



CANADA

CANADIAN WEEKLY BULLETIN

INFORMATION DIVISION • DEPARTMENT OF EXTERNAL AFFAIRS • OTTAWA, CANADA

Vol. 13 No. 10

March 5, 1958

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SURVEY PROGRAMMES ANNOUNCED

Much has been done toward the topographical and geological mapping of the Northwest Territories, but because of its vast size, the inaccessibility of much of it, and the shortness of field seasons, a great deal remains to be done. Transport Minister George Hees said last week in a speech at Edmonton. Interest in the northland, mineralwise and otherwise, has been increasing, and the Government has been stepping up its mapping activities to meet the demand.

Mr. Hees said, in part:

"So great is the area to be mapped in Canada that the Geological Survey has had to turn to helicopter-supported parties to provide more rapid reconnaissance so as to be able to evaluate the possibilities of these great unmapped areas within the foreseeable future. By this method, 30 times greater coverage has been achieved during any one season.

"In three operations in the field season of 1952, 1954 and 1955, the Survey mapped a total of 185,000 square miles of the Precambrian in the mainland portion of the Territories on a scale of one inch to eight miles. Moreover, the experience gained in these operations has enabled the Survey to cut costs and to actually map large areas by helicopter at less cost than by conventional ground methods.

"Last year in Operation Mackenzie, the Survey mapped 100,000 square miles of the Upper Mackenzie River drainage basin, much

of which is being explored for oil and gas. The region is underlain by rocks similar to those in which producing wells have been found in Alberta and to the northwest at Norman Wells, and there is little doubt that this whole area contains a great reserve of oil to which Canada will turn in future years.

"This year the Survey will use helicopters to map the geology of the Wholdaia area in southeastern Mackenzie District, large sections of which are inaccessible to canoes. This year, too, it will also establish fuel caches for two ambitious projects it has scheduled for 1959, Operation Coppermine, and the aerial reconnaissance of Banks and Victoria Islands.

"In Operation Coppermine, the Geological Survey will map some 60,000 square miles of territory in northern Mackenzie District starting at the western boundary of the Shield and proceeding eastward towards Bathurst Inlet.

"In the Banks-Victoria Islands project, the Survey expects to explore the main stratigraphical and structural features of some 125,000 square miles of the Islands which are still unexplored geologically.

"Together, these projects are providing the data for an assessment of the mineral potential of the Canadian Northland. They are also providing a veritable storehouse of valuable information to which industry and those interested in resources development may turn in years to come.

"The increasing importance of the Canadian Northland, economically and politically, in the modern scheme of things, has underlined the need for good base maps of the whole region. The first step to this end is to carry out high altitude vertical photography of the area to be mapped. This has been completed over the mainland Northwest Territories, and the Topographical Survey is now mapping this part of the Territories on a scale of four miles to the inch.

"Moving into the Arctic Islands, the Department of Mines and Technical Surveys is getting under way this coming field season a \$6,000,000 project to photograph the Islands for later detailed topographical mapping. The project is the largest of its kind ever undertaken in the Free World, and it will take a dozen planes six years to photograph the 500,000-square-mile area.

"In anticipation of such photography and mapping, the Department of Mines and Technical Surveys, through its Geodetic Survey, started in 1955 to set up initial framework of survey control necessary for mapping over the Islands and completed the job in 1957. The Thousands of photos to be taken will be tied into this framework, as will the control for later topographical mapping of the Islands by the Topographical Survey.

"The Geodetic Survey was able to complete this vast project in such a short time by using shoran, an electronic method of distance measurement. Since 1949, it has completed a shoran network of survey control over all of the mainland Northwest Territories and Yukon, as well as over the Arctic Islands.

"Mention should also be made of the hydrographic surveys undertaken to make our northern waters safe for shipping. For this reason the Department of Mines and Technical Surveys has added a new vessel, the BAFFIN, to its hydrographic fleet for the special purpose of Arctic work. During the past few years, the Canadian Hydrographic Service has been charting shipping routes in the Hudson Bay and Hudson Strait for the shipment of ores and concentrates to European and other ports. In addition, that service also assigns hydrographers each year to the northern supply vessels of the Department of Transport to carry out charting along the vessels' tracks and in the ports visited."

