

# **Denver Division- Colorado**

**DJ - Hereford Ranch**

**Dutch Lake 17-25H**

**Dutch Lake 17-25H**

**Original Wellbore**

**Plan: APD Directional Plan**

## **Standard Planning Report**

**08 March, 2011**

# EOG Resources Inc

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Site Dutch Lake 17-25H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	RIG @ 4694.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 4694.00ft (TBD)
<b>Site:</b>	Dutch Lake 17-25H	<b>North Reference:</b>	True
<b>Well:</b>	Dutch Lake 17-25H	<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>	Dutch Lake 17-25H		
<b>Site Position:</b>		<b>Northing:</b>	414,411.26 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,339,925.10 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 27' 52.391 N
		<b>Longitude:</b>	104° 16' 41.948 W
		<b>Grid Convergence:</b>	0.79 deg

<b>Well</b>	Dutch Lake 17-25H		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 414,411.26 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,339,925.10 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40° 27' 52.391 N
		<b>Longitude:</b>	104° 16' 41.948 W
		<b>Ground Level:</b>	4,672.00 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	3/8/2011	8.60	67.20	53,267

<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	153.72

<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	
5,800.53	0.00	0.00	5,800.53	0.00	0.00	0.00	0.00	0.00	0.00	
6,550.54	90.00	153.72	6,278.00	-428.12	211.40	12.00	12.00	0.00	153.72	
10,675.42	90.00	153.72	6,278.00	-4,126.67	2,037.71	0.00	0.00	0.00	0.00	Dutch Lake 17-25H

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<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	RIG @ 4694.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 4694.00ft (TBD)
<b>Site:</b>	Dutch Lake 17-25H	<b>North Reference:</b>	True
<b>Well:</b>	Dutch Lake 17-25H	<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
<b>9-5/8"</b>									
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

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<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 4694.00ft (TBD)
<b>Site:</b>	Dutch Lake 17-25H	<b>North Reference:</b>	True
<b>Well:</b>	Dutch Lake 17-25H	<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)
5,200.00	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
5,800.53	0.00	0.00	5,800.53	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	11.94	153.72	5,899.28	-9.26	4.57	10.32	12.00	12.00	0.00
6,000.00	23.94	153.72	5,994.25	-36.82	18.18	41.06	12.00	12.00	0.00
6,100.00	35.94	153.72	6,080.75	-81.48	40.23	90.87	12.00	12.00	0.00
6,200.00	47.94	153.72	6,155.00	-141.29	69.77	157.58	12.00	12.00	0.00
6,300.00	59.94	153.72	6,213.76	-213.64	105.49	238.27	12.00	12.00	0.00
6,400.00	71.94	153.72	6,254.47	-295.36	145.85	329.41	12.00	12.00	0.00
6,500.00	83.94	153.72	6,275.33	-382.89	189.07	427.02	12.00	12.00	0.00
6,550.54	90.00	153.72	6,278.00	-428.12	211.40	477.47	12.00	12.00	0.00
7"									
6,600.00	90.00	153.72	6,278.00	-472.47	233.30	526.93	0.00	0.00	0.00
6,700.00	90.00	153.72	6,278.00	-562.13	277.58	626.93	0.00	0.00	0.00
6,800.00	90.00	153.72	6,278.00	-651.80	321.85	726.93	0.00	0.00	0.00
6,900.00	90.00	153.72	6,278.00	-741.46	366.13	826.93	0.00	0.00	0.00
7,000.00	90.00	153.72	6,278.00	-831.13	410.40	926.93	0.00	0.00	0.00
7,100.00	90.00	153.72	6,278.00	-920.79	454.68	1,026.93	0.00	0.00	0.00
7,200.00	90.00	153.72	6,278.00	-1,010.45	498.95	1,126.93	0.00	0.00	0.00
7,300.00	90.00	153.72	6,278.00	-1,100.12	543.23	1,226.93	0.00	0.00	0.00
7,400.00	90.00	153.72	6,278.00	-1,189.78	587.50	1,326.93	0.00	0.00	0.00
7,500.00	90.00	153.72	6,278.00	-1,279.45	631.78	1,426.93	0.00	0.00	0.00
7,600.00	90.00	153.72	6,278.00	-1,369.11	676.05	1,526.93	0.00	0.00	0.00
7,700.00	90.00	153.72	6,278.00	-1,458.78	720.33	1,626.93	0.00	0.00	0.00
7,800.00	90.00	153.72	6,278.00	-1,548.44	764.61	1,726.93	0.00	0.00	0.00
7,900.00	90.00	153.72	6,278.00	-1,638.10	808.88	1,826.93	0.00	0.00	0.00
8,000.00	90.00	153.72	6,278.00	-1,727.77	853.16	1,926.93	0.00	0.00	0.00
8,100.00	90.00	153.72	6,278.00	-1,817.43	897.43	2,026.93	0.00	0.00	0.00
8,200.00	90.00	153.72	6,278.00	-1,907.10	941.71	2,126.93	0.00	0.00	0.00
8,300.00	90.00	153.72	6,278.00	-1,996.76	985.98	2,226.93	0.00	0.00	0.00
8,400.00	90.00	153.72	6,278.00	-2,086.43	1,030.26	2,326.93	0.00	0.00	0.00
8,500.00	90.00	153.72	6,278.00	-2,176.09	1,074.53	2,426.93	0.00	0.00	0.00
8,600.00	90.00	153.72	6,278.00	-2,265.75	1,118.81	2,526.93	0.00	0.00	0.00
8,700.00	90.00	153.72	6,278.00	-2,355.42	1,163.08	2,626.93	0.00	0.00	0.00
8,800.00	90.00	153.72	6,278.00	-2,445.08	1,207.36	2,726.93	0.00	0.00	0.00
8,900.00	90.00	153.72	6,278.00	-2,534.75	1,251.64	2,826.93	0.00	0.00	0.00
9,000.00	90.00	153.72	6,278.00	-2,624.41	1,295.91	2,926.93	0.00	0.00	0.00
9,100.00	90.00	153.72	6,278.00	-2,714.08	1,340.19	3,026.93	0.00	0.00	0.00
9,200.00	90.00	153.72	6,278.00	-2,803.74	1,384.46	3,126.93	0.00	0.00	0.00
9,300.00	90.00	153.72	6,278.00	-2,893.40	1,428.74	3,226.93	0.00	0.00	0.00
9,400.00	90.00	153.72	6,278.00	-2,983.07	1,473.01	3,326.93	0.00	0.00	0.00
9,500.00	90.00	153.72	6,278.00	-3,072.73	1,517.29	3,426.93	0.00	0.00	0.00
9,600.00	90.00	153.72	6,278.00	-3,162.40	1,561.56	3,526.93	0.00	0.00	0.00
9,700.00	90.00	153.72	6,278.00	-3,252.06	1,605.84	3,626.93	0.00	0.00	0.00
9,800.00	90.00	153.72	6,278.00	-3,341.73	1,650.11	3,726.93	0.00	0.00	0.00
9,900.00	90.00	153.72	6,278.00	-3,431.39	1,694.39	3,826.93	0.00	0.00	0.00
10,000.00	90.00	153.72	6,278.00	-3,521.05	1,738.66	3,926.93	0.00	0.00	0.00
10,100.00	90.00	153.72	6,278.00	-3,610.72	1,782.94	4,026.93	0.00	0.00	0.00

