

## The Search for Oil in Mackenzie District

"The open season of 1921 in the Mackenzie River oil fields has come and gone," writes Mr. F. H. Kitto, of the "Natural Resources Intelligence Branch of the Department of the Interior, who has spent the past two seasons in the Mackenzie District. With the cessation of activities, that were pushed with feverish haste during the short summer months of continuous daylight, comes an opportunity to review the progress and development that has been accomplished, and to weigh the situation in the light of additional knowledge gained.

On the whole, in general terms, an atmosphere of disappointment is evident. To the casual observer the field has proved below par and therefore a failure. Such snap verdicts are to be expected—in fact they cannot be avoided. The tendency to over-estimate and "boom" that was so rampant last winter and spring could not fail to produce a reaction. Whether or not the field will ultimately prove fruitful, the facts that its location is far distant from markets and that systems of transportation will be difficult and expensive to establish, prohibit an immediate return from any capital invested.

The usual army of cheap adventurers that gather on such occasions has been eliminated, and only the seasoned veterans or recruits with sufficient stamina and financial backing remain. The action of the Canadian Government in framing new regulations that will insure the development, and not the "wild-catting," of this resource and in authorizing the Royal Canadian Mounted Police to refuse right of entry to parties without material means of combating the severe elements and living conditions of the district, or of others of questionable intentions though raising a storm of protest at the time, is proving effective.

It now becomes evident to the thinking man that the returns from this source, if any, will be slow in appearing, and that the work of prospecting and developing will be spectacular. There is, however, no reason to feel disappointed. There is no more excuse for a reaction now than there was for a boom last spring. The fact is, there never was any justification for jumping at conclusions of enormous returns. Only a beginning has been made and serious prospecting is hardly yet in full swing. The field has by no means been tested, and those in a position to hazard a sane forecast are exceedingly optimistic.

The summer has resulted in emphasizing two main features: the magnitude of the task of developing the oil resources, as already referred to, and the great possibilities, more within the reach of the man of limited capital, of discovering valuable deposits of placer gold, gold-bearing quartz and silver lead, zinc, copper and iron ores. A large number of prospectors, attracted to the district by the publicity resulting from the discovery of oil, and finding themselves unable to participate in its development, have spread to the north, east and west in search of minerals offering quicker returns. Already several promising discoveries have been reported, and it is a gasoline distillation plant with a capacity of from 150 to 200 gallons per day and are distilling gasoline for the local river trade. These figures may be exaggerated. True, the Imperial Oil have a small plant and some tanks, but perhaps not of this capacity. There is as yet neither the

available oil to produce the quantity of gasoline mentioned nor the local demand for any such amount.

This company is now drilling on the opposite shore from Discovery Well, on Bear Island, in midstream, on a line between these points, and at a point near Bear rock, a few miles below Norman. A crew of drillers will winter there and continue operations as long as possible. The Imperial Oil were drilling also last year at Windy Point, on the northwest shore of Great Slave Lake. The continuation of this well proved disappointing during the last summer. Salt water was encountered and later a granite formation was reached. Beyond this depth the prospects were considered worthless and the well was therefore abandoned.

The Fort Norman Oil Co., one of the newer concerns, showed a remarkable ability to speed up work, and on a location in the vicinity of Discovery Well drilled a hole to a depth of upwards of 1,500 feet. An unsuspected dip in the formation has been proved here, as Discovery is less than 900 feet deep. Indications of bringing in the well were reported good, but, owing to lack of casing operations, had to be suspended for another season.

This is about the extent of actual work done, though a few minor attempts might be recorded. Considerable staking was done along the Mackenzie River in the Norman field, as well as on both north and south shores of Great Slave Lake centering on Windy Point, Pine Point and Hay River. Leases acquired under the terms of the old regulations were sold for as high as \$35,000 and are still in demand though at reduced figures. New leases are almost going a-begging for purchasers.

Indications point to an active era of drilling during the season of 1922, by the Imperial Oil, who may have from five to eight rigs at work, and the Fort Norman Oil Co. These concerns should prove up the Norman field next year. A syndicate of Montreal men who have secured extensive holdings on Hay River, a few miles above its mouth, on the south shore of Great Slave Lake, have stated their intentions of actively prospecting their ground during next season. There will possibly be a few other concerns represented, and more tangible results are hoped for inside the next twelve months.

