

# **Denver Division- Colorado**

**DJ - Hereford Ranch  
Garden Creek 19-27H  
Garden Creek 19-27H  
Original Wellbore**

**Plan: APD Directional Plan**

## **Standard Planning Report**

**10 March, 2011**

# EOG Resources Inc

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Site Garden Creek 19-27H
<b>Company:</b>	Denver Division- Colorado	<b>TVD Reference:</b>	RIG @ 5119.00ft (TBD)
<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 5119.00ft (TBD)
<b>Site:</b>	Garden Creek 19-27H	<b>North Reference:</b>	True
<b>Well:</b>	Garden Creek 19-27H	<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>	Garden Creek 19-27H		
<b>Site Position:</b>		<b>Northing:</b>	568,405.61 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,332,157.23 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 53' 14.989 N
		<b>Longitude:</b>	104° 17' 55.450 W
		<b>Grid Convergence:</b>	0.78 deg

<b>Well</b>	Garden Creek 19-27H		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	40° 53' 14.989 N
		<b>Longitude:</b>	104° 17' 55.450 W
		<b>Ground Level:</b>	5,097.00 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	3/10/2011	8.64	67.54	53,480

<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	334.54

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (deg)</b>	<b>Azimuth (deg)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (?/100ft)</b>	<b>Build Rate (?/100ft)</b>	<b>Turn Rate (?/100ft)</b>	<b>TFO (deg)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,455.53	0.00	0.00	6,455.53	0.00	0.00	0.00	0.00	0.00	0.00	
7,205.54	90.00	334.54	6,933.00	431.11	-205.22	12.00	12.00	0.00	334.54	
11,354.12	90.00	334.54	6,933.00	4,176.93	-1,988.36	0.00	0.00	0.00	0.00	Garden Creek 19-2

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<b>Project:</b>	DJ - Hereford Ranch	<b>MD Reference:</b>	RIG @ 5119.00ft (TBD)
<b>Site:</b>	Garden Creek 19-27H	<b>North Reference:</b>	True
<b>Well:</b>	Garden Creek 19-27H	<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
9-5/8"									
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>Well:</b>	Garden Creek 19-27H	<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
5,900.00	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
6,455.53	0.00	0.00	6,455.53	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	5.34	334.54	6,499.94	1.87	-0.89	2.07	12.00	12.00	0.00
6,600.00	17.34	334.54	6,597.81	19.58	-9.32	21.69	12.00	12.00	0.00
6,700.00	29.34	334.54	6,689.46	55.28	-26.32	61.23	12.00	12.00	0.00
6,800.00	41.34	334.54	6,770.89	107.41	-51.13	118.96	12.00	12.00	0.00
6,900.00	53.34	334.54	6,838.53	173.68	-82.68	192.36	12.00	12.00	0.00
7,000.00	65.34	334.54	6,889.44	251.21	-119.58	278.22	12.00	12.00	0.00
7,100.00	77.34	334.54	6,921.38	336.60	-160.23	372.79	12.00	12.00	0.00
7,200.00	89.34	334.54	6,932.97	426.11	-202.84	471.93	12.00	12.00	0.00
7,205.54	90.00	334.54	6,933.00	431.12	-205.23	477.47	11.99	11.99	0.00
7"									
7,300.00	90.00	334.54	6,933.00	516.40	-245.83	571.93	0.00	0.00	0.00
7,400.00	90.00	334.54	6,933.00	606.70	-288.81	671.93	0.00	0.00	0.00
7,500.00	90.00	334.54	6,933.00	696.99	-331.79	771.93	0.00	0.00	0.00
7,600.00	90.00	334.54	6,933.00	787.28	-374.77	871.93	0.00	0.00	0.00
7,700.00	90.00	334.54	6,933.00	877.57	-417.75	971.93	0.00	0.00	0.00
7,800.00	90.00	334.54	6,933.00	967.86	-460.74	1,071.93	0.00	0.00	0.00
7,900.00	90.00	334.54	6,933.00	1,058.15	-503.72	1,171.93	0.00	0.00	0.00
8,000.00	90.00	334.54	6,933.00	1,148.45	-546.70	1,271.93	0.00	0.00	0.00
8,100.00	90.00	334.54	6,933.00	1,238.74	-589.68	1,371.93	0.00	0.00	0.00
8,200.00	90.00	334.54	6,933.00	1,329.03	-632.66	1,471.93	0.00	0.00	0.00
8,300.00	90.00	334.54	6,933.00	1,419.32	-675.64	1,571.93	0.00	0.00	0.00
8,400.00	90.00	334.54	6,933.00	1,509.61	-718.63	1,671.93	0.00	0.00	0.00
8,500.00	90.00	334.54	6,933.00	1,599.90	-761.61	1,771.93	0.00	0.00	0.00
8,600.00	90.00	334.54	6,933.00	1,690.19	-804.59	1,871.93	0.00	0.00	0.00
8,700.00	90.00	334.54	6,933.00	1,780.49	-847.57	1,971.93	0.00	0.00	0.00
8,800.00	90.00	334.54	6,933.00	1,870.78	-890.55	2,071.93	0.00	0.00	0.00
8,900.00	90.00	334.54	6,933.00	1,961.07	-933.54	2,171.93	0.00	0.00	0.00
9,000.00	90.00	334.54	6,933.00	2,051.36	-976.52	2,271.93	0.00	0.00	0.00
9,100.00	90.00	334.54	6,933.00	2,141.65	-1,019.50	2,371.93	0.00	0.00	0.00
9,200.00	90.00	334.54	6,933.00	2,231.94	-1,062.48	2,471.93	0.00	0.00	0.00
9,300.00	90.00	334.54	6,933.00	2,322.24	-1,105.46	2,571.93	0.00	0.00	0.00
9,400.00	90.00	334.54	6,933.00	2,412.53	-1,148.45	2,671.93	0.00	0.00	0.00
9,500.00	90.00	334.54	6,933.00	2,502.82	-1,191.43	2,771.93	0.00	0.00	0.00
9,600.00	90.00	334.54	6,933.00	2,593.11	-1,234.41	2,871.93	0.00	0.00	0.00
9,700.00	90.00	334.54	6,933.00	2,683.40	-1,277.39	2,971.93	0.00	0.00	0.00
9,800.00	90.00	334.54	6,933.00	2,773.69	-1,320.37	3,071.93	0.00	0.00	0.00
9,900.00	90.00	334.54	6,933.00	2,863.98	-1,363.35	3,171.93	0.00	0.00	0.00
10,000.00	90.00	334.54	6,933.00	2,954.28	-1,406.34	3,271.93	0.00	0.00	0.00
10,100.00	90.00	334.54	6,933.00	3,044.57	-1,449.32	3,371.93	0.00	0.00	0.00

