,152.0	-424.7	218.2	12.00	12.00	0.00	152.80	
12,837.4	90.00	152.80	8,152.0	-4,349.7	2,235.1	0.00	0.00	0.00	0.00	Spring #04-10H PBHI

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Wellbore:	Original Wellbore		
Design:	APD Directional Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
1,072.0	0.00	0.00	1,072.0	0.0	0.0	0.0	0.00	0.00	0.00
White River									
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
1,470.0	0.00	0.00	1,470.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
1,482.0	0.00	0.00	1,482.0	0.0	0.0	0.0	0.00	0.00	0.00
Pierre Shale									
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
4,442.0	0.00	0.00	4,442.0	0.0	0.0	0.0	0.00	0.00	0.00
Terry SS									
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00

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Wellbore:	Original Wellbore		
Design:	APD Directional Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
4,712.0	0.00	0.00	4,712.0	0.0	0.0	0.0	0.00	0.00	0.00
Hygiene									
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
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
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,674.5	0.00	0.00	7,674.5	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	3.06	152.80	7,700.0	-0.6	0.3	0.7	12.00	12.00	0.00
7,725.0	6.06	152.80	7,724.9	-2.4	1.2	2.7	12.00	12.00	0.00
7,750.0	9.06	152.80	7,749.7	-5.3	2.7	6.0	12.00	12.00	0.00
7,775.0	12.06	152.80	7,774.3	-9.4	4.8	10.5	12.00	12.00	0.00
7,800.0	15.06	152.80	7,798.6	-14.6	7.5	16.4	12.00	12.00	0.00
7,825.0	18.06	152.80	7,822.5	-20.9	10.8	23.5	12.00	12.00	0.00
7,850.0	21.06	152.80	7,846.1	-28.4	14.6	31.9	12.00	12.00	0.00
7,875.0	24.06	152.80	7,869.2	-36.9	19.0	41.5	12.00	12.00	0.00
7,900.0	27.06	152.80	7,891.7	-46.5	23.9	52.3	12.00	12.00	0.00
7,925.0	30.06	152.80	7,913.7	-57.1	29.4	64.2	12.00	12.00	0.00
7,950.0	33.06	152.80	7,935.0	-68.8	35.3	77.3	12.00	12.00	0.00
7,975.0	36.06	152.80	7,955.6	-81.4	41.8	91.5	12.00	12.00	0.00
8,000.0	39.06	152.80	7,975.4	-94.9	48.8	106.7	12.00	12.00	0.00
8,008.6	40.09	152.80	7,982.0	-99.8	51.3	112.2	12.00	12.00	0.00
Sharon Springs									
8,025.0	42.06	152.80	7,994.4	-109.4	56.2	123.0	12.00	12.00	0.00
8,050.0	45.06	152.80	8,012.5	-124.7	64.1	140.2	12.00	12.00	0.00
8,075.0	48.06	152.80	8,029.7	-140.8	72.4	158.3	12.00	12.00	0.00
8,078.5	48.48	152.80	8,032.0	-143.2	73.6	161.0	12.00	12.00	0.00

