

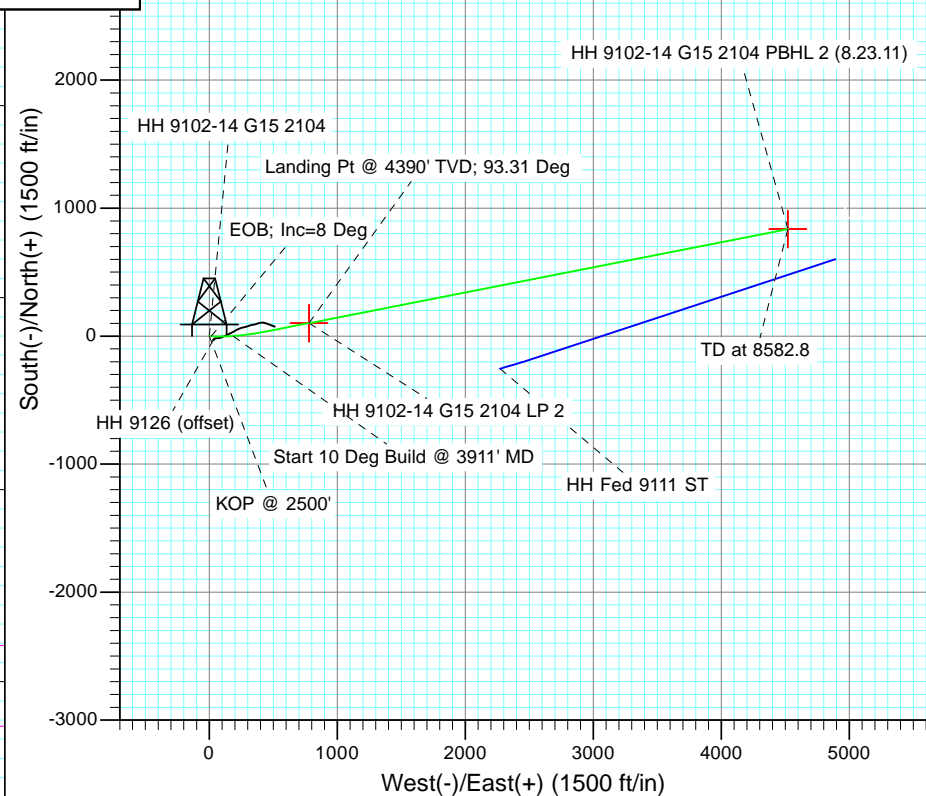
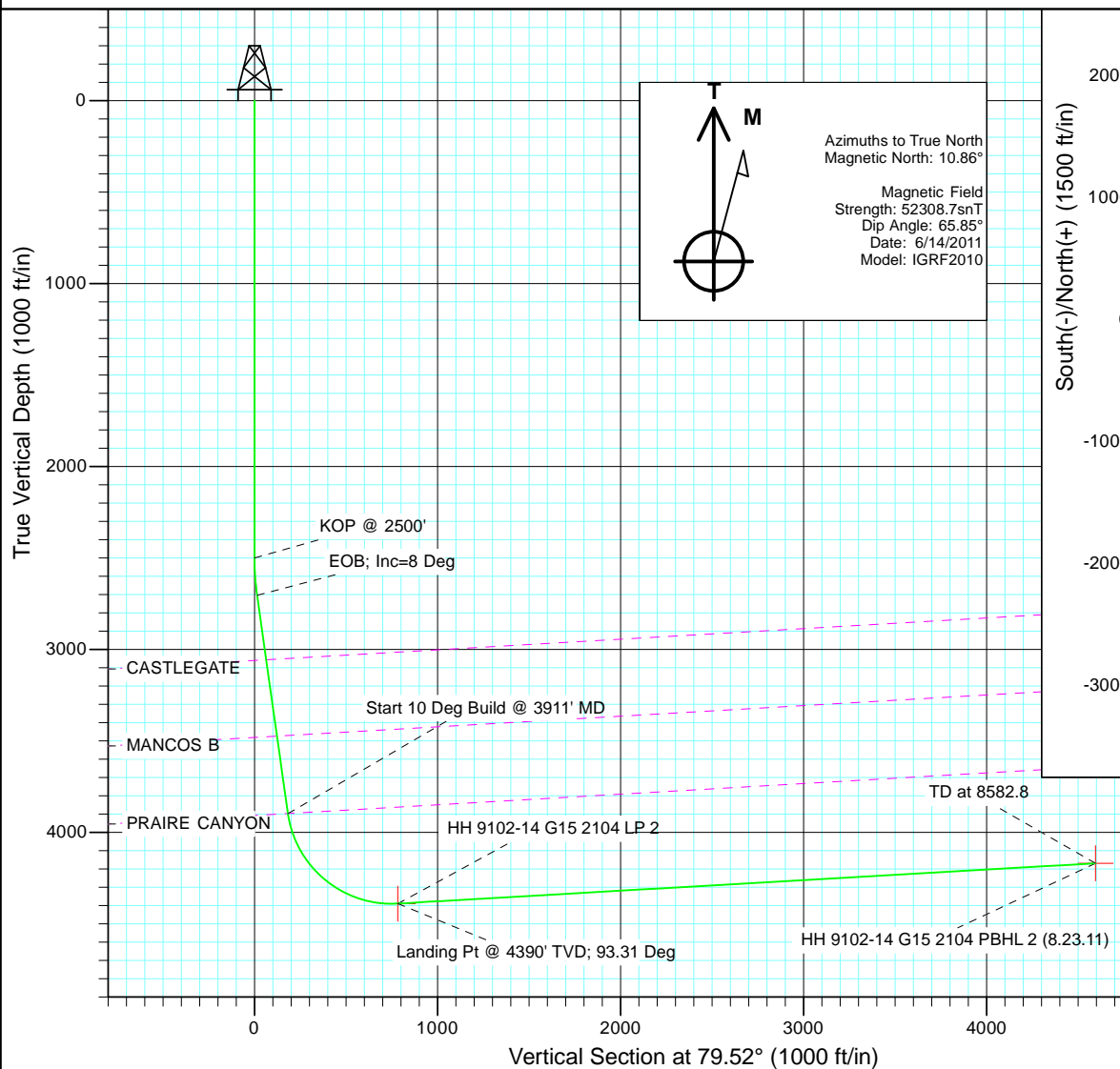


