

# **Denver Division- Colorado**

**DJ - Hereford Ranch**

**Greasewood 07-17H**

**Greasewood 07-17H**

**Original Wellbore**

**Plan: APD Directional Plan**

## **Standard Planning Report**

**21 July, 2011**

# EOG Resources Inc

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Site Greasewood 07-17H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	RIG @ 4715.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 4715.00ft (TBD)
<b>Site:</b>	Greasewood 07-17H	<b>North Reference:</b>	True
<b>Well:</b>	Greasewood 07-17H	<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		

Site		Greasewood 07-17H			
Site Position:		Northing:	425,223.16 ft	Latitude:	40° 29' 37.831 N
From:	Lat/Long	Easting:	2,350,003.75 ft	Longitude:	104° 14' 29.580 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.81 deg

Well		Greasewood 07-17H				
Well Position	+N-S	0.00 ft	Northing:	425,223.16 ft	Latitude:	40° 29' 37.831 N
	+E-W	0.00 ft	Easting:	2,350,003.75 ft	Longitude:	104° 14' 29.580 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,693.00 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	7/21/2011	8.53	67.22	53,247

<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	149.66

<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	
5,794.53	0.00	0.00	5,794.53	0.00	0.00	0.00	0.00	0.00	0.00	
6,544.54	90.00	123.00	6,272.00	-260.05	400.44	12.00	12.00	16.40	123.00	Greasewood 07-17I
7,939.47	90.00	157.87	6,272.00	-1,318.90	1,275.26	2.50	0.00	2.50	90.00	Greasewood 07-17I
10,979.10	90.00	157.87	6,272.00	-4,134.67	2,420.16	0.00	0.00	0.00	0.00	Greasewood 07-17I

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<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 4715.00ft (TBD)
<b>Site:</b>	Greasewood 07-17H	<b>North Reference:</b>	True
<b>Well:</b>	Greasewood 07-17H	<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
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
1,100.00	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
1,600.00	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
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