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Site:	Spring #04-10H	North Reference:	True
Well:	Spring #04-10H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	APD Directional Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Niobrara									
8,100.0	51.06	152.80	8,045.9	-157.8	81.1	177.4	12.00	12.00	0.00
8,125.0	54.06	152.80	8,061.1	-175.4	90.1	197.2	12.00	12.00	0.00
8,150.0	57.06	152.80	8,075.2	-193.8	99.6	217.8	12.00	12.00	0.00
8,164.7	58.82	152.80	8,083.0	-204.8	105.2	230.3	12.00	12.00	0.00
B1 Chalk									
8,175.0	60.06	152.80	8,088.2	-212.7	109.3	239.2	12.00	12.00	0.00
8,200.0	63.06	152.80	8,100.2	-232.3	119.4	261.1	12.00	12.00	0.00
8,225.0	66.06	152.80	8,110.9	-252.4	129.7	283.7	12.00	12.00	0.00
8,250.0	69.06	152.80	8,120.4	-272.9	140.2	306.8	12.00	12.00	0.00
8,275.0	72.06	152.80	8,128.8	-293.9	151.0	330.4	12.00	12.00	0.00
8,285.9	73.37	152.80	8,132.0	-303.2	155.8	340.8	12.00	12.00	0.00
B-Chalk									
8,300.0	75.06	152.80	8,135.8	-315.2	162.0	354.4	12.00	12.00	0.00
8,325.0	78.06	152.80	8,141.6	-336.8	173.1	378.7	12.00	12.00	0.00
8,350.0	81.06	152.80	8,146.2	-358.7	184.3	403.3	12.00	12.00	0.00
8,375.0	84.06	152.80	8,149.4	-380.7	195.6	428.1	12.00	12.00	0.00
8,400.0	87.06	152.80	8,151.3	-402.9	207.0	453.0	12.00	12.00	0.00
8,424.5	90.00	152.80	8,152.0	-424.7	218.2	477.5	12.00	12.00	0.00
7"									
8,500.0	90.00	152.80	8,152.0	-491.8	252.7	553.0	0.00	0.00	0.00
8,600.0	90.00	152.80	8,152.0	-580.8	298.4	653.0	0.00	0.00	0.00
8,700.0	90.00	152.80	8,152.0	-669.7	344.1	753.0	0.00	0.00	0.00
8,800.0	90.00	152.80	8,152.0	-758.7	389.8	853.0	0.00	0.00	0.00
8,900.0	90.00	152.80	8,152.0	-847.6	435.5	953.0	0.00	0.00	0.00
9,000.0	90.00	152.80	8,152.0	-936.6	481.3	1,053.0	0.00	0.00	0.00
9,100.0	90.00	152.80	8,152.0	-1,025.5	527.0	1,153.0	0.00	0.00	0.00
9,200.0	90.00	152.80	8,152.0	-1,114.4	572.7	1,253.0	0.00	0.00	0.00
9,300.0	90.00	152.80	8,152.0	-1,203.4	618.4	1,353.0	0.00	0.00	0.00
9,400.0	90.00	152.80	8,152.0	-1,292.3	664.1	1,453.0	0.00	0.00	0.00
9,500.0	90.00	152.80	8,152.0	-1,381.3	709.8	1,553.0	0.00	0.00	0.00
9,600.0	90.00	152.80	8,152.0	-1,470.2	755.5	1,653.0	0.00	0.00	0.00
9,700.0	90.00	152.80	8,152.0	-1,559.2	801.2	1,753.0	0.00	0.00	0.00
9,800.0	90.00	152.80	8,152.0	-1,648.1	846.9	1,853.0	0.00	0.00	0.00
9,900.0	90.00	152.80	8,152.0	-1,737.1	892.6	1,953.0	0.00	0.00	0.00
10,000.0	90.00	152.80	8,152.0	-1,826.0	938.3	2,053.0	0.00	0.00	0.00