Project: Hell's Hole
Site: HH G-15 Pad
Well: HH 9102-14 G15 2104
Wellbore: HZ
Design: Plan #4



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	
3	2704.7	8.19	90.23	2704.0	-0.1	14.6	4.00	90.23	14.3	
4	3911.2	8.19	90.23	3898.2	-0.8	186.4	0.00	0.00	183.2	
5	4764.0	93.31	78.88	4390.0	100.5	778.4	10.00	-11.37	783.7	HH 9102-14 G15 2104 LP 2
6	8582.8	93.31	78.88	4169.5	835.8	4519.3	0.00	0.00	4595.9	HH 9102-14 G15 2104 PBHL 2 (8.23.11)



Plan #4 HH 9102-14 G15 2104 115XXX; SC						
KBE @ 6981.0ft (Original Well Elev) North American Datum 1983 Well HH 9102-14 G15 2104, True North						
Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	79.52	Slot	0.0	0.0	0.0
TVD						
+N/-S						
+E/-W						
Latitude						
Longitude						
HH 9102-14 G15 2104 PBHL 2 (8.23.11)	4169.5	924.1	4519.3	39° 52' 45.78 N	109° 1' 57.59 W	
HH 9102-14 G15 2104 LP 2	4390.0	139.3	776.9	39° 52' 38.52 N	109° 2' 45.57 W	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HH 9102-14 G15 2104
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6981.0ft (Original Well Elev)
Project:	Hell's Hole	MD Reference:	KBE @ 6981.0ft (Original Well Elev)
Site:	HH G-15 Pad	North Reference:	True
Well:	HH 9102-14 G15 2104	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #4		

