



Project: Plateau
 Site: NESE 31-9S-95W (PL31SE Pad)
 Well: Nichols 31-9H
 Wellbore: Hz
 Plan: Plan #3



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	7161.9	0.00	0.00	7161.9	0.0	0.0	0.00	0.00	0.0	
3	8274.4	89.00	313.00	7878.0	479.9	-514.7	8.00	313.00	703.7	Nichols 31-9H Hz ICP
4	12574.3	89.00	313.00	7953.0	3412.0	-3659.0	0.00	0.00	5003.0	Nichols 31-9H BHL

DESIGN DETAILS: Plan #3

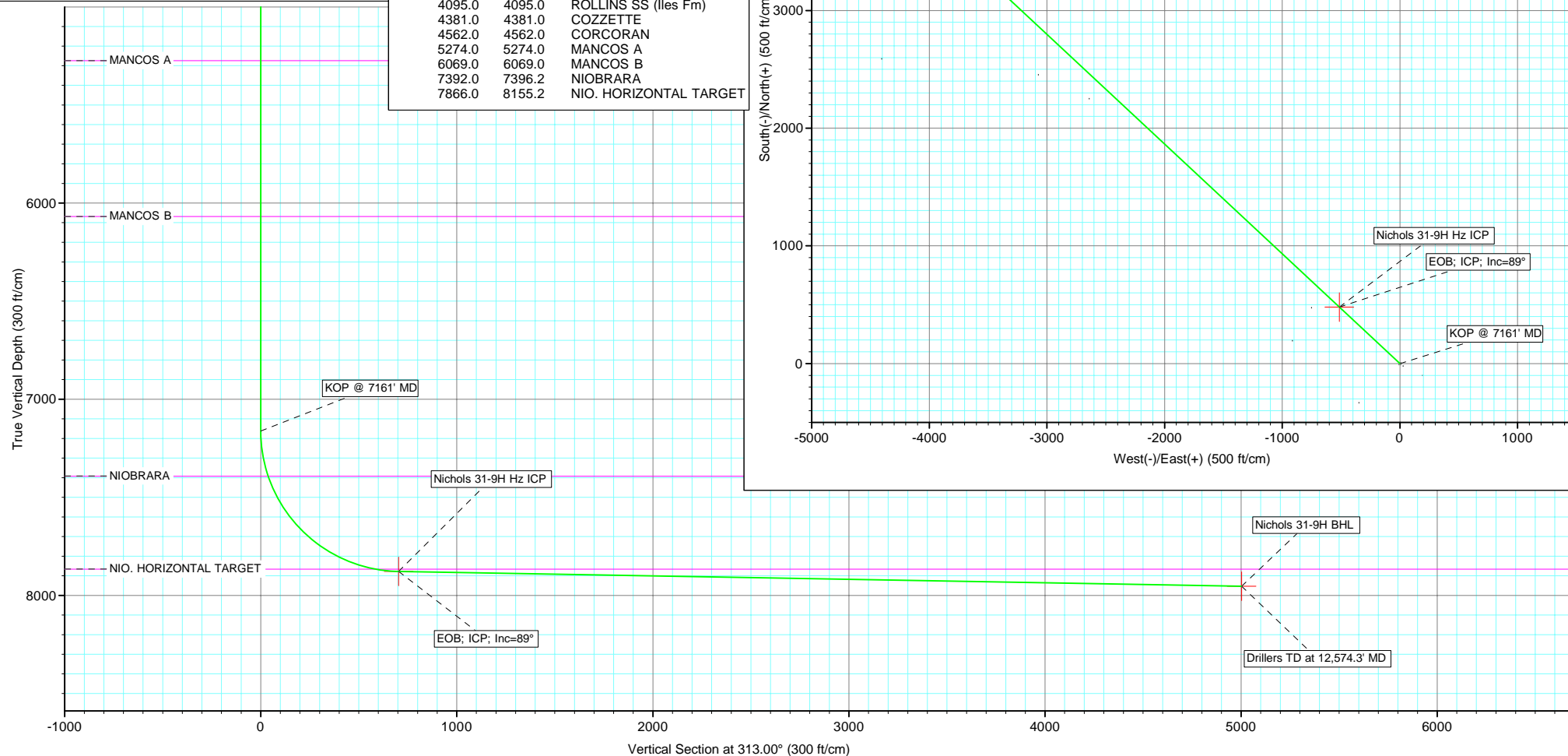
95xxx: KR

KBE @ 5917.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Nichols 31-9H BHL	313.00	Slot	0.0	0.0	0.0

