



Type User	Target No Target (Freehand)	Azimuth 180.24	Origin Type Sic	N/S 0.0	E/W 0.0	From TVD 0.0	
		TVD	+N/-S	+E/-W	Latitude	Longitude	
DHSTC-13 012 PBHL		6852.0	-5675.4	-2545.2	39° 21' 18.55 N	108° 30' 7.27 W	
DHSTC-13 012 LP		7029.0	-672.8	-2524.3	39° 22' 7.99 N	108° 30' 7.01 W	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS7C-13 O12 8100
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6756.0usft (Original Well Elev)
Project:	McKay Fork	MD Reference:	WELL @ 6756.0usft (Original Well Elev)
Site:	S12-T7S-R100W (O12 8100)	North Reference:	True
Well:	DHS7C-13 O12 8100	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Project	McKay Fork		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	S12-T7S-R100W (O12 8100)				
Site Position:		Northing:	1,027,862.12 usft	Latitude:	39° 22' 14.27 N
From:	Lat/Long	Easting:	2,154,049.23 usft	Longitude:	108° 29' 33.19 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.93 °

Well	DHS7C-13 O12 8100					
Well Position	+N/-S	0.0 usft	Northing:	1,027,903.98 usft	Latitude:	39° 22' 14.64 N
	+E/-W	0.0 usft	Easting:	2,153,918.62 usft	Longitude:	108° 29' 34.87 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	6,724.0 usft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/14/2012	10.43	65.52	52,009

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	180.24

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,241.0	22.23	267.96	1,222.5	-5.1	-141.9	3.00	3.00	0.00	267.96	
6,952.8	22.23	267.96	6,509.8	-82.1	-2,301.4	0.00	0.00	0.00	0.00	
7,862.9	92.03	180.24	7,029.0	-672.8	-2,524.3	10.00	7.67	-9.64	-87.12	DHS7C-13 O12 LP
12,868.8	92.03	180.24	6,852.0	-5,675.4	-2,545.2	0.00	0.00	0.00	0.00	DHS7C-13 O12 PBH

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS7C-13 O12 8100
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6756.0usft (Original Well Elev)
Project:	McKay Fork	MD Reference:	WELL @ 6756.0usft (Original Well Elev)
Site:	S12-T7S-R100W (O12 8100)	North Reference:	True
Well:	DHS7C-13 O12 8100	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	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	KOP @ 500'
600.0	3.00	267.96	600.0	-0.1	-2.6	0.1	3.00	3.00	
700.0	6.00	267.96	699.6	-0.4	-10.5	0.4	3.00	3.00	
800.0	9.00	267.96	798.8	-0.8	-23.5	0.9	3.00	3.00	
900.0	12.00	267.96	897.1	-1.5	-41.7	1.7	3.00	3.00	
1,000.0	15.00	267.96	994.3	-2.3	-65.0	2.6	3.00	3.00	
1,100.0	18.00	267.96	1,090.2	-3.3	-93.4	3.7	3.00	3.00	