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<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 4694.00ft (TBD)
<b>Site:</b>	Dutch Lake 17-25H	<b>North Reference:</b>	True
<b>Well:</b>	Dutch Lake 17-25H	<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	153.72	6,278.00	-3,700.38	1,827.22	4,126.93	0.00	0.00	0.00
10,300.00	90.00	153.72	6,278.00	-3,790.05	1,871.49	4,226.93	0.00	0.00	0.00
10,400.00	90.00	153.72	6,278.00	-3,879.71	1,915.77	4,326.93	0.00	0.00	0.00
10,500.00	90.00	153.72	6,278.00	-3,969.38	1,960.04	4,426.93	0.00	0.00	0.00
10,600.00	90.00	153.72	6,278.00	-4,059.04	2,004.32	4,526.93	0.00	0.00	0.00
10,675.42	90.00	153.72	6,278.00	-4,126.67	2,037.71	4,602.35	0.00	0.00	0.00
4 1/2" - Dutch Lake 17-25H (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									
Dutch Lake 17-25H (E	0.00	0.00	6,278.00	-4,126.67	2,037.71	410,313.06	2,342,019.46	40° 27' 11.610 N	104° 16' 15.589 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	
6,550.54	6,278.00	7"	7	8-3/4	
10,675.42	6,278.00	4 1/2"	4-1/2	6	

