

Despite an increase of more than 25 per cent in the exports to overseas customers, the export total for 1960 was 8.6 per cent below the all-time high of 1959. This decrease resulted from the slump that occurred during the year in iron-ore consumption in the United States. Canadian iron-ore exports to that country were at a high level for the first half of 1960 because of a prediction made early in the year by the United States steel industry that its production would reach a near record of 120 million net tons. As early as April, however, an unexpected production decline set in. It levelled out in July, but by the end of the year it still had not reversed itself. Thus, iron-ore stocks at United States blast-furnace sites steadily increased and caused a sharp cutback in ore receipts during the last four months of the year. Canada's exports to the United States and its iron-ore output consequently declined.

MUSICAL FIRST FOR TORONTO

Alfred de Liagre, Jr., will present the new musical "Kwamina," starring Sally Ann Howes and Terry Carter, under the direction of Robert Lewis, at the Toronto O'Keefe Centre, for three weeks commencing September 4.

"Kwamina" is a contemporary musical, set in an African country on the verge of becoming an independent state.

The music and lyrics are by Richard Adler and the book by Robert Alan Aurthur. Mr. de Liagre engaged Agnes deMille to stage the dances and the musical numbers. Brock Peters plays the principal featured role, with Rex Ingram, Ethel Ayler and Norman Barrs in other featured roles.

DIVERS COLLECT OIL SAMPLES

Surprising discoveries concerning the origin and formation of crude oil have been made by the Research Council of Alberta, resulting from experiments conducted with the aid of an Edmonton skin-diving club.

Using their sport for the advancement of science, members of the Edmonton Aquanauts have been probing the bottoms of several Alberta lakes and retrieving samples of the sediment. Lake Wadamun, Jackfish Lake and Pyramid Lake have been entered and samples obtained. The divers used a cylindrical copper suction-plunger to obtain columnar samples and an ordinary plastic bucket for bulk specimens.

The lake-bottom mud has been subjected to tests at the Research Council laboratory to establish the time required for the formation of crude oil from organic and other substances. The sediment contains minute quantities of crude oil and also traces of chlorophyll derivative, which is a component of crude oil. Using a spectrophotometer, which measures the quantity and quality of color, the green chlorophyll has been used as a "trace" material to gauge the chemical age of the sediment specimen. The

green color changes directly with chemical age in a constant relation.

SHORTER TRANSFORMATION TIME

The investigation indicates that most of the transformation of organic and other substances takes place in a much shorter time than had been thought likely. Research Council scientists have estimated that the transformation period may be less than 100 years, and not the million-year time-span previously estimated. The Alberta discoveries have enough significance to be accepted by *Nature*, a scientific journal that periodically reports noteworthy scientific achievements.

Extending the studies of substances from Alberta lakes, the Research Council of Alberta has received sample sediments from the Mackenzie River and from the Gulf of Mexico. Tests of these specimens indicate that the transformation period does not vary appreciably under widely different climatic conditions.

RENEWABLE RESOURCES STAMP

A special postage stamp illustrating the multiple use of Canada's renewable natural resources is to be issued on October 12, according to a recent announcement by Postmaster General William Hamilton. Mr. Hamilton said the new stamp is part of the Post Office Department's contribution to the "Resources for Tomorrow" programme, a long-range project designed to ensure the effective multiple use of Canada's natural resources. The programme is to be inaugurated by a Federal-Provincial conference scheduled for Montreal in October. The Federal Government, with the ten provincial governments, is participating in the conference and all 11 governments are vigorously supporting the programme.

PUBLIC SUPPORT FOR RESOURCES PROGRAMME

The Postmaster General noted that the "Resources for Tomorrow" programme was first suggested by the Prime Minister as a means of co-ordinating efforts to improve the management of Canada's natural resources. A major objective of the Montreal meeting will be an improved understanding of the necessity of public support for the effective multiple use of renewable resources. The stamp, symbolizing the renewable resources of agriculture, forestry, water power, fisheries and wildlife, and linking them with the wheel of industry, is intended to make all who see it in Canada and abroad conscious of the need for the effective multiple use of the country's resources today if they are to be enjoyed in undiminished volume tomorrow.

The new stamp is in addition to special issues commemorating northern development, the Indian poet E. Pauline Johnson, the late Arthur Meighen, former Prime Minister of Canada, and the tenth anniversary of the Colombo Plan, already announced for production during the year.