

Denver Division- Colorado

DJ - Hereford Ranch

Sandborn 07-20H

Sandborn 07-20H

Original Wellbore

Plan: APD Directional Plan

Standard Planning Report

07 March, 2011

EOG Resources Inc

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Site Sandborn 07-20H
Company:	Denver Division- Colorado	TVD Reference:	RIG @ 4661.00ft (TBD)
Project:	DJ - Hereford Ranch	MD Reference:	RIG @ 4661.00ft (TBD)
Site:	Sandborn 07-20H	North Reference:	True
Well:	Sandborn 07-20H	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	Sandborn 07-20H		
Site Position:		Northing:	384,435.61 ft
From:	Lat/Long	Easting:	2,355,411.97 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	40° 22' 54.041 N
		Longitude:	104° 13' 27.181 W
		Grid Convergence:	0.82 deg

Well	Sandborn 07-20H		
Well Position	+N/-S	0.00 ft	Northing: 384,435.61 ft
	+E/-W	0.00 ft	Easting: 2,355,411.97 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	40° 22' 54.041 N
		Longitude:	104° 13' 27.181 W
		Ground Level:	4,639.00 ft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (deg)	Dip Angle (deg)	Field Strength (nT)
	IGRF200510	3/3/2011	8.57	67.14	53,231

Design	APD Directional Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (deg)
	0.00	0.00	0.00	328.61

Plan Sections										
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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,003.14	0.03	320.00	1,003.14	0.00	0.00	1.00	1.00	0.00	320.00	
5,620.80	0.03	320.00	5,620.80	1.94	-1.63	0.00	0.00	0.00	0.00	
6,370.54	90.00	320.00	6,098.00	367.70	-308.54	12.00	12.00	0.00	0.00	Sandborn 07-20H (
6,776.18	90.00	330.14	6,098.00	699.84	-540.49	2.50	0.00	2.50	90.00	Sandborn 07-20H (I
10,400.88	90.00	330.14	6,098.00	3,843.37	-2,345.11	0.00	0.00	0.00	0.00	Sandborn 07-20H (I

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Site:	Sandborn 07-20H	North Reference:	True
Well:	Sandborn 07-20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	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
9-5/8"									
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
1,003.14	0.03	320.00	1,003.14	0.00	0.00	0.00	1.00	1.00	0.00
1,100.00	0.03	320.00	1,100.00	0.04	-0.03	0.05	0.00	0.00	0.00
1,200.00	0.03	320.00	1,200.00	0.08	-0.07	0.11	0.00	0.00	0.00
1,300.00	0.03	320.00	1,300.00	0.13	-0.11	0.16	0.00	0.00	0.00
1,400.00	0.03	320.00	1,400.00	0.17	-0.14	0.22	0.00	0.00	0.00
1,500.00	0.03	320.00	1,500.00	0.21	-0.18	0.27	0.00	0.00	0.00
1,600.00	0.03	320.00	1,600.00	0.25	-0.21	0.32	0.00	0.00	0.00
1,700.00	0.03	320.00	1,700.00	0.29	-0.25	0.38	0.00	0.00	0.00
1,800.00	0.03	320.00	1,800.00	0.34	-0.28	0.43	0.00	0.00	0.00
1,900.00	0.03	320.00	1,900.00	0.38	-0.32	0.49	0.00	0.00	0.00
2,000.00	0.03	320.00	2,000.00	0.42	-0.35	0.54	0.00	0.00	0.00
2,100.00	0.03	320.00	2,100.00	0.46	-0.39	0.60	0.00	0.00	0.00
2,200.00	0.03	320.00	2,200.00	0.50	-0.42	0.65	0.00	0.00	0.00
2,300.00	0.03	320.00	2,300.00	0.55	-0.46	0.70	0.00	0.00	0.00
2,400.00	0.03	320.00	2,400.00	0.59	-0.49	0.76	0.00	0.00	0.00
2,500.00	0.03	320.00	2,500.00	0.63	-0.53	0.81	0.00	0.00	0.00
2,600.00	0.03	320.00	2,600.00	0.67	-0.56	0.87	0.00	0.00	0.00
2,700.00	0.03	320.00	2,700.00	0.71	-0.60	0.92	0.00	0.00	0.00
2,800.00	0.03	320.00	2,800.00	0.76	-0.63	0.98	0.00	0.00	0.00
2,900.00	0.03	320.00	2,900.00	0.80	-0.67	1.03	0.00	0.00	0.00
3,000.00	0.03	320.00	3,000.00	0.84	-0.70	1.08	0.00	0.00	0.00
3,100.00	0.03	320.00	3,100.00	0.88	-0.74	1.14	0.00	0.00	0.00
3,200.00	0.03	320.00	3,200.00	0.92	-0.78	1.19	0.00	0.00	0.00
3,300.00	0.03	320.00	3,300.00	0.97	-0.81	1.25	0.00	0.00	0.00
3,400.00	0.03	320.00	3,400.00	1.01	-0.85	1.30	0.00	0.00	0.00
3,500.00	0.03	320.00	3,500.00	1.05	-0.88	1.36	0.00	0.00	0.00
3,600.00	0.03	320.00	3,600.00	1.09	-0.92	1.41	0.00	0.00	0.00
3,700.00	0.03	320.00	3,700.00	1.13	-0.95	1.46	0.00	0.00	0.00
3,800.00	0.03	320.00	3,800.00	1.18	-0.99	1.52	0.00	0.00	0.00
3,900.00	0.03	320.00	3,900.00	1.22	-1.02	1.57	0.00	0.00	0.00
4,000.00	0.03	320.00	4,000.00	1.26	-1.06	1.63	0.00	0.00	0.00
4,100.00	0.03	320.00	4,100.00	1.30	-1.09	1.68	0.00	0.00	0.00
4,200.00	0.03	320.00	4,200.00	1.34	-1.13	1.74	0.00	0.00	0.00
4,300.00	0.03	320.00	4,300.00	1.39	-1.16	1.79	0.00	0.00	0.00
4,400.00	0.03	320.00	4,400.00	1.43	-1.20	1.84	0.00	0.00	0.00
4,500.00	0.03	320.00	4,500.00	1.47	-1.23	1.90	0.00	0.00	0.00
4,600.00	0.03	320.00	4,600.00	1.51	-1.27	1.95	0.00	0.00	0.00
4,700.00	0.03	320.00	4,700.00	1.55	-1.30	2.01	0.00	0.00	0.00
4,800.00	0.03	320.00	4,800.00	1.60	-1.34	2.06	0.00	0.00	0.00
4,900.00	0.03	320.00	4,900.00	1.64	-1.37	2.11	0.00	0.00	0.00
5,000.00	0.03	320.00	5,000.00	1.68	-1.41	2.17	0.00	0.00	0.00

