

78,000 bbl. daily, to bring total output of liquid hydrocarbons to 787,000 bbl. daily. During the early part of 1964, total production of liquid hydrocarbons averaged over 835,000 bbl. daily and appeared to be moving toward the new target suggested by the Federal Government—an average of 850,000 bbl. daily in 1964. Natural gas output averaged over 3,055,000 Mcf. daily in 1963 and, although output in 1964 is not expected to increase as much as in 1963, deliveries are expected to be higher.

All western provinces except Manitoba shared in the increased production. Manitoba does not produce natural gas and the absence of new oil discoveries indicates a further downtrend in oil production. Oil-field activity in Saskatchewan was at a high level and directed largely to pressure maintenance schemes which have increased the province's recoverable reserves of oil about threefold. Production of oil in Saskatchewan was at a high level with demand exceeding productive capacity throughout most of the year. In Alberta, exploration was moderately successful, with several oil discoveries being made in the north-central part of the province. South of Lesser Slave Lake significant oil discoveries—indicative of a major oil producing area—were made early in 1964. Much farther north, at Zama Lake near the Northwest Territories border, several oil and gas discoveries were reported at about the same time.

Although Alberta oil production was at a record level of about 500,000 bbl. daily, output was equivalent to less than one half of the province's productive capacity. Natural gas output averaged 2,585,000 Mcf. daily, or 85 p.c. of Canadian output. Exploration in British Columbia slackened somewhat but development of fields near Fort St. John continued at a high level. Production remained at about 40,000 bbl. a day in 1963 and into early 1964. Gas output amounted to 323,000 Mcf. daily. In the Arctic islands the second and third exploratory wells were both abandoned after failing to find oil or gas. Comparatively little drilling was done on the Northwest Territories mainland.

The total footage drilled in Western Canada during oil and gas exploration and development was 14,132,000 feet, an increase of 8 p.c. over 1962. The increase was mainly in development drilling; exploratory drilling increased only slightly. One third of the footage drilled was of an exploratory nature while the remainder was development drilling of known oil and gas fields. Of the 2,888 new levels, 52 p.c. were oil wells, 13 p.c. were gas wells and the remainder were dry wells. Of all wells drilled in Western Canada, 59 p.c. were in Alberta and 33 p.c. were in Saskatchewan. A sharp decrease in drilling in British Columbia was counterbalanced by an increase in Saskatchewan. In Ontario, 202 wells were drilled, nearly the same as in 1962, although a greater proportion of dry holes resulted.

Geophysical activity in Western Canada, based on a month-by-month comparison of the number of crews working, was slightly less than in 1962. The decline in geophysical activity has been evident since 1953, except for a levelling-off in the 1961-62 period. The gravity survey remained a comparatively minor geophysical method. Seasonal fluctuations in seismic surveying were slightly less than in 1962. In terms of crew-months, seismic survey work in the western provinces was as follows: Alberta, 392; British Columbia, 107; Saskatchewan, 79; Manitoba, nil; and Yukon Territory and Northwest Territories, 53.

Alberta.—In 1963, the total footage drilled in the search for and development of petroleum and natural gas amounted to 9,807,000 feet, an increase of 7.7 p.c. over 1962. Despite the over-all increase, exploratory drilling decreased slightly. The increase was due to greater development of known fields, particularly the Swan Hills, Snipe Lake, Kaybob South, Sylvan Lake, Medicine River and Deer Mountain fields. A total of 1,704 wells were completed of which 869 were oil wells, 275 were gas wells and 560 were dry. The Goose River field north of the Kaybob field was probably the most important 1963 oil discovery. Drilling carried out in 1963 on a natural gas discovery made the previous year near Edson partly outlined the largest natural gas reservoir found in Alberta in the past several years.