1,200.0	21.00	267.96	1,184.4	-4.5	-126.8	5.1	3.00	3.00	
1,241.0	22.23	267.96	1,222.5	-5.1	-141.9	5.7	3.00	3.00	EOB; Inc=22.24°
1,300.0	22.23	267.96	1,277.2	-5.9	-164.2	6.5	0.00	0.00	
1,400.0	22.23	267.96	1,369.7	-7.2	-202.0	8.1	0.00	0.00	
1,500.0	22.23	267.96	1,462.3	-8.6	-239.8	9.6	0.00	0.00	
1,600.0	22.23	267.96	1,554.9	-9.9	-277.6	11.1	0.00	0.00	
1,700.0	22.23	267.96	1,647.4	-11.2	-315.4	12.6	0.00	0.00	
1,800.0	22.23	267.96	1,740.0	-12.6	-353.2	14.1	0.00	0.00	
1,900.0	22.23	267.96	1,832.6	-13.9	-391.0	15.6	0.00	0.00	
2,000.0	22.23	267.96	1,925.1	-15.3	-428.8	17.1	0.00	0.00	
2,100.0	22.23	267.96	2,017.7	-16.6	-466.6	18.6	0.00	0.00	
2,200.0	22.23	267.96	2,110.3	-18.0	-504.4	20.1	0.00	0.00	
2,300.0	22.23	267.96	2,202.8	-19.3	-542.3	21.6	0.00	0.00	
2,400.0	22.23	267.96	2,295.4	-20.7	-580.1	23.1	0.00	0.00	
2,500.0	22.23	267.96	2,388.0	-22.0	-617.9	24.6	0.00	0.00	
2,600.0	22.23	267.96	2,480.5	-23.4	-655.7	26.1	0.00	0.00	
2,700.0	22.23	267.96	2,573.1	-24.7	-693.5	27.6	0.00	0.00	
2,800.0	22.23	267.96	2,665.7	-26.1	-731.3	29.1	0.00	0.00	
2,900.0	22.23	267.96	2,758.2	-27.4	-769.1	30.7	0.00	0.00	
3,000.0	22.23	267.96	2,850.8	-28.8	-806.9	32.2	0.00	0.00	
3,100.0	22.23	267.96	2,943.4	-30.1	-844.7	33.7	0.00	0.00	
3,169.8	22.23	267.96	3,008.0	-31.1	-871.1	34.7	0.00	0.00	Rollins
3,200.0	22.23	267.96	3,035.9	-31.5	-882.5	35.2	0.00	0.00	
3,300.0	22.23	267.96	3,128.5	-32.8	-920.3	36.7	0.00	0.00	
3,400.0	22.23	267.96	3,221.1	-34.2	-958.1	38.2	0.00	0.00	
3,500.0	22.23	267.96	3,313.6	-35.5	-995.9	39.7	0.00	0.00	
3,600.0	22.23	267.96	3,406.2	-36.9	-1,033.8	41.2	0.00	0.00	
3,700.0	22.23	267.96	3,498.8	-38.2	-1,071.6	42.7	0.00	0.00	
3,800.0	22.23	267.96	3,591.4	-39.6	-1,109.4	44.2	0.00	0.00	
3,900.0	22.23	267.96	3,683.9	-40.9	-1,147.2	45.7	0.00	0.00	
4,000.0	22.23	267.96	3,776.5	-42.3	-1,185.0	47.2	0.00	0.00	
4,100.0	22.23	267.96	3,869.1	-43.6	-1,222.8	48.7	0.00	0.00	
4,200.0	22.23	267.96	3,961.6	-45.0	-1,260.6	50.2	0.00	0.00	
4,300.0	22.23	267.96	4,054.2	-46.3	-1,298.4	51.7	0.00	0.00	
4,400.0	22.23	267.96	4,146.8	-47.7	-1,336.2	53.3	0.00	0.00	
4,500.0	22.23	267.96	4,239.3	-49.0	-1,374.0	54.8	0.00	0.00	
4,600.0	22.23	267.96	4,331.9	-50.4	-1,411.8	56.3	0.00	0.00	
4,700.0	22.23	267.96	4,424.5	-51.7	-1,449.6	57.8	0.00	0.00	
4,800.0	22.23	267.96	4,517.0	-53.1	-1,487.5	59.3	0.00	0.00	
4,900.0	22.23	267.96	4,609.6	-54.4	-1,525.3	60.8	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS7C-13 O12 8100
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6756.0usft (Original Well Elev)