IMPORTANT CONFERENCE IN GENEVA

The twelfth session of the United Nations Commission on the Status of Women convenes in Geneva on March 17. For the first time in the history of the Commission a Canadian representative will take a seat on the Commission.

Canada was elected by the United Nations Economic and Social Council last May to serve a three-year term on the Commission. The Council is the parent organ to which the Commission reports.

The Commission, whose function it is to prepare studies and make recommendations on all aspects of women's political, economic, social and educational status, will have a heavy agenda before it. Among the subjects which it will consider are reports on the political rights of women in member states of the United Nations and Trust and Non-self-governing Territories; on the access of women to education, prepared by UNESCO; on equal pay for equal work, prepared by the ILO; on economic opportunities for women including problems confronting working mothers, the age of retirement and the right to pension of women workers, conditions of working women including women with family responsibilities, and the right of working women to rest and to material security when they can no longer work.

The Commission will also consider the status of women in private law, technical assistance and advisory services in relation to the status of women, and reports from the Inter-American Commission on Women. Finally, it will consider its own future work programme and priorities.

Canada's representative on the Commission is Mrs. Harry Quart, M.B.E., of Quebec City who was also a member of the Canadian Delegation to the Twelfth Session of the General Assembly. Miss Marion Royce, Director of the Women's Bureau, Department of Labour, and Mr. Neill Currie, Department of External Affairs, will act as advisers to Mrs. Quart in Geneva.

WHOLESALE SALES LARGER

Wholesale sales in 1957 were estimated at \$7,744,103,000, a rise of 0.3 per cent from 1956's total of \$7,720,353,000, according to the Dominion Bureau of Statistics. December sales were down 4.2 per cent to an estimated \$603,472,000 from the 1956 December total of \$630,071,000.

Sales were larger in 1957 as compared to 1956 for groceries and food specialties, footwear, drugs and drug sundries, newsprint, paper and paper products, tobacco, confectionery and soft drinks, automotive parts and accessories, and commercial, institutional and service equipment and supplies. Year's sales were smaller for fresh fruits and vegetables, meat and dairy products, clothing and furnishings, coal and coke, farm machinery, hardware, household electrical appliances, industrial and transportation equipment and supplies, and construction materials and supplies, including lumber.

Increases in 1957 were: groceries and food specialties, 8.8 per cent to \$1,355,447,000 from \$1,246,104,000; tobacco, confectionery and soft drinks, 7.6 per cent to \$605,083,000 from \$562,413,000; drugs and drug sundries, 6.1 per cent to \$189,223,000 from \$178,409,000; automotive parts and accessories, 2 per cent to \$394,313,000 from \$386,436,000; other

textile and clothing accessories, 1.9 per cent to \$203,139,000 from \$199,258,000; commercial, institutional and service equipment and supplies, 1.9 per cent to \$109,898,000 from \$107,887,000; newsprint, paper and paper products, 1.8 per cent to \$297,791,000 from \$292,400,000; and footwear, 1.6 per cent to \$31,175,000 from \$30,691,000.

Year's declines were: farm machinery, 17.4 per cent to \$60,068,000 from \$72,726,000; construction materials and supplies, including lumber, 3.8 per cent to \$682,710,000 from

\$709,996,000; coal and coke, 3.6 per cent to \$195,663,000 from \$202,900,000; clothing and furnishings, 3.5 per cent to \$86,418,000 from \$89,531,000; industrial, and transportation equipment and supplies, 3.4 per cent to \$738,559,000 from \$764,789,000; hardware, 1.9 per cent to \$307,351,000 from \$313,417,000; household electrical appliances, 1.8 per cent to \$165,650,000 from \$168,601,000; fresh fruits and vegetables, 0.7 per cent to \$231,804,000 from \$233,446,000; and meat and dairy products, 0.7 per cent to \$172,256,000 from \$173,443,000.