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Site:	Sandborn 07-20H	North Reference:	True
Well:	Sandborn 07-20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	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	0.03	320.00	5,100.00	1.72	-1.45	2.22	0.00	0.00	0.00
5,200.00	0.03	320.00	5,200.00	1.76	-1.48	2.28	0.00	0.00	0.00
5,300.00	0.03	320.00	5,300.00	1.81	-1.52	2.33	0.00	0.00	0.00
5,400.00	0.03	320.00	5,400.00	1.85	-1.55	2.39	0.00	0.00	0.00
5,500.00	0.03	320.00	5,500.00	1.89	-1.59	2.44	0.00	0.00	0.00
5,600.00	0.03	320.00	5,600.00	1.93	-1.62	2.49	0.00	0.00	0.00
5,620.80	0.03	320.00	5,620.80	1.94	-1.63	2.51	0.00	0.00	0.00
5,700.00	9.54	320.00	5,699.63	7.00	-5.87	9.03	12.00	12.00	0.00
5,800.00	21.54	320.00	5,795.80	27.48	-23.05	35.46	12.00	12.00	0.00
5,900.00	33.54	320.00	5,884.31	62.83	-52.72	81.09	12.00	12.00	0.00
6,000.00	45.54	320.00	5,961.30	111.50	-93.56	143.91	12.00	12.00	0.00
6,100.00	57.54	320.00	6,023.38	171.37	-143.80	221.19	12.00	12.00	0.00
6,200.00	69.54	320.00	6,067.87	239.82	-201.24	309.54	12.00	12.00	0.00
6,300.00	81.54	320.00	6,092.80	313.86	-263.36	405.10	12.00	12.00	0.00
6,370.54	90.00	320.00	6,098.00	367.70	-308.54	474.59	12.00	12.00	0.00
7" - Sandborn 07-20H (ICP)									
6,400.00	90.00	320.74	6,098.00	390.39	-327.33	503.75	2.50	0.00	2.50
6,500.00	90.00	323.24	6,098.00	469.17	-388.91	603.07	2.50	0.00	2.50
6,600.00	90.00	325.74	6,098.00	550.56	-447.00	702.81	2.50	0.00	2.50
6,700.00	90.00	328.24	6,098.00	634.41	-501.47	802.76	2.50	0.00	2.50
6,776.18	90.00	330.14	6,098.00	699.84	-540.49	878.93	2.50	0.00	2.50
6,800.00	90.00	330.14	6,098.00	720.50	-552.35	902.74	0.00	0.00	0.00
6,900.00	90.00	330.14	6,098.00	807.22	-602.14	1,002.71	0.00	0.00	0.00
7,000.00	90.00	330.14	6,098.00	893.95	-651.93	1,102.67	0.00	0.00	0.00
7,100.00	90.00	330.14	6,098.00	980.67	-701.71	1,202.64	0.00	0.00	0.00
7,200.00	90.00	330.14	6,098.00	1,067.40	-751.50	1,302.60	0.00	0.00	0.00
7,300.00	90.00	330.14	6,098.00	1,154.12	-801.29	1,402.57	0.00	0.00	0.00
7,400.00	90.00	330.14	6,098.00	1,240.85	-851.07	1,502.53	0.00	0.00	0.00
7,500.00	90.00	330.14	6,098.00	1,327.57	-900.86	1,602.49	0.00	0.00	0.00
7,600.00	90.00	330.14	6,098.00	1,414.30	-950.65	1,702.46	0.00	0.00	0.00
7,700.00	90.00	330.14	6,098.00	1,501.02	-1,000.43	1,802.42	0.00	0.00	0.00
7,800.00	90.00	330.14	6,098.00	1,587.75	-1,050.22	1,902.39	0.00	0.00	0.00
7,900.00	90.00	330.14	6,098.00	1,674.47	-1,100.01	2,002.35	0.00	0.00	0.00
8,000.00	90.00	330.14	6,098.00	1,761.20	-1,149.79	2,102.32	0.00	0.00	0.00
8,100.00	90.00	330.14	6,098.00	1,847.92	-1,199.58	2,202.28	0.00	0.00	0.00
8,200.00	90.00	330.14	6,098.00	1,934.65	-1,249.37	2,302.24	0.00	0.00	0.00
8,300.00	90.00	330.14	6,098.00	2,021.38	-1,299.15	2,402.21	0.00	0.00	0.00
8,400.00	90.00	330.14	6,098.00	2,108.10	-1,348.94	2,502.17	0.00	0.00	0.00
8,500.00	90.00	330.14	6,098.00	2,194.83	-1,398.73	2,602.14	0.00	0.00	0.00
8,600.00	90.00	330.14	6,098.00	2,281.55	-1,448.51	2,702.10	0.00	0.00	0.00
8,700.00	90.00	330.14	6,098.00	2,368.28	-1,498.30	2,802.07	0.00	0.00	0.00
8,800.00	90.00	330.14	6,098.00	2,455.00	-1,548.09	2,902.03	0.00	0.00	0.00
8,900.00	90.00	330.14	6,098.00	2,541.73	-1,597.87	3,001.99	0.00	0.00	0.00
9,000.00	90.00	330.14	6,098.00	2,628.45	-1,647.66	3,101.96	0.00	0.00	0.00
9,100.00	90.00	330.14	6,098.00	2,715.18	-1,697.45	3,201.92	0.00	0.00	0.00
9,200.00	90.00	330.14	6,098.00	2,801.90	-1,747.23	3,301.89	0.00	0.00	0.00
9,300.00	90.00	330.14	6,098.00	2,888.63	-1,797.02	3,401.85	0.00	0.00	0.00
9,400.00	90.00	330.14	6,098.00	2,975.35	-1,846.81	3,501.82	0.00	0.00	0.00
9,500.00	90.00	330.14	6,098.00	3,062.08	-1,896.59	3,601.78	0.00	0.00	0.00
9,600.00	90.00	330.14	6,098.00	3,148.80	-1,946.38	3,701.74	0.00	0.00	0.00
9,700.00	90.00	330.14	6,098.00	3,235.53	-1,996.17	3,801.71	0.00	0.00	0.00
9,800.00	90.00	330.14	6,098.00	3,322.26	-2,045.95	3,901.67	0.00	0.00	0.00
9,900.00	90.00	330.14	6,098.00	3,408.98	-2,095.74	4,001.64	0.00	0.00	0.00

