

## CONTINENTAL SHELF STUDIED

Oceanographers on the staff of the Department of Transport are obtaining interesting results from their investigation of the unusually large negative-gravity anomaly they detected last July in the continental shelf off Cape Breton Island, Nova Scotia. Scientists from the Bedford Institute of Oceanography at Dartmouth, N.S., aboard the CSS "Baffin", have traced the unusual structure, now known as the Orpheus anomaly, 110 miles east from the entrance to Chedabucto Bay to the edge of the Laurentian Trough (the sunken channel of the St. Lawrence River in Cabot Strait). The anomaly is 20 miles wide.

### SUGGESTED EXPLANATION

In the Laurentian Trough, they encountered an area of broken-up and disturbed topography but, ten miles to the south, they again detected a strong negative-gravity anomaly, which might or might not be a continuation of the Orpheus anomaly. According to Dr. Bosko Loncarevic, who is in charge of the investigation, the Orpheus anomaly could be caused either by a granitic intrusion or by an accumulation of sediments. If the latter, it would be of major geologic interest.

The whole shelf area south of Nova Scotia and Newfoundland has been receiving increasing attention from the petroleum industry. A number of companies hold leases on some 50 million acres of the floor of the shelf in this region.

The investigation is continuing, Dr. Loncarevic said. Marine geologists from the Bedford Institute will attempt to obtain, by diving, a specimen from the Orpheus rocks for further geological studies. The Orpheus rocks, situated just east of Madame Island, are an outcrop of material surrounding the west end of the anomaly, which is accessible during calm weather. Oceanographers will continue their study of this feature using a shipborne gravimeter and seismic methods. The outline of the gravity anomaly resembles Triassic sedimentary basins occurring along the east coast of North America. Seismic methods should help in the delineation of the geological structure of the gravity anomaly.

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## TYPES OF CANADIAN FARM

A detailed analysis of agricultural data classified by farm type is presented in the 1961 census analytical report "Types of Farms" recently released by the Dominion Bureau of Statistics.

The basis of the type-of-farm classification consisted of determining, for each individual farm, the agricultural item or group of items that contributed the major share (51.0 per cent or more) to total farm revenue during the period June 1, 1960, to May 31, 1961. Only commercial farms enumerated in the 1961 census (farms reporting sales of agricultural products of \$1,200 or more for the above period) were classified by product type.

A total of 12 groups was included in the type-of-farms classification. For comparison purposes, estimates were made of the number of commercial

farms classified to each farm type in 1951, based on a 20 percent sample and using the 1961 type-of-farm criteria.

### DOMINANT TYPES

The data analysed in the report show that, for 1961, the predominating farm type in Canada was the cattle-hogs-sheep group. Of the 353,293 farms classified as commercial, nearly a quarter (24.5 per cent) qualified for this category. Ontario and Alberta accounted for seven in ten of the farms in this group. The second and third ranking farm types were the groups classified as dairy and wheat. Slightly more than a fifth (22.4 per cent) of the commercial farms were typed as dairy farms. The bulk of these were located in Quebec and Ontario. Quebec accounted for half the Canadian total. In this province, nearly two-thirds (63.5 per cent) of the commercial farms were classified as dairy farms, considerably more than the corresponding proportion of 36.5 per cent in 1951. Wheat farms comprised 21.9 per cent of the Canadian total of commercial farms. As could be expected, the majority of the wheat farms were located on the Prairies. The above three farm types accounted for slightly more than two-thirds (68.8 per cent) of the commercial farms in 1961.

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## COLUMBIA TREATY RATIFICATION

The Columbia River Treaty, which will make possible the development of vast new supplies of low-cost hydro-electric power and will also contribute important flood-control benefits in British Columbia and the Pacific Northwest area of the United States, was ratified by Canada and the United States on September 16. The instruments of ratification were exchanged at Ottawa between Mr. Paul Martin, the Secretary of State for External Affairs, and the Ambassador of the United States to Canada, Mr. W.W. Butterworth.

### DUAL CEREMONIAL

The Ottawa ceremony was synchronized with another in New York City, relating to the 30-year sale of Canada's share of the extra power that will be generated on the United States section of the Columbia as a result of the treaty. A representative of the Minister of Finance received from a group of United States utilities, represented by the Columbia Storage Power Exchange, a cheque for \$253,929,534.25 in United States funds in payment for the power the CSPE was purchasing. The two ceremonies were carried out simultaneously, the representative of the Minister of Finance and a representative of the CSPE being in communication by telephone with Mr. Martin and Mr. Butterworth. The Canadian equivalent of these funds, approximately \$274 million, was transferred on the same day by Prime Minister Pearson to Premier Bennett of British Columbia.

To mark this important occasion, Prime Minister Pearson and President Johnson joined in a ceremony later in the day at the International Peace Arch on the Canada-U.S. border at Blaine, Washington, and Douglas, B.C., after an aerial tour of sections of the Columbia basin.