Though another year is not likely to be ushered in by the excitement that marked 1921, it is not improbable that it may witness material advancement over anything yet accomplished. The public should not be surprised or stampeded at reports of fabulous discoveries, nor disappointed if new findings are not immediately forthcoming. It is generally conceded that even with the most gratifying successes development must of necessity be slow. It is also well to bear in mind that a scattered advance guard just possible that directly or indirectly the oil stampede may result in the opening up of one of the greatest mining areas of the north. Among these prospectors are found some of the most experienced men of the Klondike and other famous fields.

Interest, of course, focuses on the Imperial Oil Discovery Well, located at a point on the right bank of the Mackenzie River about 45 miles below Norman. Late last fall a gusher was reported to have been struck here at a depth of about 885 feet. Wild stories were circulated as to the tremendous volume of oil encountered.

## THE UNOCCUPIED LANDS OF CANADA

Lists Available of Areas For Sale in Maritime and Prairie Provinces.

One of Canada's chief needs, in fact, one of her most important requisites, is the increased use of the unoccupied lands, now held in private ownership.

Due to absent proprietors, or lack of information as to the conditions under which the property may be acquired by prospective settlers, the land continues in an unproductive condition, notwithstanding that much of it is more or less contiguous to railways.

With a view to bringing the owners of land and enquirers together, the Natural Resources Intelligence Branch of the Interior Department is compiling and publishing lists of such un-

occupied lands in the several provinces. These lists give such information as name of owner and his address, location of the property, price and terms on which it can be acquired, quality of soil and area available for cultivation, distance from railway, etc. So far as possible the information has been secured from the owner or the agent for the property, with a view to maximum accuracy.

Lists of unoccupied lands have been issued for Nova Scotia, New Brunswick, Prince Edward Island, Manitoba, Saskatchewan and Alberta, and these lists may be had on application to the Natural Resources Intelligence Branch, Department of the Interior, Ottawa.



"THE WEARIN' O' THE GREEN."

## APPEAL MADE FOR CANADIANS IN DIRE DISTRESS IN NEW YORK

A despatch from New York says:—There is so much distress among Canadians—ex-soldiers and otherwise in New York City—that the president of the Canadian Club has issued the following appeal:—

"There are many hundreds of Canadian and British ex-soldiers in New York not only out of employment, but in real need of shelter and clothing. As the winter grows more severe their needs will become more acute.

"Many of our fellow-Canadians in

search of food and employment are out in the present weather without sufficient clothing and I appeal for your contributions of any spare clothing you may have. Over forty men a day are being dealt with and I cannot over-emphasize the urgency of this appeal."

The actual work of relief is being carried on by the British Great War Veterans of America in New York who have now established a bureau for the issue of clothing and subsistence and the finding of employment.



Viscount Morley, Veteran Home Ruler in the House of Lords, and twice Secretary for Ireland, who at the age of 83 moved in the House of Lords the adoption of the Irish Peace Treaty. It was his first appearance after seven years of silence.

## French Doctors Sever Tie in Siamese Twins

A despatch from Paris says:—With the presentation this week to the Academy of Medicine by Dr. Le Filliatre of "Susanne," a healthy eight-year-old child, was produced living proof of a successful operation performed eight years ago to separate Siamese twins.

While Madeleine, the other twin, died following the operation Dr. Le Filliatre explained that death was due, not to the severing of the connecting organ, but to a fatal malady.

The operation, which was performed three months after birth, was made extremely difficult by the presence of numerous blood vessels in the connecting tissue, and the fact that organs of the two infants were intertwined, the hepatic tissue joining the livers of each.

## One Country Where U.S. Dollar Below Par

A despatch from Geneva says:—Switzerland is the only country in the world where the United States dollar to-day is below par. The dollar was quoted at five francs 12 centimes on the Geneva Bourse.

The normal rate before the war was five francs 15 centimes. The highest rate after the armistice was signed was five francs ninety-nine centimes.

A kindly feeling is the touch that never hurts.

## GREAT BRITAIN MAKES PLEA FOR SCRAPPING OF SUBMARINES

A despatch from Washington says:—Great Britain found herself completely isolated in her demand for the total abolition of the submarine. Lord Lee, of Fareham, First Lord of the Admiralty, made before the full committee on naval armament a strong reasoned plea for the scrapping of all sub-sea craft. Delegates of the United States, France, Italy and Japan followed him with a flat rejection of the proposal.

All five powers were agreed, however, that this conference should declare the sinking at sight of merchant vessels a heinous offense against the rules of war. They will probably enter into an agreement concerning the submarine the right of visitation and search, but they will condemn the sinking of merchant vessels carrying arms and contraband before passengers and crew are able to take to the boats.