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Well:	Sandborn 07-20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	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	330.14	6,098.00	3,495.71	-2,145.53	4,101.60	0.00	0.00	0.00
10,100.00	90.00	330.14	6,098.00	3,582.43	-2,195.31	4,201.57	0.00	0.00	0.00
10,200.00	90.00	330.14	6,098.00	3,669.16	-2,245.10	4,301.53	0.00	0.00	0.00
10,300.00	90.00	330.14	6,098.00	3,755.88	-2,294.89	4,401.49	0.00	0.00	0.00
10,400.00	90.00	330.14	6,098.00	3,842.61	-2,344.67	4,501.46	0.00	0.00	0.00
10,400.88	90.00	330.14	6,098.00	3,843.37	-2,345.11	4,502.34	0.00	0.00	0.00
4 1/2" - Sandborn 07-20H (BHL)									

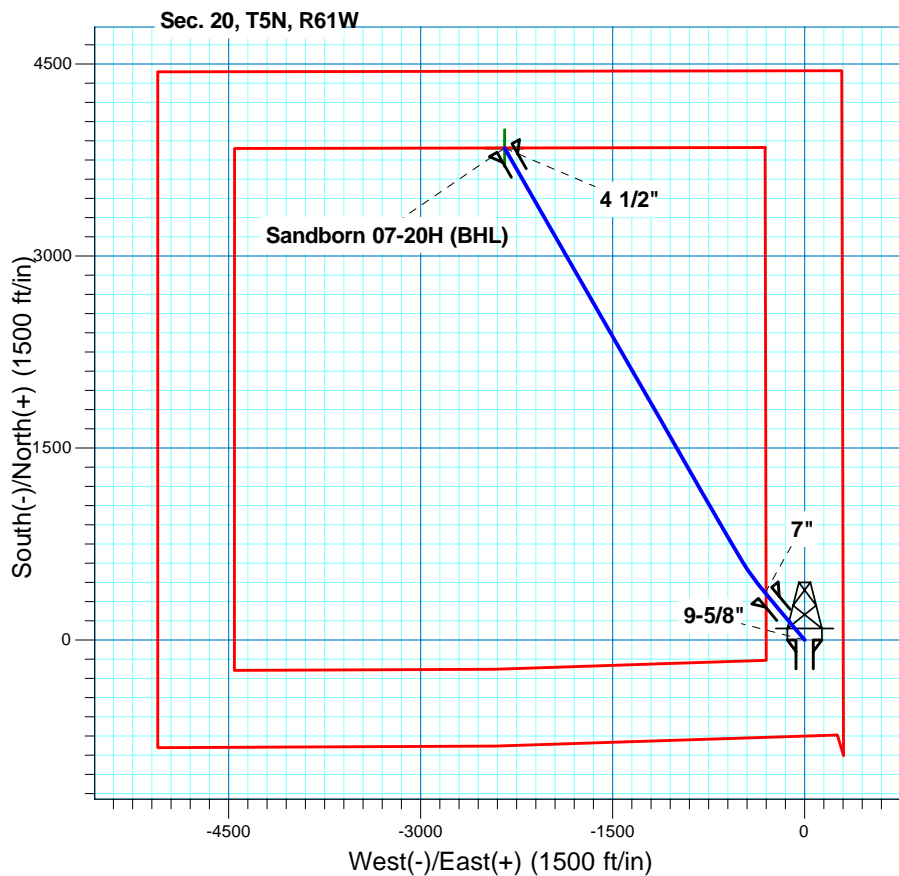
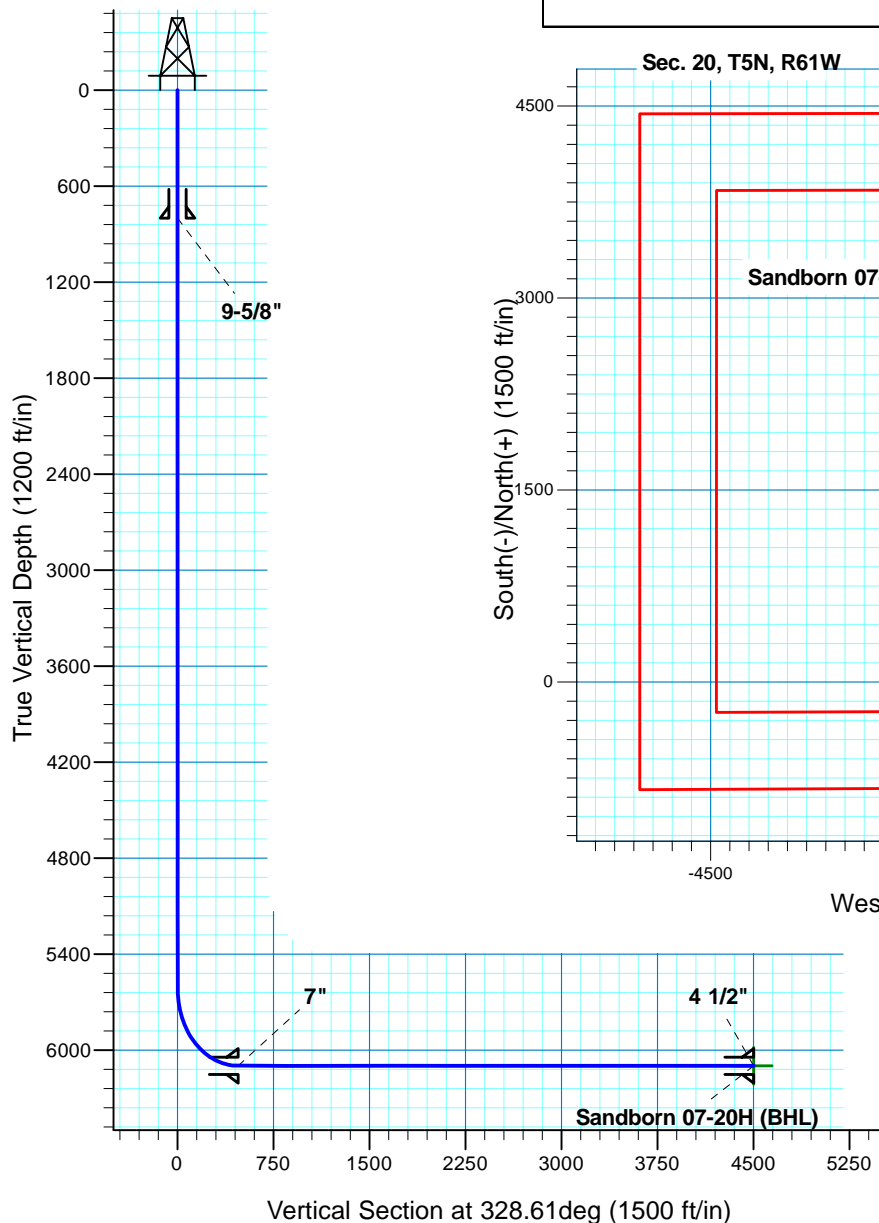
Targets									
Target Name	Dip Angle (deg)	Dip Dir. (deg)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Sandborn 07-20H (BHL)	0.00	0.00	6,098.00	3,843.37	-2,345.11	388,244.85	2,353,011.81	40° 23' 32.021 N	104° 13' 57.490 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
800.00	800.00	9-5/8"	9-5/8	13-1/2	
6,370.54	6,098.00	7"	7	8-3/4	
10,400.88	6,098.00	4 1/2"	4-1/2	6	