FROM BOUNDARY TO BOUNDARY

The "Saskatchewan News" reports that along the 60th parallel topping the Province of Saskatchewan a group of 20th century explorers is cutting a six-foot wide 'sky-line' through the bush, and punctuating it every mile or so with boundary markers. This is the Saskatchewan-North West Territories boundary survey, now on the last lap of a four-year race against weather and seasons. During the past three years, working in winter so that measurements could be taken across the frozen lakes, the boundary advanced 200 miles east from the northwest corner of the province.

Only 76 miles remain to be completed, and the survey party hopes to reach the northeast corner by the spring break-up. Undertaken jointly by Canada and Saskatchewan, the survey is charged with the responsibility to truly establish the boundary of the province as defined in the Saskatchewan Act of 1905, which designates the 60th parallel as the north limit of Saskatchewan.

Fifty years ago Saskatchewan's north was remote and largely inaccessible. Today the northerly invasion of prospector, geologist, trapper, commercial fisherman, tourist, settler and pilot has made it necessary to delineate the boundary between the province and the North West Territories. The discovery and development of the uranium field on the north shore of Lake Athabasca and settlement at Uranium City has also spotlighted the need for firmly establishing the jurisdictional boundary.

The survey party now in the field is headed by W. (Bill) Blackie, Dominion Land Surveyor of Ottawa, who was also in charge the two preceding winters following the initiation of the survey in the winter of 1954-55 under W.M. Schwartz, at present Senior Land Surveyor for the Saskatchewan Surveys Branch. The full strength of the party this winter is 25 men. They camp under silk tents, surprisingly comfortable even in severe weather, and travel by motor toboggans and dog teams.

The party this year is carrying out experiments in the use of a Tellurometer, which is a new instrument for the electronic measurement of distances. If it can be successfully

used at extremely low temperatures, this device will reduce the necessity for checking distances between boundary markers by the slower method of chaining, and should appreciably decrease the costs of surveys under winter conditions.

"LID" ON PROVINCE

In addition to visibly putting the "lid" on Saskatchewan, the north boundary survey will also provide a basis for more accurate mapping of the province - an essential adjunct to the expanding settlement, intensive resource development and growing diversity of economy Saskatchewan is experiencing today. Maps become tools in the hands of the community planners, the geologists and oilmen, the geophysicists and engineers, the soils specialists, foresters, prospectors and miners.

Maps are the common denominator in a great variety of projects from oil and gas explorations to fighting a forest fire, from planning a provincial park to gauging the business potential of an area by counting its farm houses. A good topographical map is the basis for other maps. Superimposed on it are geological, geophysical, soils and forestry maps. Also needed are depth-sounding maps for fishermen, aeronautical charts for airmen, and even, for the first time in Saskatchewan, navigational charts for the freight barges plying Lake Athabasca to Uranium City.

WHO MAKES MAPS

Who are the map makers? Although the provinces make many of their own specialized maps, most Canadian topographical maps are made by the Federal Department of Mines and Technical Surveys, which is charged with the formidable task of mapping Canada's 38,000,000 square miles. More than 50 years ago Canada pioneered the mapping of mountain areas by photographing terrain from mountain peaks. From this successful beginning grew the programme of photographing the whole of Canada from the air, and mapping from the aerial photos. There has been constant improvement in the quality of photo prints, in aerial cameras, in flying technique and in photo mapping

(C.W.B. March 5, 1958)

instruments, with the result that Canada is considered a leader in the field of mapping of extensive areas. Along with the aerial camera, the Federal Department of Mines and Technical Surveys helped to develop instruments for electronic measurement of distances and making ground profiles from the air, all of which have contributed to faster, more accurate mapping.

As many as 50 large-scale, detailed maps of Saskatchewan alone are prepared each year and made available from the Surveys Branch, Department of Natural Resources in Regina, or from the Department of Natural Resources map library, Provincial Government Building, in Prince Albert.