10,100.0	90.00	152.80	8,152.0	-1,914.9	984.0	2,153.0	0.00	0.00	0.00
10,200.0	90.00	152.80	8,152.0	-2,003.9	1,029.7	2,253.0	0.00	0.00	0.00
10,300.0	90.00	152.80	8,152.0	-2,092.8	1,075.4	2,353.0	0.00	0.00	0.00
10,400.0	90.00	152.80	8,152.0	-2,181.8	1,121.1	2,453.0	0.00	0.00	0.00
10,500.0	90.00	152.80	8,152.0	-2,270.7	1,166.8	2,553.0	0.00	0.00	0.00
10,600.0	90.00	152.80	8,152.0	-2,359.7	1,212.5	2,653.0	0.00	0.00	0.00
10,700.0	90.00	152.80	8,152.0	-2,448.6	1,258.2	2,753.0	0.00	0.00	0.00
10,800.0	90.00	152.80	8,152.0	-2,537.6	1,303.9	2,853.0	0.00	0.00	0.00
10,900.0	90.00	152.80	8,152.0	-2,626.5	1,349.6	2,953.0	0.00	0.00	0.00
11,000.0	90.00	152.80	8,152.0	-2,715.4	1,395.3	3,053.0	0.00	0.00	0.00
11,100.0	90.00	152.80	8,152.0	-2,804.4	1,441.0	3,153.0	0.00	0.00	0.00
11,200.0	90.00	152.80	8,152.0	-2,893.3	1,486.7	3,253.0	0.00	0.00	0.00
11,300.0	90.00	152.80	8,152.0	-2,982.3	1,532.5	3,353.0	0.00	0.00	0.00
11,400.0	90.00	152.80	8,152.0	-3,071.2	1,578.2	3,453.0	0.00	0.00	0.00
11,500.0	90.00	152.80	8,152.0	-3,160.2	1,623.9	3,553.0	0.00	0.00	0.00
11,600.0	90.00	152.80	8,152.0	-3,249.1	1,669.6	3,653.0	0.00	0.00	0.00
11,700.0	90.00	152.80	8,152.0	-3,338.1	1,715.3	3,753.0	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Spring #04-10H
Company:	Denver Division- Colorado	TVD Reference:	WELL @ 5689.0ft (Original Well Elev)
Project:	DJ - Hereford Ranch	MD Reference:	WELL @ 5689.0ft (Original Well Elev)
Site:	Spring #04-10H	North Reference:	True
Well:	Spring #04-10H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	APD Directional Plan		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,800.0	90.00	152.80	8,152.0	-3,427.0	1,761.0	3,853.0	0.00	0.00	0.00
11,900.0	90.00	152.80	8,152.0	-3,515.9	1,806.7	3,953.0	0.00	0.00	0.00
12,000.0	90.00	152.80	8,152.0	-3,604.9	1,852.4	4,053.0	0.00	0.00	0.00
12,100.0	90.00	152.80	8,152.0	-3,693.8	1,898.1	4,153.0	0.00	0.00	0.00
12,200.0	90.00	152.80	8,152.0	-3,782.8	1,943.8	4,253.0	0.00	0.00	0.00
12,300.0	90.00	152.80	8,152.0	-3,871.7	1,989.5	4,353.0	0.00	0.00	0.00
12,400.0	90.00	152.80	8,152.0	-3,960.7	2,035.2	4,453.0	0.00	0.00	0.00
12,500.0	90.00	152.80	8,152.0	-4,049.6	2,080.9	4,553.0	0.00	0.00	0.00
12,600.0	90.00	152.80	8,152.0	-4,138.6	2,126.6	4,653.0	0.00	0.00	0.00
12,700.0	90.00	152.80	8,152.0	-4,227.5	2,172.3	4,753.0	0.00	0.00	0.00
12,800.0	90.00	152.80	8,152.0	-4,316.4	2,218.0	4,853.0	0.00	0.00	0.00
12,837.4	90.00	152.80	8,152.0	-4,349.7	2,235.1	4,890.4	0.00	0.00	0.00