Project	Hell's Hole		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	HH G-15 Pad			
Site Position:		Northing:	1,763,803.92 ft	Latitude: 39° 52' 37.39 N
From:	Lat/Long	Easting:	2,004,246.08 ft	Longitude: 109° 2' 55.17 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: -2.24 °

Well	HH 9102-14 G15 2104			
Well Position	+N/-S	0.0 ft	Northing:	1,763,819.19 ft
	+E/-W	0.0 ft	Easting:	2,004,216.55 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft
			Ground Level:	6,966.0 ft

Wellbore	HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/14/2011	10.87	65.85	52,309

Design	Plan #4				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	79.52	

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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,704.7	8.19	90.23	2,704.0	-0.1	14.6	4.00	4.00	0.00	90.23	
3,911.2	8.19	90.23	3,898.2	-0.8	186.4	0.00	0.00	0.00	0.00	
4,764.0	93.31	78.88	4,390.0	100.5	778.4	10.00	9.98	-1.33	-11.37	HH 9102-14 G15 2104
8,582.8	93.31	78.88	4,169.5	835.8	4,519.3	0.00	0.00	0.00	0.00	HH 9102-14 G15 2104

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HH 9102-14 G15 2104
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6981.0ft (Original Well Elev)
Project:	Hell's Hole	MD Reference:	KBE @ 6981.0ft (Original Well Elev)
Site:	HH G-15 Pad	North Reference:	True
Well:	HH 9102-14 G15 2104	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #4		

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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	KOP @ 2500'
2,600.0	4.00	90.23	2,599.9	0.0	3.5	3.4	4.00	4.00	
2,700.0	8.00	90.23	2,699.4	-0.1	13.9	13.7	4.00	4.00	
2,704.7	8.19	90.23	2,704.0	-0.1	14.6	14.3	4.00	4.00	EOB; Inc=8 Deg
2,800.0	8.19	90.23	2,798.3	-0.1	28.2	27.7	0.00	0.00	
2,900.0	8.19	90.23	2,897.3	-0.2	42.4	41.7	0.00	0.00	
3,000.0	8.19	90.23	2,996.3	-0.2	56.7	55.7	0.00	0.00	
3,061.6	8.19	90.23	3,057.3	-0.3	65.4	64.3	0.00	0.00	CASTLEGATE
3,100.0	8.19	90.23	3,095.3	-0.3	70.9	69.7	0.00	0.00	
3,200.0	8.19	90.23	3,194.3	-0.3	85.1	83.7	0.00	0.00	
3,300.0	8.19	90.23	3,293.2	-0.4	99.4	97.7	0.00	0.00	
3,400.0	8.19	90.23	3,392.2	-0.5	113.6	111.6	0.00	0.00	
3,483.5	8.19	90.23	3,474.8	-0.5	125.5	123.3	0.00	0.00	MANCOS B
3,500.0	8.19	90.23	3,491.2	-0.5	127.9	125.6	0.00	0.00	
3,600.0	8.19	90.23	3,590.2	-0.6	142.1	139.6	0.00	0.00	
3,700.0	8.19	90.23	3,689.2	-0.6	156.4	153.6	0.00	0.00	
3,800.0	8.19	90.23	3,788.1	-0.7	170.6	167.6	0.00	0.00	
3,900.0	8.19	90.23	3,887.1	-0.8	184.8	181.6	0.00	0.00	
3,910.4	8.19	90.23	3,897.4	-0.8	186.3	183.1	0.00	0.00	PRAIRE CANYON
3,911.2	8.19	90.23	3,898.2	-0.8	186.4	183.2	0.00	0.00	Start 10 Deg Build @ 3911' MD
4,000.0	16.98	84.25	3,984.8	0.5	205.7	202.4	10.00	9.90	
4,100.0	26.95	82.14	4,077.4	5.1	242.8	239.6	10.00	9.97	
4,200.0	36.94	81.11	4,162.2	12.8	295.0	292.5	10.00	9.99	
4,300.0	46.93	80.48	4,236.5	23.6	360.9	359.2	10.00	9.99	
4,400.0	56.92	80.02	4,298.1	36.9	438.4	437.8	10.00	9.99	
4,500.0	66.92	79.66	4,345.1	52.4	525.1	525.9	10.00	9.99	
4,600.0	76.91	79.35	4,376.1	69.7	618.5	620.8	10.00	10.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HH 9102-14 G15 2104
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6981.0ft (Original Well Elev)
Project:	Hell's Hole	MD Reference:	KBE @ 6981.0ft (Original Well Elev)
Site:	HH G-15 Pad	North Reference:	True
Well:	HH 9102-14 G15 2104	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #4		