Project:	McKay Fork	MD Reference:	WELL @ 6756.0usft (Original Well Elev)
Site:	S12-T7S-R100W (O12 8100)	North Reference:	True
Well:	DHS7C-13 O12 8100	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
4,948.0	22.23	267.96	4,654.0	-55.0	-1,543.4	61.5	0.00	0.00	Mancos Marker
5,000.0	22.23	267.96	4,702.2	-55.8	-1,563.1	62.3	0.00	0.00	
5,100.0	22.23	267.96	4,794.7	-57.1	-1,600.9	63.8	0.00	0.00	
5,200.0	22.23	267.96	4,887.3	-58.4	-1,638.7	65.3	0.00	0.00	
5,300.0	22.23	267.96	4,979.9	-59.8	-1,676.5	66.8	0.00	0.00	
5,400.0	22.23	267.96	5,072.4	-61.1	-1,714.3	68.3	0.00	0.00	
5,500.0	22.23	267.96	5,165.0	-62.5	-1,752.1	69.8	0.00	0.00	
5,600.0	22.23	267.96	5,257.6	-63.8	-1,789.9	71.3	0.00	0.00	
5,700.0	22.23	267.96	5,350.1	-65.2	-1,827.7	72.8	0.00	0.00	
5,800.0	22.23	267.96	5,442.7	-66.5	-1,865.5	74.4	0.00	0.00	
5,900.0	22.23	267.96	5,535.3	-67.9	-1,903.3	75.9	0.00	0.00	
6,000.0	22.23	267.96	5,627.8	-69.2	-1,941.1	77.4	0.00	0.00	
6,100.0	22.23	267.96	5,720.4	-70.6	-1,979.0	78.9	0.00	0.00	
6,200.0	22.23	267.96	5,813.0	-71.9	-2,016.8	80.4	0.00	0.00	
6,300.0	22.23	267.96	5,905.5	-73.3	-2,054.6	81.9	0.00	0.00	
6,309.1	22.23	267.96	5,914.0	-73.4	-2,058.0	82.0	0.00	0.00	Niobrara
6,400.0	22.23	267.96	5,998.1	-74.6	-2,092.4	83.4	0.00	0.00	
6,500.0	22.23	267.96	6,090.7	-76.0	-2,130.2	84.9	0.00	0.00	
6,600.0	22.23	267.96	6,183.2	-77.3	-2,168.0	86.4	0.00	0.00	
6,700.0	22.23	267.96	6,275.8	-78.7	-2,205.8	87.9	0.00	0.00	
6,800.0	22.23	267.96	6,368.4	-80.0	-2,243.6	89.4	0.00	0.00	
6,900.0	22.23	267.96	6,460.9	-81.4	-2,281.4	90.9	0.00	0.00	
6,952.8	22.23	267.96	6,509.8	-82.1	-2,301.4	91.7	0.00	0.00	Start 10° build @ 6953' MD
7,000.0	22.93	255.77	6,553.4	-84.7	-2,319.2	94.4	10.01	1.49	
7,100.0	27.07	234.06	6,644.2	-102.9	-2,356.6	112.7	10.00	4.14	
7,144.1	29.74	226.67	6,683.0	-116.2	-2,372.7	126.2	10.00	6.05	NioLamSilt
7,200.0	33.60	218.96	6,730.6	-137.8	-2,392.5	147.8	10.00	6.92	
7,300.0	41.41	208.63	6,810.0	-188.5	-2,425.9	198.7	10.00	7.81	
7,400.0	49.88	201.18	6,879.9	-253.3	-2,455.6	263.6	10.00	8.47	
7,500.0	58.73	195.42	6,938.2	-330.4	-2,480.8	340.8	10.00	8.84	
7,600.0	67.79	190.66	6,983.1	-417.3	-2,500.8	427.8	10.00	9.06	
7,700.0	76.96	186.49	7,013.4	-511.4	-2,514.9	522.0	10.00	9.18	
7,800.0	86.20	182.62	7,028.0	-609.9	-2,522.7	620.5	10.00	9.24	
7,862.9	92.03	180.24	7,029.0	-672.8	-2,524.3	683.3	10.00	9.26	Landing Pt @ 7863' MD; 92°
7,900.0	92.03	180.24	7,027.7	-709.8	-2,524.5	720.4	0.00	0.00	