FORMATION TOP DETAILS

TVDPth	MDPath	Formation
1372.0	1372.0	OHIO CREEK (Top Kmv)
1687.0	1687.0	WILLIAMS FORK FM
3202.0	3202.0	Top of Gas
3816.0	3816.0	Coal Ridge (Paludal)
4095.0	4095.0	ROLLINS SS (Iles Fm)
4381.0	4381.0	COZZETTE
4562.0	4562.0	CORCORAN
5274.0	5274.0	MANCOS A
6069.0	6069.0	MANCOS B
7392.0	7396.2	NIORARA
7866.0	8155.2	NIO. HORIZONTAL TARGET



Planning Report

Database:	US EDM 2003.21 Multi User Db	Local Co-ordinate Reference:	Well Nichols 31-9H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5917.0ft (Original Well Elev)
Project:	Plateau	MD Reference:	KBE @ 5917.0ft (Original Well Elev)
Site:	NESE 31-9S-95W (PL31SE Pad)	North Reference:	True
Well:	Nichols 31-9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

Project	Plateau		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		NESE 31-9S-95W (PL31SE Pad)			
Site Position:		Northing:	1,518,035.92 ft	Latitude:	39° 13' 42.13 N
From:	Lat/Long	Easting:	2,283,947.67 ft	Longitude:	108° 1' 41.23 W
Position Uncertainty:	0.0 ft	Slot Radius:	in	Grid Convergence:	-1.59 °

Well	Nichols 31-9H					
Well Position	+N/-S	0.0 ft	Northing:	1,518,035.92 ft	Latitude:	39° 13' 42.13 N
	+E/-W	0.0 ft	Easting:	2,283,947.67 ft	Longitude:	108° 1' 41.23 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,895.0 ft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/20/2009	10.58	65.58	52,335

Design	Plan #3			
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	313.00

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	
7,161.9	0.00	0.00	7,161.9	0.0	0.0	0.00	0.00	0.00	0.00	
8,274.4	89.00	313.00	7,878.0	479.9	-514.7	8.00	8.00	-4.22	313.00	Nichols 31-9H Hz ICP
12,574.3	89.00	313.00	7,953.0	3,412.0	-3,659.0	0.00	0.00	0.00	0.00	Nichols 31-9H BHL

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5917.0ft (Original Well Elev)
Project:	Plateau	MD Reference:	KBE @ 5917.0ft (Original Well Elev)
Site:	NESE 31-9S-95W (PL31SE Pad)	North Reference:	True
Well:	Nichols 31-9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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	
1,372.0	0.00	0.00	1,372.0	0.0	0.0	0.0	0.00	0.00	OHIO CREEK (Top Kmv)
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	
1,687.0	0.00	0.00	1,687.0	0.0	0.0	0.0	0.00	0.00	WILLIAMS FORK FM
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	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	
3,202.0	0.00	0.00	3,202.0	0.0	0.0	0.0	0.00	0.00	Top of Gas
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	
3,816.0	0.00	0.00	3,816.0	0.0	0.0	0.0	0.00	0.00	Coal Ridge (Paludal)
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	
4,095.0	0.00	0.00	4,095.0	0.0	0.0	0.0	0.00	0.00	ROLLINS SS (Iles Fm)
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	
4,381.0	0.00	0.00	4,381.0	0.0	0.0	0.0	0.00	0.00	COZZETTE
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	