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)	Comments / Formations
4,700.0	86.91	79.06	4,390.1	88.3	715.6	719.7	10.00	10.00	
4,764.0	93.31	78.88	4,390.0	100.5	778.4	783.7	10.00	10.00	Landing Pt @ 4390' TVD; 93.31 Deg - HH 9102-14 G15 2104 LP
4,770.0	93.31	78.88	4,389.7	101.7	784.3	789.7	0.00	0.00	
4,800.0	93.31	78.88	4,387.9	107.4	813.7	819.6	0.00	0.00	
4,900.0	93.31	78.88	4,382.1	126.7	911.6	919.5	0.00	0.00	
5,000.0	93.31	78.88	4,376.4	146.0	1,009.6	1,019.3	0.00	0.00	
5,100.0	93.31	78.88	4,370.6	165.2	1,107.5	1,119.1	0.00	0.00	
5,200.0	93.31	78.88	4,364.8	184.5	1,205.5	1,218.9	0.00	0.00	
5,300.0	93.31	78.88	4,359.1	203.7	1,303.5	1,318.8	0.00	0.00	
5,400.0	93.31	78.88	4,353.3	223.0	1,401.4	1,418.6	0.00	0.00	
5,500.0	93.31	78.88	4,347.5	242.2	1,499.4	1,518.4	0.00	0.00	
5,600.0	93.31	78.88	4,341.7	261.5	1,597.3	1,618.2	0.00	0.00	
5,700.0	93.31	78.88	4,336.0	280.7	1,695.3	1,718.1	0.00	0.00	
5,800.0	93.31	78.88	4,330.2	300.0	1,793.2	1,817.9	0.00	0.00	
5,900.0	93.31	78.88	4,324.4	319.2	1,891.2	1,917.7	0.00	0.00	
6,000.0	93.31	78.88	4,318.6	338.5	1,989.2	2,017.6	0.00	0.00	
6,100.0	93.31	78.88	4,312.9	357.7	2,087.1	2,117.4	0.00	0.00	
6,200.0	93.31	78.88	4,307.1	377.0	2,185.1	2,217.2	0.00	0.00	
6,300.0	93.31	78.88	4,301.3	396.3	2,283.0	2,317.0	0.00	0.00	
6,400.0	93.31	78.88	4,295.5	415.5	2,381.0	2,416.9	0.00	0.00	
6,500.0	93.31	78.88	4,289.8	434.8	2,479.0	2,516.7	0.00	0.00	
6,600.0	93.31	78.88	4,284.0	454.0	2,576.9	2,616.5	0.00	0.00	
6,700.0	93.31	78.88	4,278.2	473.3	2,674.9	2,716.3	0.00	0.00	
6,800.0	93.31	78.88	4,272.4	492.5	2,772.8	2,816.2	0.00	0.00	
6,900.0	93.31	78.88	4,266.7	511.8	2,870.8	2,916.0	0.00	0.00	
7,000.0	93.31	78.88	4,260.9	531.0	2,968.8	3,015.8	0.00	0.00	
7,100.0	93.31	78.88	4,255.1	550.3	3,066.7	3,115.6	0.00	0.00	
7,200.0	93.31	78.88	4,249.3	569.5	3,164.7	3,215.5	0.00	0.00	
7,300.0	93.31	78.88	4,243.6	588.8	3,262.6	3,315.3	0.00	0.00	
7,400.0	93.31	78.88	4,237.8	608.1	3,360.6	3,415.1	0.00	0.00	
7,500.0	93.31	78.88	4,232.0	627.3	3,458.5	3,515.0	0.00	0.00	
7,600.0	93.31	78.88	4,226.2	646.6	3,556.5	3,614.8	0.00	0.00	
7,700.0	93.31	78.88	4,220.5	665.8	3,654.5	3,714.6	0.00	0.00	
7,800.0	93.31	78.88	4,214.7	685.1	3,752.4	3,814.4	0.00	0.00	
7,900.0	93.31	78.88	4,208.9	704.3	3,850.4	3,914.3	0.00	0.00	
8,000.0	93.31	78.88	4,203.2	723.6	3,948.3	4,014.1	0.00	0.00	
8,100.0	93.31	78.88	4,197.4	742.8	4,046.3	4,113.9	0.00	0.00	
8,200.0	93.31	78.88	4,191.6	762.1	4,144.3	4,213.7	0.00	0.00	
8,300.0	93.31	78.88	4,185.8	781.3	4,242.2	4,313.6	0.00	0.00	
8,400.0	93.31	78.88	4,180.1	800.6	4,340.2	4,413.4	0.00	0.00	
8,500.0	93.31	78.88	4,174.3	819.9	4,438.1	4,513.2	0.00	0.00	
8,582.8	93.31	78.88	4,169.5	835.8	4,519.3	4,595.9	0.00	0.00	TD at 8582.8 - HH 9102-14 G15 2104 PBHL 2

