

Tapping Largest Hydro Source Could Unleash Mineral Giant

BY LARRY STANWOOD

Like a slumbering giant, British Columbia's northland is stirring and the key to its strongbox of untold wealth lies in harnessing what is believed to be the greatest hydro potential in the world.

But start on development of the Atlin Lake-Yukon River watershed—estimated to hold a potential of 5,000,000 to 20,000,000 horsepower—may be mired down for years unless a satisfactory outcome is reached soon in a dramatic power play now in progress.

Jockeying for the favor of two governments and the right to rouse the sleeping northland power Titan are two of North America's biggest metallurgical interests, the Aluminum Company of America, and Frobisher Limited, a Canadian company backed by wealthy, mine-holding Ventures Limited.

Each is negotiating with the Canadian and British Columbia governments; each is trying to outbid the other with proposals of projects ranging from \$600,000,000 to more than a billion dollars.

Two governments are involved because part of the watershed in question lies in the Yukon, whose resources are controlled by the Canadian government, and part lies in B.C., over which the provincial government exercises control.

The present high-level poker game developed when a proposal by Alcoa to create a large reservoir in northern B.C. and the Yukon to power a \$600,000,000 aluminum smelting project of Skagway, Alaska, was spurned by the federal government.

On the heels of this proposal came announcement of a plan by Frobisher Ltd. proposing a gigantic metallurgical centre in northern B.C., making use of the same watershed, but to a much larger extent than proposed by Alcoa.

MINERAL CENTRE

The Frobisher project called for a power development in several stages and in location of a chain of smelters in B.C. near tidewater to form the greatest mineral-metal centre in the world.

After the federal government had rejected Alcoa's request for Yukon water rights, it welcomed the offer by the Canadian firm of Frobisher, but the B.C. government wanted to hear from both firms.

It is believed now that negotiations are underway to seek a plan whereby both companies could enter a joint development of the power resource.

ALCOA FIRST

Alcoa first received permission for a survey of the Atlin-Yukon region in 1949, results of which gave the original indication of a great power potential in northwestern Canada.

A post-war survey completed by the Canadian government after it was launched as a joint U.S.-Canada project during World War II, showed, only spotty hydro resources in that area. Present methods of harnessing large watersheds were then unknown to government officials.

Alcoa's plan approximates the blue-print followed by its Canadian rival—Aluminum Company of Canada Limited—at Kitimat, B.C., which has dammed up a huge reservoir east of the Coast mountain range, then created a 1000-foot head of pressure by drilling a 10-mile tunnel through the mountains to tidewater.

The American company's plan was to dam the Yukon River which flows into Alaska and empties into the north Pacific, backing it up to combine Atlin, English and Bennett Lakes.

A 19-mile tunnel from the lower end of Bennett Lake would tap this reservoir, emptying into Teliya River in Alaska. Power would be transmitted to the smelter at Skagway, a distance of 20 miles.

Skagway, a deep-sea port near the top end of the Alaskan Panhandle, provided initial access to the Yukon and Atlin areas during the fabulous gold rush of '98. It is still the gateway and exit of the Yukon and terminal of a 120-mile Whitehorse to Skagway railroad.

OFFER REJECTED

While Alcoa announcement in the summer of 1952 caused a major real estate boom and much speculation in the small Alaskan town, the excitement was short-lived.

