

At least 15 significant deeper zone gas discoveries were also drilled in the foothills and deep basin areas of western Alberta. Some of the most important were in the Elmworth area of west-central Alberta where, since the original discovery was made in 1976, more than 50 successful exploratory wells have been drilled. By mid-1978 the boundaries of the potentially productive area encompassed 2 700 km² and were still expanding with an ultimate reserve potential of 283 billion cubic metres. New oil discoveries in the West Pembina area of central Alberta highlighted the exploration scene. Since the initial discovery was made in an oil-bearing Devonian pinnacle reef in 1977, at least 40 more exploratory wells have struck oil or gas in similar reef structures. Based on an analysis of limited current data, most likely ultimate recoverable reserves in the West Pembina zone could be in the order of 79 million cubic metres, but could possibly be double that if the areal extent of reef development proves greater than anticipated. The West Pembina discovery is undoubtedly the most significant new oil find made in Alberta during 1966-78.

In British Columbia the number of wells drilled and their depth increased substantially. Exploration companies completed the year with 377 wells drilled including 190 potential gas producers. Almost all drilling was restricted to exploration for and development of natural gas. Nevertheless, a significant oil discovery was made in the Eagle area west of Cecil Lake in the Fort St. John region. Oil production was obtained from several formations ranging in age from Devonian to Cretaceous. By the end of 1978, 20 producing oil wells and six gas wells had been completed on this prospect with limits of the producing trend undetermined. Preliminary estimates suggest that this field has the capacity to provide 15% to 20% of the province's future production.

In Saskatchewan both exploratory and development drilling increased substantially in 1978 with most activity confined to the Lloydminster area.

In the Beaufort Sea, Dome Petroleum Ltd. continued a multi-well drilling program in deeper water areas offshore from the Mackenzie Delta. Dome's drilling program began in 1976 and encountered some success, with three potential oil and gas discoveries. Two significant discoveries were recorded during the 1978 drilling season but could not be fully evaluated before Dome had to suspend operations for the year. However, they were to be fully tested in 1979 and plans called for drilling three and possibly five more exploration wells in the same general area. Since all these discoveries are located on large structural features, they may prove to be major-field class discoveries. Dome has identified additional large structural features within the 305-m water depth line that are considered to have excellent potential for oil and gas accumulations. Success in this area would have a major impact on Canada's natural gas supply in the longer term.

Eastern offshore region. Off the East Coast, seven wells were drilled and an eighth suspended in 1978, compared with only two wells drilled in 1977. Petro-Canada, the national oil company, participated in drilling six of them. Two were drilled off the Labrador coast resulting in a significant wet gas discovery off Hopedale. This find, fourth for the area and made by Chevron and Petro-Canada, flowed gas at rates up to 550 000 m³/d and condensate at 80 m³/d from two zones at about 1 900 m depth. The commercial significance of this discovery, still to be determined, was expected to revitalize industry efforts in offshore areas of Eastern Canada. In 1979, a total of nine wells were planned by the five groups of companies having exploration permits in the area.

In the Sable Island area of the Scotian Shelf, Petro-Canada and Mobil continued an evaluation drilling program started in mid-1977 on Mobil's area block, and finished four wells there during 1978, including a successful 2 km west stepout to the 1972 Thebaud wet gas discovery. The purpose of this program was to determine the commercial viability of oil and gas production in the Sable Island area. In May 1979 the fifth and final well in the program, Venture D-23, was declared a significant wet gas discovery. Petro-Canada also participated in drilling a well on the continental slope southeast of Halifax in 866 m of water, the deepest ever drilled off North America.

Exploration expenditures off the East Coast for 1978 totalled about \$75 million, almost five times those of 1977. Costs in 1979 were expected to increase to an estimated \$160 million because of the number of drilling programs.