On behalf of the United States, Secretary Hughes read the unanimous report of the Advisory Committee of the American delegation declaring strongly in favor of the retention of the submarine as a defensive weapon, but advocating that it be outlawed as a weapon of unlimited warfare against commerce.

The discussion of the submarine question is not yet concluded. In the meantime all the five delegations concerned will consult with their naval experts as to the effect of the statements made at the first meeting.

The committee was unable to take any further steps to settle the Franco-Italian naval strengths. The French announce that they were still waiting for further guidance from Paris, and were not in a position to hand in their statement of claim for strong squadrons of light cruisers, destroyers and submarines.

## New Use of "Movies."

For some months Professors Haultain and Dyer of the Department of Mining Engineering, University of Toronto, have been working, in such spare hours as they could find, on a research problem which baffled them because the operations involved occur so quickly that it is impossible for the human eye to distinguish them. The problem is this: After gold-bearing ore has been crushed to fragments of about an inch and a half in diameter it is put into a "tube mill" or "ball mill" which looks very much like a huge drum. Into this same metallic drum a quantity of water is put and also a number of balls of metal or stone. The drum is then rotated and the ore is ground fine—the whole process resembling nothing quite so much as digestion in a fowl's "crop," where food, water, and small pebbles are "churned" together. The research workers ask themselves these questions: How fast should this drum be rotated to secure best results? How many "rock balls" should be put into the drum? Should these balls be as large as a baseball or as small as a golf ball? Should large and small balls be mixed, and, if so, in what proportion? As about two million tons of gold-bearing ore are treated each year in normal mining in Ontario, these are rather important questions. But how can answers to them be obtained when, through the specially constructed glass face of the drum, the sharpest human eye sees only a blur, a swiftly moving mass? The ultra-speed camera, on the initiative of Clifford Sifton, Jr., B'15, supplied the answer. A "movie," at the rate of one hundred and twenty pictures per second, was taken. The pictures were then transferred to the screen, but were shown at the rate of only sixteen per second. Then the whole process was clear as daylight. Instead of watching a swiftly whirling tube mill the professors watch pictures on the screen, study the process without difficulty (because lightning-like movements are now as slow as desired), and draw conclusions from the data presented.

## The World's Water Power.

The available water power of the world is estimated at about 200,000,000 horse-power, of which approximately 25,000,000 is now developed or in the course of development.

## Question of Submarine Tonnage of Powers

A despatch from Washington says:—Lord Lee presented the following estimates of existing submarine tonnage to the armament conference: United States, 83,600; Great Britain, 80,500; Japan, 32,000; France, 28,360; and Italy, 18,250. He pointed out that under the proposals of 90,000 tons each for Great Britain and the United States, and 54,000 for Japan, the United States could build 6,500 tons, Great Britain 9,500, and Japan, 21,800, with the other two countries in proportion.

## Queen Mary's Card Bears Betrothed's Portraits

A despatch from London says:—A Christmas card of rather novel character was used by the Queen. Instead of taking the conventional form, the card is headed "The Royal Romance." Of buff-colored board, it contains portraits of Princess Mary and Viscount Lascelles, and below is attached a small calendar bearing the words, "With good wishes, 1922."

## UNITED STATES MAY BE MORE THAN "OBSERVER" IN SUPREME COUNCIL

A despatch from London says:—There is reason to believe that George Harvey, the American Ambassador, will play a much more important part in the forthcoming meeting of the Supreme Council at Cannes than he did in the last meeting of the Council at Paris.

The correspondent was given to understand on excellent authority that there is every prospect of the United States participating in the present movement toward an economic revival of Europe to a much greater extent than she has participated heretofore. It is even stated upon reliable authority that the Harding Government, if asked to do so, will probably send a

representative to the general European economic conference, which Premier Lloyd George hopes will result from the meeting of the Supreme Council.

Though Ambassador Harvey is supposed to sit in the Supreme Council merely as an "observer," the line where "observation" ends and "active participation" begins is an extremely fine one. In general, it is safe to say that the United States policy, which will be followed at Cannes, and afterwards, will be to participate actively in any question which is likely materially to effect American foreign trade and finance, or in a situation which might result in international hostilities.

## Canada From Coast to Coast.

Fredericton, N.B.—A total of 28,028 acres were planted to spring wheat in this province during 1921, producing 441,400 bushels according to the Provincial Department of Agriculture. Other agricultural statistics were: Oats, 284,728 acres, yield 6,905,000 bushels; barley, 8,898, 175,700; buckwheat, 49,812; hay and clover, 625,875; 16,192,000; hay and clover, 625,000 tons from 694,497 acres; and turnips, 17,745 acres, 6,202,000 bushels.