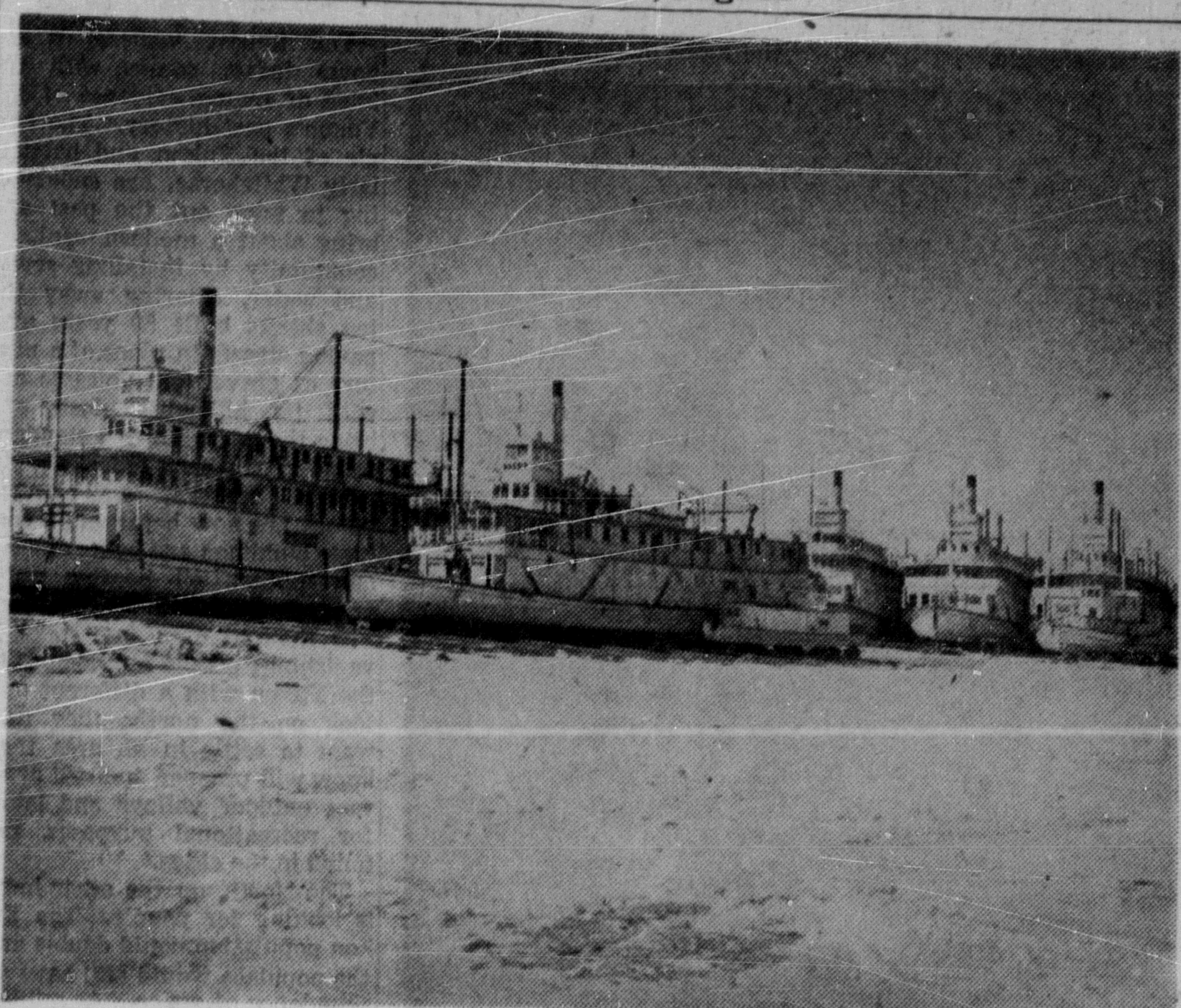
On December 17, the Canadian government made its stand clear and firm. No deal would be made with the U.S. firm for export of water power outside of Canada.

One important objection to Alcoa was that an aluminum smelter located in Alaska would be able to ship its product into the world's biggest market, the U.S., without tariff.

Alcan at Kitimat, B.C., dependent to a large extent on the American market, would have to pay the tariff and federal objections were against allowing Alcoa to use Canada's immense hydro potential to undercut Alcan in the American market.

A government spokesman

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RIVER STEAMERS, once the main form of transportation in the Yukon, no longer ply the mighty river to Dawson City and Mayo Landing. Good roads and heavy trucks now take the place of these wood-burning paddle-

wheelers which have been relegated to decay and crumble on the beach. This fleet of stately river queens is owned by the British Yukon Navigation Co. Ltd., which today uses trucks and buses instead.

stated that investigation had shown the power resource could be used by future Canadian projects.

But no such flat rejection came from the B.C. government, which invited Alcan officials for negotiations, and Alcoa's hopes went up once more.

Meanwhile, Frobisher Ltd. sent one of the largest survey parties to enter the north to investigate the Atlin Lake watershed. As a result, a tentative project was outlined by company president Thayer Lindsley at a stockholders' meeting in Toronto that startled the business world.