RAILWAY TRACK MILEAGE

Railway track mileage in operation in Canada at the end of 1956 totalled 59,829.8 route miles, an increase of 514.2 miles over the 59,315.6 reported at the end of 1955. Mileage of first main track, or "single track" increased to 43,652.1 from 43,444.3 route miles. In all, an addition of some 233 miles of first main track occurred during 1956, but abandonments and reclassifications reduced the net gain to 208 miles.

Grand Falls Central Railway, reporting for the first time in 1956, contributed 23.1 miles, all of which are in the province of Newfoundland. Opening of a new line between North Vancouver and Squamish Junction added 39.1 miles to Pacific Great Eastern lines in British Columbia, while 21.4 miles opened between Bracket and Drywood, Alberta added to the Canadian Pacific Railway total.

Mileage of "second track" declined to 2,475.9 from 2,486.2 at the end of 1955, but "industrial track" mileage rose to 2,383.9 from 2,242.8 and "yard track and sidings" to 11,317.9 from 11,142.3.

SUGAR BEET INDUSTRY

The 1957 sugar beet crop, estimated at 987,000 tons from 83,911 acres, is the fourth largest in the history of the industry. It is expected to supply between 15 and 20 per cent of the refined sugar used by Canadians in 1958 according to F. Dimmock, Forage Crops Division, Central Experimental Farm, Ottawa. The highest production was achieved in 1950, when 1,115,854 tons of beet were harvested from 101,496 acres.

The seven sugar beet factories in Canada, three in Alberta, one in Manitoba, two in Ontario and one in Quebec, can process roughly one-and-one-half million tons of beets each year. Production, therefore, is obviously much below the capacity of processing facilities. This is largely due to low acreages in Ontario and Quebec where for many years production has amounted to only about half that which the

factories could handle. On the other hand, the factories in Manitoba and Alberta have consistently operated at full capacity.

Much labour is required to grow sugar beets, almost all of it done, until recently, by hand. In an attempt to reduce labour requirements, and production costs, much research has been done in the past few years to increase mechanization. From this has come mechanical thinners and weeders, mechanical harvesters which top, lift, clean and load the beets, and mechanical unloaders. Other research has resulted in, first, the decortication of seed to reduce the multiple seed ball to one containing a single seed, uniform in size and, second, monogerm seed varieties.

With greater mechanization of production, it is hoped to stimulate more interest among growers in areas where production has either fallen off or never reached the levels required by the factories, particularly in Ontario and Quebec.

AGRICULTURAL STABILIZATION ACT

Mr. Douglas S. Harkness, Minister of Agriculture, has announced that the Agricultural Stabilization Act was proclaimed and went into effect on March 3, 1958.

This Act will establish a system of flexible guaranteed prices for agricultural commodities based on a ten year moving average formula. There is an ultimate security clause in the Act to ensure that for nine key commodities, no matter how drastic a decline prices may take, farmers are guaranteed a minimum of 80 per cent of the base price, that is of the average price during the preceding ten years. These nine key commodities are cattle, hogs, sheep, butter, cheese, eggs, and wheat, oats and barley except in the Canadian Wheat Board areas.

In addition to the mandatory floor price of 80 per cent, the Act provides that, with the approval of the Governor in Council, support prices at a higher level than 80 per cent of the base price may be established, and this undoubtedly will be the case with some commodities.

For these nine key commodities the mandatory floor price or a support price higher than the mandatory floor price will be in effect at all times.

The guaranteed yearly prices for the nine mandatory commodities and for other commodities for which price support is required will normally be set during the first three months of each year and will be in effect for twelve months in each case after being set.

It is expected that most, if not all of the minimum prices for the nine mandatory commodities will soon be announced. Also, several other commodities not on the mandatory list will be named and their prices set in the near future.

FINAL EXPORT TOTALS

Rising slightly over the preceding year, Canada's domestic exports topped all previous years in 1957 at \$4,840,700,000 versus \$4,789,700,000 in 1956, according to final figures for the year released by the Dominion Bureau of Statistics. Both volume and prices averaged narrowly higher during the year. December's exports rose almost 10 per cent to \$443,500,000 from the year-earlier total of \$403,700,000.