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<b>Well:</b>	Garden Creek 19-27H	<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	334.54	6,933.00	3,134.86	-1,492.30	3,471.93	0.00	0.00	0.00
10,300.00	90.00	334.54	6,933.00	3,225.15	-1,535.28	3,571.93	0.00	0.00	0.00
10,400.00	90.00	334.54	6,933.00	3,315.44	-1,578.26	3,671.93	0.00	0.00	0.00
10,500.00	90.00	334.54	6,933.00	3,405.73	-1,621.25	3,771.93	0.00	0.00	0.00
10,600.00	90.00	334.54	6,933.00	3,496.02	-1,664.23	3,871.93	0.00	0.00	0.00
10,700.00	90.00	334.54	6,933.00	3,586.32	-1,707.21	3,971.93	0.00	0.00	0.00
10,800.00	90.00	334.54	6,933.00	3,676.61	-1,750.19	4,071.93	0.00	0.00	0.00
10,900.00	90.00	334.54	6,933.00	3,766.90	-1,793.17	4,171.93	0.00	0.00	0.00
11,000.00	90.00	334.54	6,933.00	3,857.19	-1,836.15	4,271.93	0.00	0.00	0.00
11,100.00	90.00	334.54	6,933.00	3,947.48	-1,879.14	4,371.93	0.00	0.00	0.00
11,200.00	90.00	334.54	6,933.00	4,037.77	-1,922.12	4,471.93	0.00	0.00	0.00
11,300.00	90.00	334.54	6,933.00	4,128.07	-1,965.10	4,571.93	0.00	0.00	0.00
11,354.12	90.00	334.54	6,933.00	4,176.93	-1,988.36	4,626.05	0.00	0.00	0.00
Garden Creek 19-27H (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									
Garden Creek 19-27H	0.00	0.00	6,933.00	4,176.93	-1,988.36	572,555.21	2,330,112.47	40° 53' 56.260 N	104° 18' 21.341 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,100.00	1,100.00	9-5/8"	9-5/8	13-1/2	
7,205.54	6,933.00	7"	7	8-3/4	
11,354.12	6,933.00	4 1/2"	4-1/2	6	