OTHER PLAN

Power would be developed by damming the outlet of huge Lake Atlin and reversing its flow through a mile-long tunnel at its southern tip to Sloco Lake, only 100 or so feet higher in elevation. Sloco River, which empties the small but deep lake into the Taku River and on to tidewater, would be dammed to complete the reservoir.

Initial stage of generating 100,000 horsepower would be accomplished by a nine-mile tunnel dropping from the 2,300-foot level of Sloco Lake to create a 1,000-foot head. Second and third generator stations, established by extending the tunnel to near sea level, would complete the project.

Smelters, built at tidewater—possibly at Tulsequah—about 35 miles from the power site, would form the nucleus of the greatest metallurgical centre in the world, capable of treating many types of ores mined in world-wide Ventures' holdings.

Other dams to increase reservoir capacity would probably have to be constructed. The entire project, estimated to be capable of developing up to 5,000,000 and more horsepower and costing more than a billion dollars, would dwarf either Alcoa's proposal or Alcan's Kitimat-Kemano project.

But there is one main flaw in the Frobisher plan for which no remedy has yet been proposed. It concerns the Alaska Panhandle barrier to the approaches of the Taku River and the inaccessibility of Tulsequah, the proposed smelter site, by deep-sea ships.

PANHANDLE BARRIER

The Alaska Panhandle is a strip of coastline running from the main body of Alaska to within 50 miles of Prince Rupert, B.C. It leaves Canada without a free port north of Stewart, about 300 miles south of the power reservoir.

Conwest Takes Active Part In Northern Explorations

One of the most active in exploring mineral deposits in far northern British Columbia and in the Yukon is Conwest Exploration Company Limited.

But besides carrying out a prospecting, exploration and development program, Conwest is a major shareholder in such recent developments as United Keno Hill Mines Limited and Cassiar Asbestos Corporation Limited.

The company recently secured concessions to explore for oil and natural gas on two parcels of land located on the Eagle Plain and the Peel Plateau in the Northwest and Yukon Territories, each parcel comprising approximately 5,000 square miles.

OIL EXPLORATION

"The area is believed to be underlain by formations favorable to occurrence of oil and

While Tulsequah is just within the Alaska-B.C. border, it remains within a 25-mile reach of deep-water ships. The Taku River, which it borders, is fed by a glacier and keeps silting at a great rate each year.

What's more, the Taku River mouth is dotted with islands and sandbars, making it impossible for all but small, flat-bottomed river boats to reach Tulsequah. Successful dredging would mean creating a 25-mile channel to deep water.

Only other probability in using the Taku River site is for Canada to obtain certain rights from the U.S. for use of the Panhandle "corridor" to the Taku. Such a request, proposed by B.C. Boards of Trade and the B.C.-Yukon Chamber of Mines, has been shrugged off by the federal government.

Alternative smelter sites—should the problem at Tulsequah not be overcome economically—might be either Stewart, at the head of Portland Canal, or Alice Arm, at the extreme end of Observatory Inlet.

JOINT PROJECT

Both are deep-sea ports and clear of the Panhandle barrier, but are some 300 miles south of the power potential. Such a project would require transmission lines to be constructed over tough, mountainous terrain and the distance would account for high voltage losses.

It is for these reasons that current negotiations over a joint undertaking by the two companies have evolved. In exchange for a permit to export hydro power from Canada, Alcoa would provide a firm block of generated power for Canadian users.

Such a deal, the B.C. government has indicated, would meet with its approval; would provide for almost immediate, large-scale development of the vast hydro potential; would fire the long-awaited opening guns of a northern mineral empire.

Other official reaction to the two proposals has been outspokenly critical or highly optimistic.

A former Yukon mining executive and now president of the Whitehorse Chamber of Mines, says:

"The Yukon stands to gain more from a nearby hydro project than from any other development. We have tremendous ore reserves, more and more are proven every year, but because of distance to smelters, low grade ore mining is not economical.

"With reduced transportation

and smelting costs which a nearby hydro project would offer, mining in the Yukon would be subject to such stimulation which would make anything in the past look like peanuts."

RESOURCES FOR B.C.

Frank Calder, member of the Legislature for Atlin constituency, which contains the main portion of the huge power resource, says:

"Any plan for these resources must be of such a nature as to give the greatest benefit to the B.C. economy and give a just return to the people whose natural heritage these resources basically are.