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well HH 9102-14 G15 2104
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6981.0ft (Original Well Elev)
Project:	Hell's Hole	MD Reference:	KBE @ 6981.0ft (Original Well Elev)
Site:	HH G-15 Pad	North Reference:	True
Well:	HH 9102-14 G15 2104	Survey Calculation Method:	Minimum Curvature
Wellbore:	HZ		
Design:	Plan #4		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
HH 9101-14 G15 2104 I	0.00	357.76	4,390.0	139.3	776.9	1,763,928.06	2,004,998.31	39° 52' 38.90 N	109° 2' 45.59 W
- plan misses target center by 38.4ft at 4770.0ft MD (4389.7 TVD, 101.7 N, 784.3 E)									
- Point									
HH 9102-14 G15 2104 I	0.00	357.77	4,169.5	835.8	4,519.3	1,764,477.86	2,008,765.01	39° 52' 45.78 N	109° 1' 57.59 W
- plan hits target center									
- Point									
HH 9102-14 G15 2104 I	0.00	357.76	4,390.0	100.5	778.4	1,763,889.23	2,004,998.31	39° 52' 38.52 N	109° 2' 45.57 W
- plan hits target center									
- Point									
HH 9102-14 G15 2104 I	0.00	357.77	4,143.0	924.1	4,968.4	1,764,548.52	2,009,217.21	39° 52' 46.65 N	109° 1' 51.83 W
- plan misses target center by 458.5ft at 8582.8ft MD (4169.5 TVD, 835.8 N, 4519.3 E)									
- Point									

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
3,061.6	3,061.0	CASTLEGATE		-3.32	79.39
3,483.5	3,482.0	MANCOS B		-3.32	79.39
3,910.4	3,908.0	PRAIRE CANYON		-3.32	79.39

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
2,500.0	2,500.0	0.0	0.0	KOP @ 2500'
2,704.7	2,704.0	-0.1	14.6	EOB; Inc=8 Deg
3,911.2	3,898.2	-0.8	186.4	Start 10 Deg Build @ 3911' MD
4,764.0	4,390.0	100.5	778.4	Landing Pt @ 4390' TVD; 93.31 Deg
8,582.8	4,169.5	835.8	4,519.3	TD at 8582.8