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<b>Site:</b>	Greasewood 07-17H	<b>North Reference:</b>	True
<b>Well:</b>	Greasewood 07-17H	<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)
5,300.00	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
5,794.53	0.00	0.00	5,794.53	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.66	123.00	5,800.00	-0.02	0.03	0.03	12.00	12.00	0.00
5,900.00	12.66	123.00	5,899.14	-6.32	9.73	10.37	12.00	12.00	0.00
6,000.00	24.66	123.00	5,993.72	-23.71	36.51	38.90	12.00	12.00	0.00
6,100.00	36.66	123.00	6,079.58	-51.43	79.19	84.39	12.00	12.00	0.00
6,200.00	48.66	123.00	6,152.99	-88.26	135.92	144.83	12.00	12.00	0.00
6,300.00	60.66	123.00	6,210.74	-132.61	204.20	217.60	12.00	12.00	0.00
6,400.00	72.66	123.00	6,250.29	-182.52	281.06	299.50	12.00	12.00	0.00
6,500.00	84.66	123.00	6,269.92	-235.83	363.14	386.97	12.00	12.00	0.00
6,544.54	90.00	123.00	6,272.00	-260.05	400.44	426.71	12.00	12.00	0.00
7"									
6,600.00	90.00	124.39	6,272.00	-290.81	446.58	476.58	2.50	0.00	2.50
6,700.00	90.00	126.89	6,272.00	-349.07	527.85	567.91	2.50	0.00	2.50
6,800.00	90.00	129.39	6,272.00	-410.82	606.50	660.93	2.50	0.00	2.50
6,900.00	90.00	131.89	6,272.00	-475.94	682.38	755.46	2.50	0.00	2.50
7,000.00	90.00	134.39	6,272.00	-544.31	755.34	851.32	2.50	0.00	2.50
7,100.00	90.00	136.89	6,272.00	-615.80	825.26	948.34	2.50	0.00	2.50
7,200.00	90.00	139.39	6,272.00	-690.27	891.99	1,046.31	2.50	0.00	2.50
7,300.00	90.00	141.89	6,272.00	-767.57	955.41	1,145.07	2.50	0.00	2.50
7,400.00	90.00	144.39	6,272.00	-847.57	1,015.39	1,244.41	2.50	0.00	2.50
7,500.00	90.00	146.89	6,272.00	-930.12	1,071.83	1,344.16	2.50	0.00	2.50
7,600.00	90.00	149.39	6,272.00	-1,015.04	1,124.62	1,444.12	2.50	0.00	2.50
7,700.00	90.00	151.89	6,272.00	-1,102.19	1,173.65	1,544.09	2.50	0.00	2.50
7,800.00	90.00	154.39	6,272.00	-1,191.39	1,218.83	1,643.90	2.50	0.00	2.50
7,900.00	90.00	156.89	6,272.00	-1,282.47	1,260.08	1,743.35	2.50	0.00	2.50
7,939.47	90.00	157.87	6,272.00	-1,318.90	1,275.26	1,782.46	2.50	0.00	2.50
8,000.00	90.00	157.87	6,272.00	-1,374.98	1,298.06	1,842.37	0.00	0.00	0.00
8,100.00	90.00	157.87	6,272.00	-1,467.61	1,335.73	1,941.34	0.00	0.00	0.00
8,200.00	90.00	157.87	6,272.00	-1,560.25	1,373.39	2,040.32	0.00	0.00	0.00
8,300.00	90.00	157.87	6,272.00	-1,652.89	1,411.06	2,139.29	0.00	0.00	0.00
8,400.00	90.00	157.87	6,272.00	-1,745.52	1,448.72	2,238.27	0.00	0.00	0.00
8,500.00	90.00	157.87	6,272.00	-1,838.16	1,486.39	2,337.24	0.00	0.00	0.00
8,600.00	90.00	157.87	6,272.00	-1,930.79	1,524.06	2,436.21	0.00	0.00	0.00
8,700.00	90.00	157.87	6,272.00	-2,023.43	1,561.72	2,535.19	0.00	0.00	0.00
8,800.00	90.00	157.87	6,272.00	-2,116.06	1,599.39	2,634.16	0.00	0.00	0.00
8,900.00	90.00	157.87	6,272.00	-2,208.70	1,637.05	2,733.14	0.00	0.00	0.00
9,000.00	90.00	157.87	6,272.00	-2,301.33	1,674.72	2,832.11	0.00	0.00	0.00
9,100.00	90.00	157.87	6,272.00	-2,393.97	1,712.38	2,931.08	0.00	0.00	0.00
9,200.00	90.00	157.87	6,272.00	-2,486.60	1,750.05	3,030.06	0.00	0.00	0.00
9,300.00	90.00	157.87	6,272.00	-2,579.24	1,787.72	3,129.03	0.00	0.00	0.00
9,400.00	90.00	157.87	6,272.00	-2,671.87	1,825.38	3,228.00	0.00	0.00	0.00
9,500.00	90.00	157.87	6,272.00	-2,764.51	1,863.05	3,326.98	0.00	0.00	0.00
9,600.00	90.00	157.87	6,272.00	-2,857.14	1,900.71	3,425.95	0.00	0.00	0.00
9,700.00	90.00	157.87	6,272.00	-2,949.78	1,938.38	3,524.93	0.00	0.00	0.00
9,800.00	90.00	157.87	6,272.00	-3,042.41	1,976.04	3,623.90	0.00	0.00	0.00
9,900.00	90.00	157.87	6,272.00	-3,135.05	2,013.71	3,722.87	0.00	0.00	0.00
10,000.00	90.00	157.87	6,272.00	-3,227.68	2,051.38	3,821.85	0.00	0.00	0.00
10,100.00	90.00	157.87	6,272.00	-3,320.32	2,089.04	3,920.82	0.00	0.00	0.00

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<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 4715.00ft (TBD)
<b>Site:</b>	Greasewood 07-17H	<b>North Reference:</b>	True
<b>Well:</b>	Greasewood 07-17H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Wellbore		
<b>Design:</b>	APD Directional Plan		