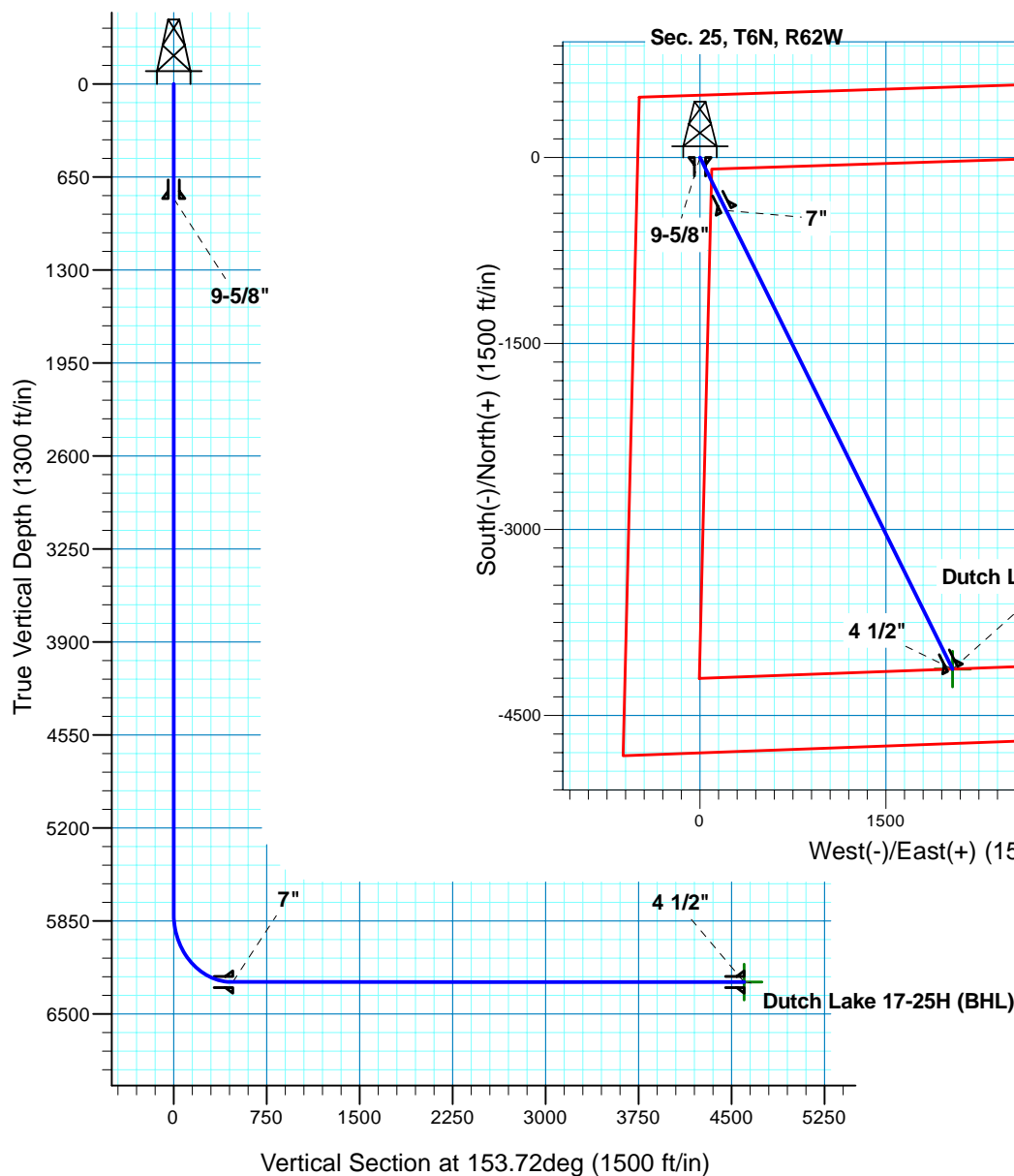
# Dutch Lake 17-25H

## Section 25 T6N R62W

### Weld County, CO

#### Surface Location

NAD 1927 (NADCON CONUS) Colorado North 501  
 Ground Elevation: 4672.00 RIG @ 4694.00ft (TBD)  
 Northing Easting Latitude Longitude  
 414411.26 2339925.10 40° 27' 52.391 N 104° 16' 41.948 W



**T M**  
 Azimuths to True North  
 Magnetic North: 8.60°  
 Magnetic Field  
 Strength: 53267.0nT  
 Dip Angle: 67.20°  
 Date: 3/8/2011  
 Model: IGRF200510

Project: DJ - Hereford Ranch  
 Site: Dutch Lake 17-25H  
 Well: Dutch Lake 17-25H  
 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	5800.53	0.00	0.00	5800.53	0.00	0.00	0.00	0.00	0.00	
3	6550.54	90.00	153.72	6278.00	-428.12	211.40	12.00	153.72	477.47	
4	10675.42	90.00	153.72	6278.00	-4126.67	2037.71	0.00	0.00	4602.35	Dutch Lake 17-25H (BHL)

#### TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Dutch Lake 17-25H (BHL)	6278.00	-4126.67	2037.71	410313.06	2342019.46	40° 27' 11.610 N	104° 16' 15.589 W	Point