

## 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 not be spectacular. There is, however, no reason to feel disappointed. There is no more excuse for a re-action 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 and 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 centre 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 stamped 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. To be brief, as it now stands, this well remains the only one yet brought in, and in place of being a prolific gusher, is a rather insignificant little producer. However, it actually does produce and a very high grade of oil at that, though in limited quantities. It is reported that the Imperial Oil are installing at this well five storage tanks of 4,500 gallons capacity each, of silent men are searching out the secret hiding places of other minerals and may be heard from at unexpected places and times. An underlying tone of confidence in the future of this great district is expressed by those whose qualifications fit them to be the best judges.

### The Retort Courteous.

"Why is it, doctor," said the lawyer, "that you are always running down the legal profession?"

"Well," replied the doctor, "your profession doesn't make angels of men, does it?"

"Ah, there you do have the advantage of us," came the prompt retort.



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.

### 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 normal mining year 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.

### 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 offence against the rules of war. They will probably enter into an agreement conferring on the submarine the right of visitation and search, but they will condemn the sinking of mercantile 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 claims for strong squadrons of light cruisers, destroyers and submarines.

### CONSTABULARY AND SINN FEIN IN FIGHT

#### Six Republicans Killed and Twenty Wounded While Battling With Police.

A despatch from Belfast says:—Six Republicans were reported killed and 20 wounded in a battle between Sinn Feiners and constabulary in the mountains of County Tyrone early on Wednesday morning.

Alleged Republicans Tuesday night made a raid near Limavady, County Londonderry, capturing 15 men and marching them off. Early Wednesday morning special constabulary from Tyrone, while scouring Sperrin Valley, came across a body of men with the captives. The police gave battle and chased the Republicans into the mountains, both sides firing as they ran.

It was during this engagement that the Republicans suffered their heavy losses. The captives were released and the police captured five Sinn Feiners during the fight.

### Effect of Irish Free State on British Trade

A despatch from London says:—Lord Aberconway, one of the most prominent figures in the British shipbuilding and coal industries, says:

"The Irish Free State, even with an exceptionally low income tax, would not offer any attraction to British or foreign capital. The British income tax will sooner or later be lowered, while Southern Ireland will not be able to get along without a pretty high income tax. The Irish Free State will not have any adverse effect upon British trade."

### 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.

## 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.

## 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 the 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.

## THE UNOCCUPIED LANDS OF CANADA

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

One of Canada's chief needs, in fact her most important requisite, 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.