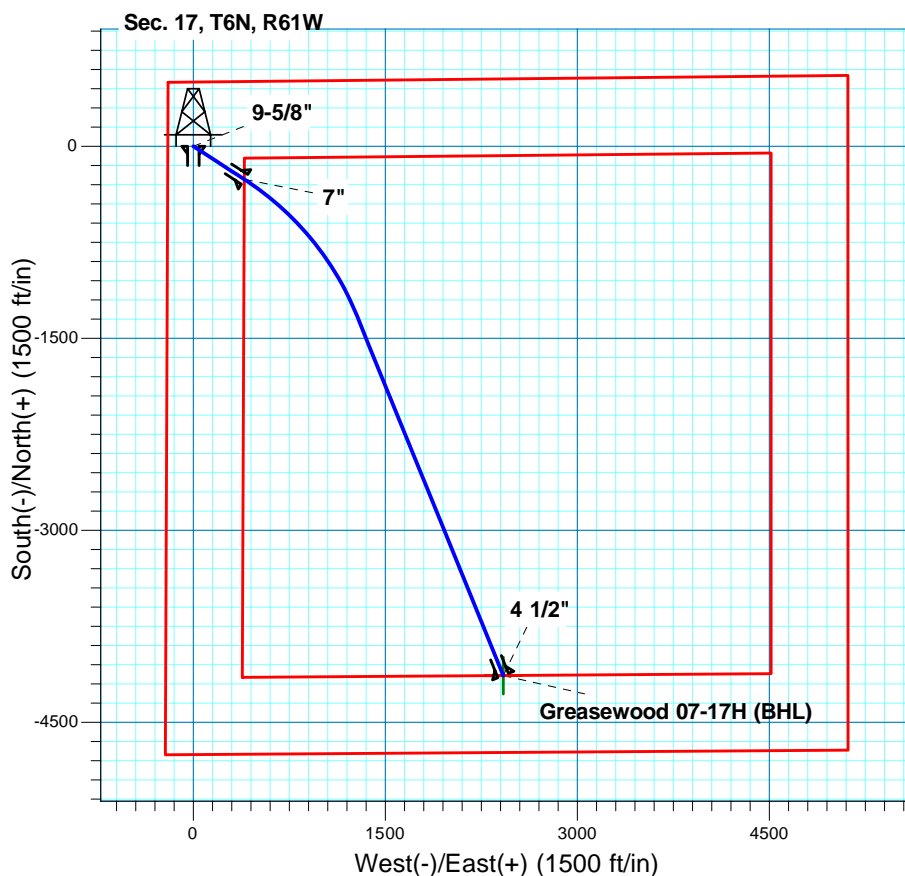
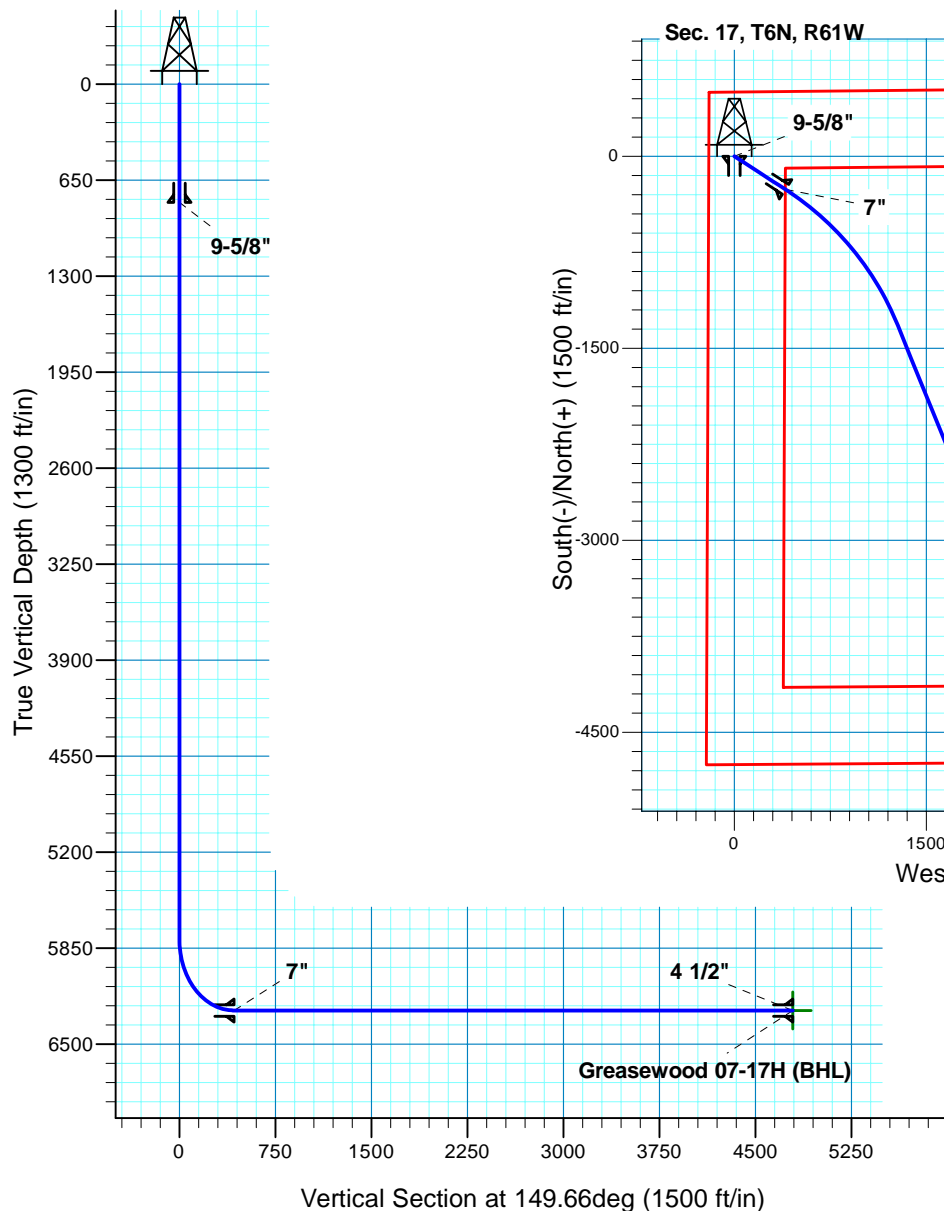
Planned Survey									
Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (?/100ft)	Build Rate (?/100ft)	Turn Rate (?/100ft)
10,200.00	90.00	157.87	6,272.00	-3,412.96	2,126.71	4,019.80	0.00	0.00	0.00
10,300.00	90.00	157.87	6,272.00	-3,505.59	2,164.37	4,118.77	0.00	0.00	0.00
10,400.00	90.00	157.87	6,272.00	-3,598.23	2,202.04	4,217.74	0.00	0.00	0.00
10,500.00	90.00	157.87	6,272.00	-3,690.86	2,239.71	4,316.72	0.00	0.00	0.00
10,600.00	90.00	157.87	6,272.00	-3,783.50	2,277.37	4,415.69	0.00	0.00	0.00
10,700.00	90.00	157.87	6,272.00	-3,876.13	2,315.04	4,514.67	0.00	0.00	0.00
10,800.00	90.00	157.87	6,272.00	-3,968.77	2,352.70	4,613.64	0.00	0.00	0.00
10,900.00	90.00	157.87	6,272.00	-4,061.40	2,390.37	4,712.61	0.00	0.00	0.00
10,979.10	90.00	157.87	6,272.00	-4,134.67	2,420.16	4,790.90	0.00	0.00	0.00
Greasewood 07-17H (BHL)									