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Spring #04-10H PBHL - plan hits target - Point	0.00	0.00	8,152.0	-4,349.7	2,235.1	550,612.77	2,174,496.83	40° 50' 35.280 N	104° 52' 9.670 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
12,837.4	8,152.0	4 1/2"	4-1/2	6	
1,470.0	1,470.0	9 5/8"	9-5/8	13-1/2	
8,424.5	8,152.0	7"	7	8-3/4	

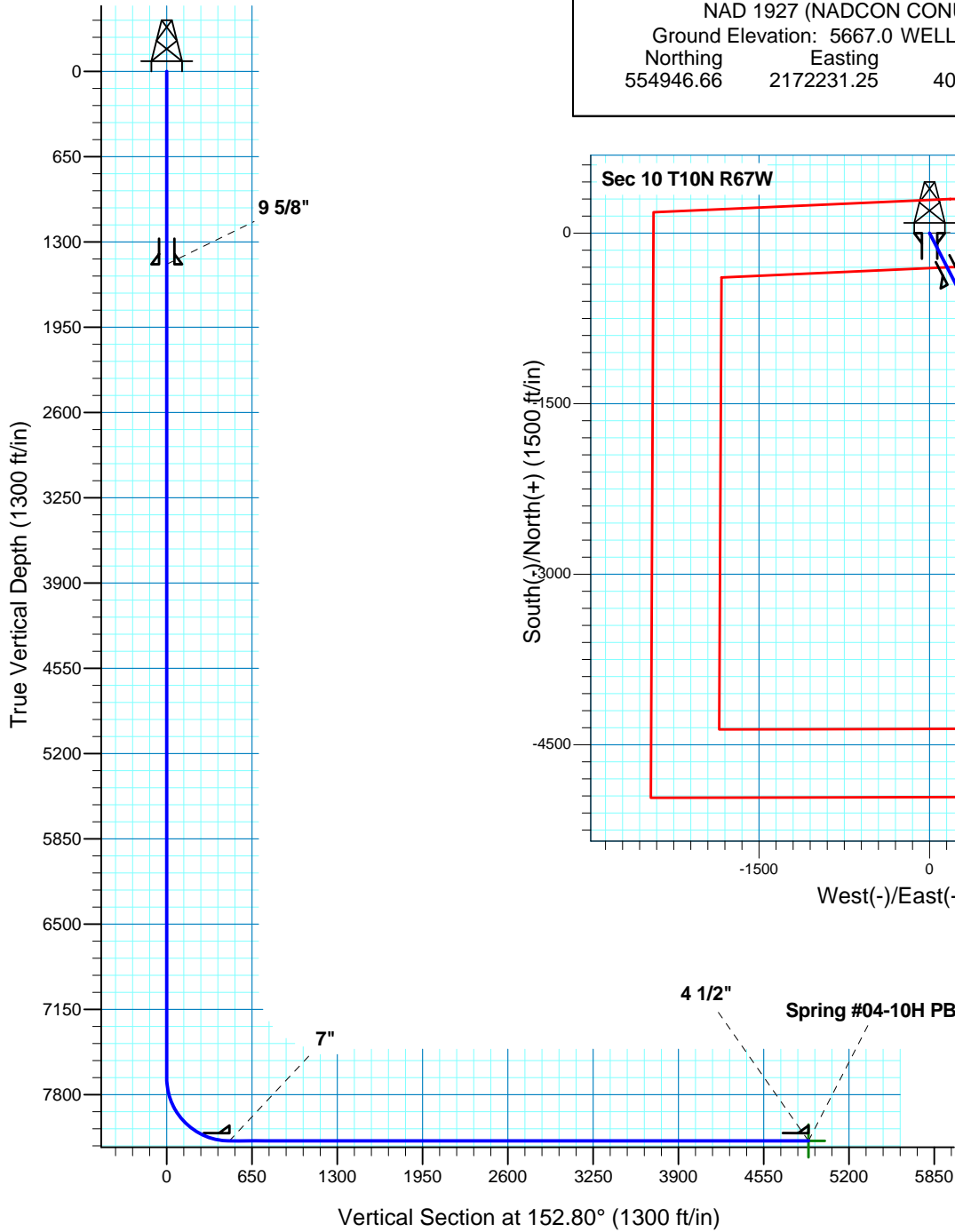
Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,072.0	1,072.0	White River	sandstone	0.00		
1,072.0	1,072.0	White River	Sandstone	0.00		
1,482.0	1,482.0	Pierre Shale	1_SHALE	0.00		
1,482.0	1,482.0	Pierre Shale	shale	0.00		
1,482.0	1,482.0	Pierre Shale	Shale	0.00		
4,442.0	4,442.0	Terry SS		0.00		
4,712.0	4,712.0	Hygiene		0.00		
8,008.6	7,982.0	Sharon Springs		0.00		
8,078.5	8,032.0	Niobrara		0.00		
8,164.7	8,083.0	B1 Chalk		0.00		
8,285.9	8,132.0	B-Chalk		0.00		
	8,152.0	Target Zone		0.00		

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well Spring #04-10H
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Project:	DJ - Hereford Ranch	MD Reference:	WELL @ 5689.0ft (Original Well Elev)
Site:	Spring #04-10H	North Reference:	True
Well:	Spring #04-10H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	APD Directional Plan		

Spring #04-10H
Section 10 T10N R67W
Weld County, CO

Surface Location

NAD 1927 (NADCON CONUS) Colorado North 501
Ground Elevation: 5667.0 WELL @ 5689.0ft (Original Well Elev)
Northing Easting Latitude Longitude
554946.66 2172231.25 40° 51' 18.260 N 104° 52' 38.750 W



T M Azimuths to True North
Magnetic North: 9.12°
Magnetic Field
Strength: 53521.0nT
Dip Angle: 67.45°
Date: 2009/12/31
Model: IGRF200510

Project: DJ - Hereford Ranch
Site: Spring #04-10H
Well: Spring #04-10H
Plan: APD Directional Plan

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	7674.5	0.00	0.00	7674.5	0.0	0.0	0.00	0.00	0.0	
3	8424.5	90.00	152.80	8152.0	-424.7	218.2	12.00	152.80	477.5	
4	12837.4	90.00	152.80	8152.0	-4349.7	2235.1	0.00	0.00	4890.4	Spring #04-10H PBHL

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Spring #04-10H PBHL	8152.0	-4349.7	2235.1	550612.77	2174496.83	40° 50' 35.280 N	104° 52' 9.670 W	Point