

British Columbia crude oil and equivalent production remained steady at 7 ML a day while Manitoba also maintained its level of production at 2 ML a day.

#### 13.4.2 Exploration and development

Exploratory drilling achieved record levels in 1976. Some 1,900 wells were drilled during the year, up 29% from 1,472 a year earlier. Details of drilling activity appear in Tables 13.7 and 13.8.

The high level of exploration in the West was more than maintained during the first half of 1977, resulting in a record number of discoveries. Among these was a new oil-producing venue in the West Pembina area — the first significant oil discovery in Western Canada since 1965.

It was estimated that more than 6,000 wells were drilled in Canada in 1977, up from a total of 5,682 in 1976. Alberta was the major contributor to the total, accounting for 87% of total depth drilled and 90% of well completions. Development drilling increased 32% to 2.9 million metres and exploratory drilling 34% to 1.96 million metres in the province.

The upward trend in natural gas development that began in 1975 continued in 1976 and accelerated during the first half of 1977. Completions rose by 60% over 1975 to 3,375 wells, 3,193 of which were drilled in Alberta where development of large, low-yield shallow gas reservoirs of southeastern and northern areas continued. Province-wide, about 200 single well gas discoveries were made in 1976, several of which may attain major field status. Significant deeper zone discoveries continued into 1977.

Among the latter was a Devonian Leduc reef discovery in the Pinto area, about 32 kilometres west of the Berland River field. In the Pass Creek area, several significant gas discoveries have been recorded in the past two years and this is considered one of the most promising exploration areas. To the northwest, in the Elmworth area, exploration companies have had some success in evaluating low-permeability gas reservoirs paralleling the eastern edge of the foothills for considerable distances in northwestern Alberta and northeastern British Columbia. Economics, technological development and availability of natural gas markets will likely dictate the pace of development of these low-yield resources.

In British Columbia, both depth and number of wells drilled increased substantially. Exploration companies completed the year with 175 wells drilled, including 86 potential gas producers. In Manitoba and Saskatchewan, drilling was up slightly from 1975 levels while activity declined in the Arctic.

**Northern regions.** The number of wells drilled and onshore geophysical activity declined in 1976 compared to 1975, but marine seismic work again showed an increase. Drilling depths decreased by 19%; however, total exploration costs increased by 12% to \$240 million. Expenditures for 1977 increased a further estimated 20% although the number of wells declined 10%.

In the Mackenzie Delta-Beaufort Sea region, there were two discoveries in 1976, the oil and gas find of Sun et al Garry P-04 (actually made in 1975 but finalized in 1976) and the gas find of Imperial Netserk F-40. First exploratory drilling took place in the deeper waters of the Beaufort Sea north of the delta during 1976, with two wells drilled using ice-strengthened drill-ships. An additional three wells were drilled in the Beaufort Sea by Dome Petroleum in 1977, resulting in two gas discoveries (Ukalerk C-50 and Kopanoar M-13) and one oil and gas find (Nektoralik K-59).

Delineation drilling resulted in six successful completions in the Parsons Lake gas field, including a new-pool discovery of oil and gas, the Gulf-Mobil Kamik D-48, east of the main field. A single successful delineation well was also drilled in the Niglingak field. In 1977, four delineation wells were drilled at Parsons Lake, including three gas successes and one unsuccessful step-out to the Kamik oil find of 1976. Single successful delineation wells were also drilled in the Taglu and Kumak gas fields.

In the Arctic islands, Panarctic et al Jackson Bay G-16A, drilling from a reinforced ice platform west of Ellef Ringnes Island, made a gas discovery similar to previous ones in this area. No discoveries of oil or gas were made in the islands region in 1977.