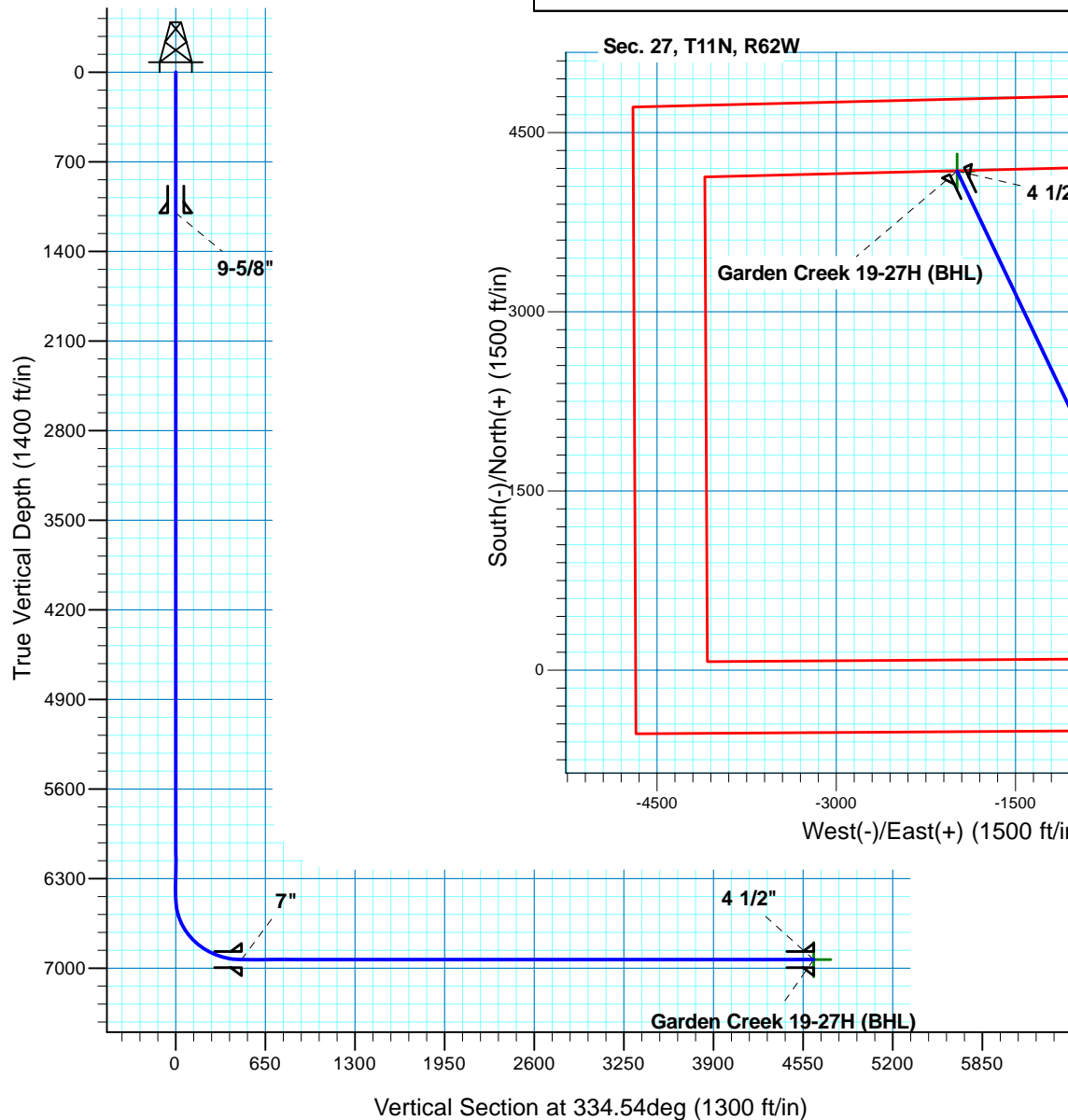
# Garden Creek 19-27H

## Section 27 T11N R62W

### Weld County, CO

#### Surface Location

NAD 1927 (NADCON CONUS) Colorado North 501  
 Ground Elevation: 5097.00 RIG @ 5119.00ft (TBD)  
 Northing Easting Latitude Longitude  
 568405.61 2332157.23 40° 53' 14.989 N 104° 17' 55.450 W



**M** Azimuths to True North  
 Magnetic North: 8.64°  
**A** Magnetic Field  
 Strength: 53479.9nT  
 Dip Angle: 67.54°  
 Date: 3/10/2011  
 Model: IGRF200510

Project: DJ - Hereford Ranch  
 Site: Garden Creek 19-27H  
 Well: Garden Creek 19-27H  
 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	6455.53	0.00	0.00	6455.53	0.00	0.00	0.00	0.00	0.00	
3	7205.54	90.00	334.54	6933.00	431.11	-205.22	12.00	334.54	477.47	
4	11354.12	90.00	334.54	6933.00	4176.93	-1988.36	0.00	0.00	4626.05	Garden Creek 19-27H (BHL)

#### TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Garden Creek 19-27H (BHL)	6933.00	4176.93	-1988.36	572555.21	2330112.47	40° 53' 56.260 N	104° 18' 21.341 W	