8,000.0	92.03	180.24	7,024.2	-809.8	-2,524.9	820.3	0.00	0.00	
8,100.0	92.03	180.24	7,020.6	-909.7	-2,525.3	920.3	0.00	0.00	
8,200.0	92.03	180.24	7,017.1	-1,009.6	-2,525.7	1,020.2	0.00	0.00	
8,300.0	92.03	180.24	7,013.5	-1,109.6	-2,526.1	1,120.2	0.00	0.00	
8,400.0	92.03	180.24	7,010.0	-1,209.5	-2,526.5	1,220.1	0.00	0.00	
8,500.0	92.03	180.24	7,006.5	-1,309.5	-2,527.0	1,320.0	0.00	0.00	
8,600.0	92.03	180.24	7,002.9	-1,409.4	-2,527.4	1,420.0	0.00	0.00	
8,700.0	92.03	180.24	6,999.4	-1,509.3	-2,527.8	1,519.9	0.00	0.00	
8,800.0	92.03	180.24	6,995.9	-1,609.3	-2,528.2	1,619.8	0.00	0.00	
8,900.0	92.03	180.24	6,992.3	-1,709.2	-2,528.6	1,719.8	0.00	0.00	
9,000.0	92.03	180.24	6,988.8	-1,809.1	-2,529.0	1,819.7	0.00	0.00	
9,100.0	92.03	180.24	6,985.3	-1,909.1	-2,529.5	1,919.7	0.00	0.00	
9,200.0	92.03	180.24	6,981.7	-2,009.0	-2,529.9	2,019.6	0.00	0.00	
9,300.0	92.03	180.24	6,978.2	-2,108.9	-2,530.3	2,119.5	0.00	0.00	
9,400.0	92.03	180.24	6,974.7	-2,208.9	-2,530.7	2,219.5	0.00	0.00	
9,500.0	92.03	180.24	6,971.1	-2,308.8	-2,531.1	2,319.4	0.00	0.00	
9,600.0	92.03	180.24	6,967.6	-2,408.8	-2,531.6	2,419.3	0.00	0.00	

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS7C-13 O12 8100
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6756.0usft (Original Well Elev)
Project:	McKay Fork	MD Reference:	WELL @ 6756.0usft (Original Well Elev)
Site:	S12-T7S-R100W (O12 8100)	North Reference:	True
Well:	DHS7C-13 O12 8100	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100u)	Comments / Formations
9,700.0	92.03	180.24	6,964.0	-2,508.7	-2,532.0	2,519.3	0.00	0.00	
9,800.0	92.03	180.24	6,960.5	-2,608.6	-2,532.4	2,619.2	0.00	0.00	
9,900.0	92.03	180.24	6,957.0	-2,708.6	-2,532.8	2,719.2	0.00	0.00	
10,000.0	92.03	180.24	6,953.4	-2,808.5	-2,533.2	2,819.1	0.00	0.00	
10,100.0	92.03	180.24	6,949.9	-2,908.4	-2,533.6	2,919.0	0.00	0.00	
10,200.0	92.03	180.24	6,946.4	-3,008.4	-2,534.1	3,019.0	0.00	0.00	
10,300.0	92.03	180.24	6,942.8	-3,108.3	-2,534.5	3,118.9	0.00	0.00	
10,400.0	92.03	180.24	6,939.3	-3,208.2	-2,534.9	3,218.8	0.00	0.00	
10,500.0	92.03	180.24	6,935.8	-3,308.2	-2,535.3	3,318.8	0.00	0.00	
10,600.0	92.03	180.24	6,932.2	-3,408.1	-2,535.7	3,418.7	0.00	0.00	
10,700.0	92.03	180.24	6,928.7	-3,508.1	-2,536.2	3,518.7	0.00	0.00	
10,800.0	92.03	180.24	6,925.1	-3,608.0	-2,536.6	3,618.6	0.00	0.00	
10,900.0	92.03	180.24	6,921.6	-3,707.9	-2,537.0	3,718.5	0.00	0.00	
11,000.0	92.03	180.24	6,918.1	-3,807.9	-2,537.4	3,818.5	0.00	0.00	