Broadly, record shipments of primary and semi-processed metals and minerals more than offset lower total values for farm and forestry products. Among individual commodities there were gains in uranium ores and concentrates, crude petroleum, nickel, iron ore, asbestos, machinery, newsprint, cattle and seeds. Wheat and other grains, wheat flour, planks and boards, wood pulp, aluminum and products, copper and products, and zinc and products were among the commodities with smaller values.

Geographically there were larger exports to the United States, Latin American countries, European countries and all other foreign countries as a group, but smaller shipments to the United Kingdom and other Commonwealth countries.

Exports to the United States reached a record total of \$2,869,247,000 in the year, slightly larger than the preceding year's \$2,818,655,000, accounting for close to three-fifths of total domestic exports in both years. Trends in exports to the United States were mixed among main commodity groups, five being higher in value and four lower. Chief increases were in animals and animal products, non-ferrous metals, and non-metallic minerals. Due mainly to reduced exports in the agricultural and vegetable products and non-ferrous metals and products groups, exports to the United Kingdom fell in 1957 to \$737,530,000 from \$812,706,000 in the preceding year. Five main groups had larger values, chief

gains being in wood and paper, iron and products, and chemicals and products.

Domestic exports to the rest of the Commonwealth dropped in value to \$233,118,000 from the preceding year's \$243,216,000, larger exports to Jamaica, India, Pakistan and Australia being more than offset by smaller shipments to a number of countries including Trinidad and Tobago, Union of South Africa and New Zealand.

With substantial increases to Argentina, Brazil, Mexico, Panama and Venezuela and smaller gains to 7 others of the 20 countries of the group, total exports to Latin American countries rose in 1957 to \$224,655,000 from \$176,436,000 in the preceding year.

Exports to European countries as a whole rose in total to \$557,787,000 from \$538,036,000 in the preceding year. Increases were posted for Belgium and Luxembourg, France, Federal Republic of Germany, Italy and The Netherlands. In 1956, there were large shipments of wheat to Czechoslovakia and the U.S.S.R. but shipment values to these countries were comparatively small in 1957.

Chiefly as a result of a substantial gain in exports to Japan, total domestic exports to all other foreign countries rose to \$198,887,000 in 1957 from \$182,942,000 in the preceding year.

Commodity-group values for the year 1957 were as follows, in thousands: agricultural and vegetable products, \$831,600 (\$975,000 in 1956); animals and animal products, \$302,100 (\$260,200); fibres, textiles and products, \$27,200 (\$22,600); wood, wood products and paper, \$1,456,100 (\$1,514,500); iron and products, \$520,300 (\$458,800); non-ferrous metals and products, \$1,006,300 (\$959,500); non-metallic minerals and products, \$347,700 (\$292,100); chemicals and allied products, \$195,300 (\$182,900); and miscellaneous commodities, \$154,100 (\$124,200).

ASSISTANT COMMISSIONERS POSTED

Six Assistant Canadian Trade Commissioners, at present in training and on tour in the Atlantic Provinces, have been posted, and will proceed to their respective destinations next May. During their stay in Ottawa, they have had an opportunity of familiarizing themselves with the functions of all branches of the Department of Trade and Commerce, and of gaining some knowledge of the operations of other government departments and agencies of government.

Raymond C. Anderson, of Wetaskiwin, Alberta, and a graduate of the University of Alberta, has been posted to Sao Paulo, Brazil; Roger A. Bull, of Ottawa, and a graduate of the University of Toronto, to Detroit; Claude T. Charland, of Quebec City, and a graduate of

Loyola College and McGill University, to New Orleans; Neil L. Currie, of Turtleford, Saskatchewan, and a graduate of the University of Western Ontario, to Bogota, Colombia; Robert G. Gaynor, of Lethbridge, Alberta, and a graduate of the University of British Columbia, to Manila, Philippines; and Gilles P. Morin, of Montmorency, Quebec, and a graduate of Laval University, to Washington, D.C.