"B.C. must be careful to see that any development of northern water power will aid in provincial development and not only in establishing industry outside our borders."

In an editorial, the B.C.-published Western Business and Industry magazine, says that "it is not for this generation to alienate the assets and opportunities of the next in Canada. Particularly is this to be remembered in planning the development of the water power resources in B.C...."

"If we allow ourselves to be tempted by quicker returns, faster cash in hand from United States offers, but an unalterable long-term deal that will cost us tragically much in the future, then we shall be poor stewards in our time.

"History will be not more impressed with us than it is with the vision of the angry men who opposed the purchase of Alaska, greatest real estate bargain all history."

Meanwhile, the B.C.-Yukon hydro giant remains the most prominent single potential that may spark the inevitable dilution of Canada's far northwest from a near-primitive, forgotten frontier to a churning empire of industry.

Sun Affects Rate Of Human Pulse

A scientist attributes to the sun what romanticists have long linked with the moon—a variation in the human pulse rate.

The sun, which governs all life on this planet, produces radiation effects which until recently have been little understood.

According to Dr. Charles G. Abbott, physicist and former secretary of the Smithsonian Institution, these effects have a "definite statistical relationship" to variation in the human pulse rate.

The solar cycle has a regular bearing on weather and temperature changes. Spots on the sun which have been noted for centuries now herald broadcast interference to radio engineers and warn navigators of magnetic storms at sea.

But if it weren't for these life-giving rays, the earth would be a frozen ball hurtling through space.

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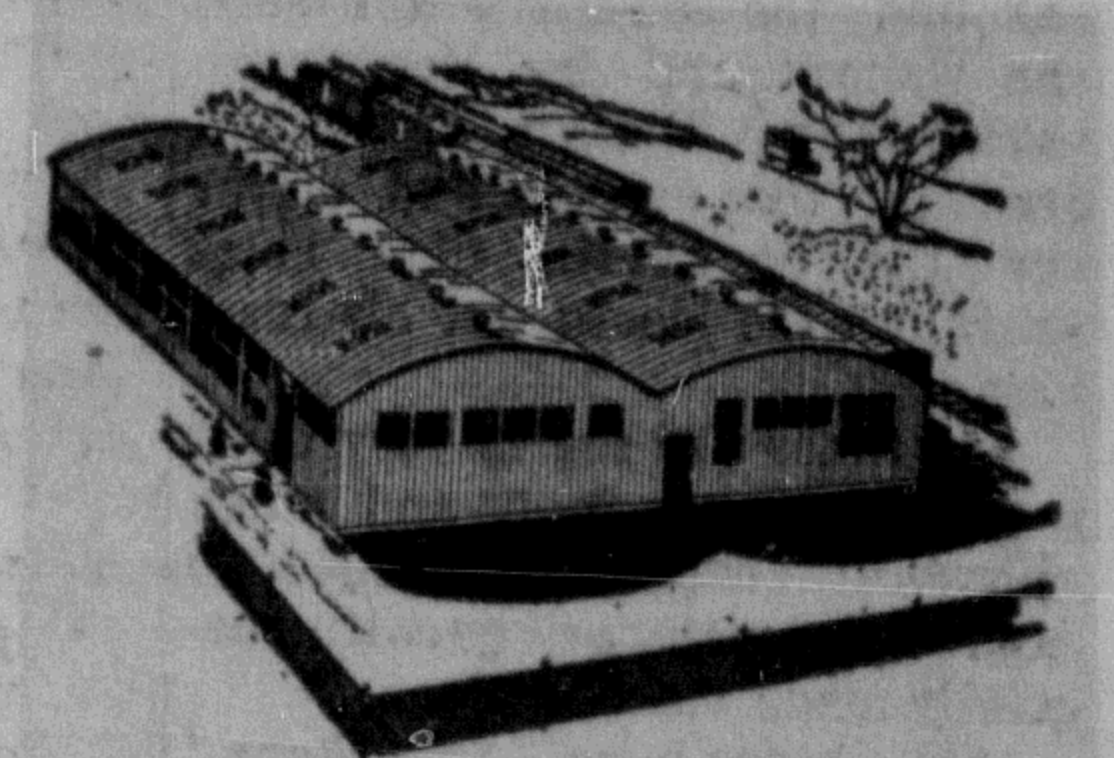


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