Planning Report

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Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5917.0ft (Original Well Elev)
Project:	Plateau	MD Reference:	KBE @ 5917.0ft (Original Well Elev)
Site:	NESE 31-9S-95W (PL31SE Pad)	North Reference:	True
Well:	Nichols 31-9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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
4,562.0	0.00	0.00	4,562.0	0.0	0.0	0.0	0.00	0.00	CORCORAN
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	MANCOS A
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	
5,274.0	0.00	0.00	5,274.0	0.0	0.0	0.0	0.00	0.00	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	MANCOS B
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	
6,069.0	0.00	0.00	6,069.0	0.0	0.0	0.0	0.00	0.00	
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	KOP @ 7161' MD
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	NIOBRARA
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	
7,161.9	0.00	0.00	7,161.9	0.0	0.0	0.0	0.00	0.00	
7,200.0	3.05	313.00	7,200.0	0.7	-0.7	1.0	8.00	8.00	NIO. HORIZONTAL TARGET
7,300.0	11.05	313.00	7,299.1	9.1	-9.7	13.3	8.00	8.00	
7,396.2	18.74	313.00	7,392.0	25.9	-27.8	38.0	8.00	8.00	
7,400.0	19.05	313.00	7,395.6	26.8	-28.7	39.2	8.00	8.00	
7,500.0	27.05	313.00	7,487.6	53.4	-57.3	78.3	8.00	8.00	
7,600.0	35.05	313.00	7,573.2	88.6	-95.0	129.9	8.00	8.00	
7,700.0	43.05	313.00	7,650.8	131.5	-141.0	192.8	8.00	8.00	EOB; ICP; Inc=89° - Nichols 31-9H Hz ICP
7,800.0	51.05	313.00	7,718.9	181.4	-194.5	266.0	8.00	8.00	
7,900.0	59.05	313.00	7,776.1	237.2	-254.4	347.9	8.00	8.00	
8,000.0	67.05	313.00	7,821.4	298.0	-319.6	436.9	8.00	8.00	
8,100.0	75.05	313.00	7,853.8	362.4	-388.7	531.4	8.00	8.00	
8,155.2	79.47	313.00	7,866.0	399.2	-428.1	585.3	8.00	8.00	
8,200.0	83.05	313.00	7,872.8	429.3	-460.4	629.5	8.00	8.00	EOB; ICP; Inc=89° - Nichols 31-9H Hz ICP
8,274.4	89.00	313.00	7,878.0	479.9	-514.7	703.7	8.00	8.00	
8,300.0	89.00	313.00	7,878.4	497.4	-533.4	729.3	0.00	0.00	
8,400.0	89.00	313.00	7,880.1	565.6	-606.5	829.3	0.00	0.00	
8,500.0	89.00	313.00	7,881.9	633.8	-679.6	929.3	0.00	0.00	
8,600.0	89.00	313.00	7,883.6	702.0	-752.8	1,029.3	0.00	0.00	
8,700.0	89.00	313.00	7,885.4	770.2	-825.9	1,129.3	0.00	0.00	EOB; ICP; Inc=89° - Nichols 31-9H Hz ICP
8,800.0	89.00	313.00	7,887.1	838.3	-899.0	1,229.3	0.00	0.00	
8,900.0	89.00	313.00	7,888.9	906.5	-972.1	1,329.2	0.00	0.00	
9,000.0	89.00	313.00	7,890.6	974.7	-1,045.3	1,429.2	0.00	0.00	

Planning Report

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Well:	Nichols 31-9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