Three additional Assistant Canadian Trade Commissioners in the same class have already been posted. They are: George E. Blackstock, of Toronto, and a graduate of the University of Toronto, posted to Buenos Aires; Barry C. Steers, of London, Ontario, and a graduate of the University of Western Ontario, posted to Singapore; and Robert G. Woolham, of Toronto, and a graduate of the Ontario Agricultural College, Guelph, Ontario, posted to Tokyo.

COMPLETE ARCTIC WARFARE COURSE

Operating in temperatures ranging as low as 38 below zero and in winds gusting up to 62 miles an hour, 35 officers and men of the German, Italian, British and Canadian armies have completed a four-and-one-half week course in arctic warfare at the Churchill, Manitoba, Canadian Joint Services Station.

During their training, candidates on the course spent a total of 15 days living and fighting out on the Barren Grounds.

During their first five days outdoors, troops undergoing training were taught to build the various types of shelter used by the Canadian Army in arctic regions. During this period of their instruction they lived in arctic nylon tents, snow caves, igloos and, when not too far above the treeline, in lean-tos constructed of brush and scrubby fir trees.

Once the basic elements of survival in blizzards and biting cold had been grasped, the 35 candidates and their instructors left their base camp to carry out two five-day tactical exercises on the windswept tundra without shelter of any kind.

The first exercise was conducted on the tundra of the Barren Grounds; the second was held in the deeper, softer snow of the tree-line. Both exercises were highly successful.

Major Delbert (Deb) Kearns, of Calgary, the Canadian Army's chief instructor in arctic warfare at Fort Churchill, said morale of the students remained high at all times. Apart from frost-bite there were no injuries or sickness during the course. By the time they had completed their final arctic trek all could be considered seasoned veterans of living and fighting in the arctic, he added.

Many times during their 15 days on the Barrens, blowing snow reduced visibility to zero, but training continued as scheduled. The "warmest" weather encountered during the outdoor phases of their training was a "mild" 25 degrees below zero. The wind chill factor rose as high as 2,390 - dangerously high for outdoor work or living.

Worked out by a mathematical formula the wind chill factor was designed to measure the degree of discomfort experienced by the human body in extreme cold, and how this discomfort is affected by an increase in wind. When it climbs to 1,750 - far below that in which troops on the course operated - all animal life heads for shelter.

While living and carrying out tactical exercises on the Barrens, candidates on the course were warmly clad in Canadian-designed special arctic clothing. Each man carried an 80-pound rucksack on his back and took his turn hauling toboggans loaded with cooking utensils, camping gear and rations. Throughout their training they carried the new FN rifle and, when the snow was soft or deep, did their marching and "fighting" on snowshoes.

To supply the tremendous amount of energy needed to live, fight and move in the Arctic, each man on the course was provided daily with compact ration packs that provided a whopping 4,500-5,000 calories daily, almost double that required by the average working man.

Although a large number of Canadian Army officers and men have been trained in arctic warfare at Fort Churchill in past years, this is the first year candidates from other countries have been invited to participate in the training.

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STATEMENT ON AIR CO-OPERATION

The following statement was issued last week by Mr. George R. Pearkes, VC, Minister of National Defence:

"I have ascertained from NORAD Headquarters, Colorado Springs, that reports of United States Air Force interceptor fighters overflying Canadian territory carrying nuclear warheads are incorrect.

"Current agreements between the Canadian and United States Governments provide for the integrated operational control of all air defence forces in the two countries. Under normal peacetime conditions, nuclear weapons are not flown on training or active air defence flights for the purpose of identification of unknown aircraft. They are, however, loaded on some USAF "alert" aircraft ready for instant use if need be.

"Only in situations of immediate danger and grave emergency would air defence aircraft armed with nuclear weapons fly over Canadian territory under present Canada-United States agreements.

"Bomber aircraft of the B47 and B52 type of Strategic Air Command have carried out training flights over Canadian territory with nuclear weapons aboard on certain occasions. However, these flights take place only with the prior and express permission of the Canadian Government in each instance."