Halifax, N.S.—The Bluenose, Nova Scotia's champion of the international schooner race, left last week for Ponce, Porto Rico, on her first trip to a foreign market, with a cargo of fish. In her hold were 600 casks, equivalent to 1,800 barrels of fish.

Sydney, N.S.—It is reported that a new and modern machine shop is to be erected in Sydney shortly by the Dominion Steel Corporation. The most up-to-date machinery is to be installed, adequate to attending to all repairs required in the plant, coal mines or railway. This will mean additional industrial activity and a swelling volume of employment.

Quebec, Que.—The production of honey in the Province of Quebec has more than doubled in the last seven years. From 1,500,000 pounds in 1914 the annual output has grown to 3,800,000 pounds in 1921. There were in the first year of the war only 3,200 farmers interested in the production of honey whilst to-day the number of producers is 6,300, according to the chief of the Honey Production Branch, Provincial Department of Agriculture.

Montreal, Que.—In the total volume of grain into Montreal port from May 1st to December 1st, the rail route exceeded the water route by eleven million bushels in the biggest grain year the port has ever experienced. According to the Montreal Board of Trade 64,559,360 bushels of grain arrived by lake boats as compared with 75,567,069 bushels by rail in the same period. The grand total of grain by boat and rail reached the enormous aggregate of 140,036,445 bushels of all grains, a volume in excess of all other Atlantic ports combined from Halifax to Philadelphia and Newport News, including the port of New York.

Ottawa, Ont.—Canada's potato crop for the past season amounted to 110-895,000 bushels, according to the Dominion Fruit Commissioner's November report. The total value of the potato crop to farmers was estimated at \$85,677,000. In the yield per acre Ontario averaged 103½ bushels, as against 152 bushels last year; Quebec 162½, 185½; Nova Scotia 163½, 203½; New Brunswick 216½, 198; Manitoba, 166½, 92½. Alberta and Saskatchewan also show increases.

Ottawa, Ont.—With an average bank savings per head of population in the vicinity of \$170, Canada is said to lead the world in this respect. At the end of October 31, 1921, savings deposits amounted to \$1,367,929,274.

Winnipeg, Man.—Within the past year 71 different enterprises were started in Winnipeg, aggregating an investment of \$1,000,000. Among them were factories for the manufacture of linen, garden implements, cabinets, electric appliances, lamps, chemical products, radiators, wood carving, brooms, cigars and caps.

The Pas, Man.—Speckled trout, identical with those found in the Nipigon River, have been caught in the Kettle Rapids on the Nelson River. This, it is expected, will have the effect of diverting some tourist traffic from Ontario to Northern Manitoba. The fish are said to be plentiful and of a good size.

Regina, Sask.—It is reported that wheat receipts of the Saskatchewan Co-operative Elevator Co. for the past season total 22,000,000 bushels. This is 3,000,000 bushels more than last year at this time.

Regina, Sask.—The area sown to fall rye in Manitoba, Saskatchewan and Alberta this year is about 100 per cent. greater than the area sown last year. The figures for 1920 and 1921 are 236,155 and 544,483 respectively.

Edmonton, Alta.—The story of a pronounced disability disclosing itself as a valuable asset comes from the Smoky River country along the line of the Edmonton, Dunvegan and British Columbia Railway. Engineers of the road had ceaseless trouble in maintaining the approach to the crossing of the river owing to the continual sliding of the clays of which the banks are composed. Now it appears, after examination, that these clays, of which there is an enormous quantity, are valuable for the manufacture of brick and tile drain, and may in time give birth to an industry, the traffic of which should compensate the railroad for some of the trouble it has experienced.

Calgary, Alta.—Calgary gardeners have demonstrated that the pessimistic prophets of twenty years ago were lacking in vision in respect to certain flowers, such as dahlias. The first dahlia show has just been held in the city and nearly 2,000 blooms were entered. Some of these were from six to eight inches in diameter and the hues were particularly vivid and gorgeous.

Vancouver, B.C.—A timber limit at Chilliwack is reported sold for \$600,000 by Alex. McLaren, of Buckingham, Quebec, to Westminster Mills. The property has been held by the McLaren family for 32 years. McLaren still has extensive holdings on Vancouver Island. The deal is one of the biggest of the year.