Design 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									
Greasewood 07-17H (	0.00	0.00	6,272.00	-4,134.67	2,420.16	421,123.25	2,352,482.33	40° 28' 56.971 N	104° 13' 58.260 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	
6,544.54	6,272.00	7"	7	8-3/4	
10,979.10	6,272.00	4 1/2"	4-1/2	6	

# **Greasewood 07-17H** **Section 17 T6N R61W** **Weld County, CO**

Surface Location					
NAD 1927 (NADCON CONUS) Colorado North 501					
Ground Elevation: 4693.00 RIG @ 4715.00ft (TBD)					
Northing	Easting	Latitude	Longitude		
425223.16	2350003.75	40° 29' 37.831 N	104° 14' 29.580 W		



**T M**  
 Azimuths to True North  
 Magnetic North: 8.53°  
 Magnetic Field  
 Strength: 53247.3snT  
 Dip Angle: 67.22°  
 Date: 7/21/2011  
 Model: IGRF200510

Project: DJ - Hereford Ranch  
 Site: Greasewood 07-17H  
 Well: Greasewood 07-17H  
 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	5794.53	0.00	0.00	5794.53	0.00	0.00	0.00	0.00	0.00	
3	6544.54	90.00	123.00	6272.00	-260.05	400.44	12.00	123.00	426.71	Greasewood 07-17H (BHL)
4	7939.47	90.00	157.87	6272.00	-1318.90	1275.26	2.50	90.00	1782.46	Greasewood 07-17H (BHL)
5	10979.10	90.00	157.87	6272.00	-4134.67	2420.16	0.00	0.00	4790.90	Greasewood 07-17H (BHL)
TARGET DETAILS										
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape		
Greasewood 07-17H (BHL)	6272.00	-4134.67	2420.16	421123.25	2352482.33	40° 28' 56.971 N	104° 13' 58.260 W	Point		