Sandborn 07-20H
Section 20 T5N R61W
Weld County, CO

Surface Location

NAD 1927 (NADCON CONUS) Colorado North 501
 Ground Elevation: 4639.00 RIG @ 4661.00ft (TBD)
 Northing Easting Latitude Longitude
 384435.61 2355411.97 40° 22' 54.041 N 104° 13' 27.181 W



T M
 Azimuths to True North
 Magnetic North: 8.57°
 Magnetic Field
 Strength: 53231.0nT
 Dip Angle: 67.14°
 Date: 3/3/2011
 Model: IGRF200510

Project: DJ - Hereford Ranch
 Site: Sandborn 07-20H
 Well: Sandborn 07-20H
 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	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
3	1003.14	0.03	320.00	1003.14	0.00	0.00	1.00	320.00	0.00	
4	5620.80	0.03	320.00	5620.80	1.94	-1.63	0.00	0.00	2.51	
5	6370.54	90.00	320.00	6098.00	367.70	-308.54	12.00	0.00	474.59	Sandborn 07-20H (ICP)
6	6776.18	90.00	330.14	6098.00	699.84	-540.49	2.50	90.00	878.93	Sandborn 07-20H (BHL)
7	10400.88	90.00	330.14	6098.00	3843.37	-2345.11	0.00	0.00	4502.34	Sandborn 07-20H (BHL)

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Sandborn 07-20H (BHL)	6098.00	3843.37	-2345.11	388244.85	2353011.81	40° 23' 32.021 N	104° 13' 57.490 W	Point