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
9,100.0	89.00	313.00	7,892.4	1,042.9	-1,118.4	1,529.2	0.00	0.00	
9,200.0	89.00	313.00	7,894.1	1,111.1	-1,191.5	1,629.2	0.00	0.00	
9,300.0	89.00	313.00	7,895.9	1,179.3	-1,264.6	1,729.2	0.00	0.00	
9,400.0	89.00	313.00	7,897.6	1,247.5	-1,337.8	1,829.2	0.00	0.00	
9,500.0	89.00	313.00	7,899.3	1,315.7	-1,410.9	1,929.1	0.00	0.00	
9,600.0	89.00	313.00	7,901.1	1,383.9	-1,484.0	2,029.1	0.00	0.00	
9,700.0	89.00	313.00	7,902.8	1,452.1	-1,557.1	2,129.1	0.00	0.00	
9,800.0	89.00	313.00	7,904.6	1,520.2	-1,630.3	2,229.1	0.00	0.00	
9,900.0	89.00	313.00	7,906.3	1,588.4	-1,703.4	2,329.1	0.00	0.00	
10,000.0	89.00	313.00	7,908.1	1,656.6	-1,776.5	2,429.1	0.00	0.00	
10,100.0	89.00	313.00	7,909.8	1,724.8	-1,849.6	2,529.1	0.00	0.00	
10,200.0	89.00	313.00	7,911.6	1,793.0	-1,922.8	2,629.0	0.00	0.00	
10,300.0	89.00	313.00	7,913.3	1,861.2	-1,995.9	2,729.0	0.00	0.00	
10,400.0	89.00	313.00	7,915.1	1,929.4	-2,069.0	2,829.0	0.00	0.00	
10,500.0	89.00	313.00	7,916.8	1,997.6	-2,142.1	2,929.0	0.00	0.00	
10,600.0	89.00	313.00	7,918.5	2,065.8	-2,215.3	3,029.0	0.00	0.00	
10,700.0	89.00	313.00	7,920.3	2,133.9	-2,288.4	3,129.0	0.00	0.00	
10,800.0	89.00	313.00	7,922.0	2,202.1	-2,361.5	3,228.9	0.00	0.00	
10,900.0	89.00	313.00	7,923.8	2,270.3	-2,434.6	3,328.9	0.00	0.00	
11,000.0	89.00	313.00	7,925.5	2,338.5	-2,507.8	3,428.9	0.00	0.00	
11,100.0	89.00	313.00	7,927.3	2,406.7	-2,580.9	3,528.9	0.00	0.00	
11,200.0	89.00	313.00	7,929.0	2,474.9	-2,654.0	3,628.9	0.00	0.00	
11,300.0	89.00	313.00	7,930.8	2,543.1	-2,727.1	3,728.9	0.00	0.00	
11,400.0	89.00	313.00	7,932.5	2,611.3	-2,800.2	3,828.9	0.00	0.00	
11,500.0	89.00	313.00	7,934.3	2,679.5	-2,873.4	3,928.8	0.00	0.00	
11,600.0	89.00	313.00	7,936.0	2,747.7	-2,946.5	4,028.8	0.00	0.00	
11,700.0	89.00	313.00	7,937.7	2,815.8	-3,019.6	4,128.8	0.00	0.00	
11,800.0	89.00	313.00	7,939.5	2,884.0	-3,092.7	4,228.8	0.00	0.00	
11,900.0	89.00	313.00	7,941.2	2,952.2	-3,165.9	4,328.8	0.00	0.00	
12,000.0	89.00	313.00	7,943.0	3,020.4	-3,239.0	4,428.8	0.00	0.00	
12,100.0	89.00	313.00	7,944.7	3,088.6	-3,312.1	4,528.7	0.00	0.00	
12,200.0	89.00	313.00	7,946.5	3,156.8	-3,385.2	4,628.7	0.00	0.00	
12,300.0	89.00	313.00	7,948.2	3,225.0	-3,458.4	4,728.7	0.00	0.00	
12,400.0	89.00	313.00	7,950.0	3,293.2	-3,531.5	4,828.7	0.00	0.00	
12,500.0	89.00	313.00	7,951.7	3,361.4	-3,604.6	4,928.7	0.00	0.00	
12,574.3	89.00	313.00	7,953.0	3,412.0	-3,659.0	5,003.0	0.00	0.00	Drillers TD at 12,574.3' MD - Nichols 31-9H BHI

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Nichols 31-9H Hz ICP - hit/miss target - Shape - Point		0.00	7,878.0	479.9	-514.7	1,518,529.98	2,283,446.57	39° 13' 46.88 N	108° 1' 47.77 W
Nichols 31-9H BHL - plan hits target center - Point	0.00	0.00	7,953.0	3,412.0	-3,659.0	1,521,548.45	2,280,385.07	39° 14' 15.85 N	108° 2' 27.74 W

Planning Report

Database:	US EDM 2003.21 Multi User Db	Local Co-ordinate Reference:	Well Nichols 31-9H
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 5917.0ft (Original Well Elev)
Project:	Plateau	MD Reference:	KBE @ 5917.0ft (Original Well Elev)
Site:	NESE 31-9S-95W (PL31SE Pad)	North Reference:	True
Well:	Nichols 31-9H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	Plan #3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,372.0	1,372.0	OHIO CREEK (Top Kmv)				
1,687.0	1,687.0	WILLIAMS FORK FM				
3,202.0	3,202.0	Top of Gas				
3,816.0	3,816.0	Coal Ridge (Paludal)				
4,095.0	4,095.0	ROLLINS SS (Iles Fm)				
4,381.0	4,381.0	COZZETTE				
4,562.0	4,562.0	CORCORAN				
5,274.0	5,274.0	MANCOS A				
6,069.0	6,069.0	MANCOS B				
7,396.2	7,392.0	NIOBRARA				
8,155.2	7,866.0	NIO. HORIZONTAL TARGET				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,161.9	7,161.9	0.0	0.0	KOP @ 7161' MD	
8,274.4	7,878.0	479.9	-514.7	EOB; ICP; Inc=89°	
12,574.3	7,953.0	3,412.0	-3,659.0	Drillers TD at 12,574.3' MD	