11,100.0	92.03	180.24	6,914.5	-3,907.8	-2,537.8	3,918.4	0.00	0.00	
11,200.0	92.03	180.24	6,911.0	-4,007.7	-2,538.2	4,018.3	0.00	0.00	
11,300.0	92.03	180.24	6,907.5	-4,107.7	-2,538.7	4,118.3	0.00	0.00	
11,400.0	92.03	180.24	6,903.9	-4,207.6	-2,539.1	4,218.2	0.00	0.00	
11,500.0	92.03	180.24	6,900.4	-4,307.6	-2,539.5	4,318.2	0.00	0.00	
11,600.0	92.03	180.24	6,896.9	-4,407.5	-2,539.9	4,418.1	0.00	0.00	
11,700.0	92.03	180.24	6,893.3	-4,507.4	-2,540.3	4,518.0	0.00	0.00	
11,800.0	92.03	180.24	6,889.8	-4,607.4	-2,540.8	4,618.0	0.00	0.00	
11,900.0	92.03	180.24	6,886.3	-4,707.3	-2,541.2	4,717.9	0.00	0.00	
12,000.0	92.03	180.24	6,882.7	-4,807.2	-2,541.6	4,817.8	0.00	0.00	
12,100.0	92.03	180.24	6,879.2	-4,907.2	-2,542.0	4,917.8	0.00	0.00	
12,200.0	92.03	180.24	6,875.6	-5,007.1	-2,542.4	5,017.7	0.00	0.00	
12,300.0	92.03	180.24	6,872.1	-5,107.0	-2,542.8	5,117.7	0.00	0.00	
12,400.0	92.03	180.24	6,868.6	-5,207.0	-2,543.3	5,217.6	0.00	0.00	
12,500.0	92.03	180.24	6,865.0	-5,306.9	-2,543.7	5,317.5	0.00	0.00	
12,600.0	92.03	180.24	6,861.5	-5,406.9	-2,544.1	5,417.5	0.00	0.00	
12,700.0	92.03	180.24	6,858.0	-5,506.8	-2,544.5	5,517.4	0.00	0.00	
12,800.0	92.03	180.24	6,854.4	-5,606.7	-2,544.9	5,617.3	0.00	0.00	
12,868.8	92.03	180.24	6,852.0	-5,675.4	-2,545.2	5,686.1	0.00	0.00	TD at 12868.8

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
DHS7C-13 O12 PBHL - plan hits target center - Point	0.00	0.00	6,852.0	-5,675.4	-2,545.2	1,022,317.66	2,151,183.32	39° 21' 18.55 N	108° 30' 7.27 W
DHS7C-13 O12 LP - plan hits target center - Point	0.00	0.00	7,029.0	-672.8	-2,524.3	1,027,316.80	2,151,373.06	39° 22' 7.99 N	108° 30' 7.01 W

Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well DHS7C-13 O12 8100
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	WELL @ 6756.0usft (Original Well Elev)
Project:	McKay Fork	MD Reference:	WELL @ 6756.0usft (Original Well Elev)
Site:	S12-T7S-R100W (O12 8100)	North Reference:	True
Well:	DHS7C-13 O12 8100	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,169.8	3,008.0	Rollins		0.00		
4,948.0	4,654.0	Mancos Marker		0.00		
6,309.1	5,914.0	Niobrara		0.00		
7,144.1	6,683.0	NioLamSilt		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
500.0	500.0	0.0	0.0	KOP @ 500'	
1,241.0	1,222.5	-5.1	-141.9	EOB; Inc=22.24°	
6,952.8	6,509.8	-82.1	-2,301.4	Start 10° build @ 6953' MD	
7,862.9	7,029.0	-672.8	-2,524.3	Landing Pt @ 7863' MD; 92°	
12,868.8	6,852.0	-5,675.4	-2,545.2	TD at 12868.8	