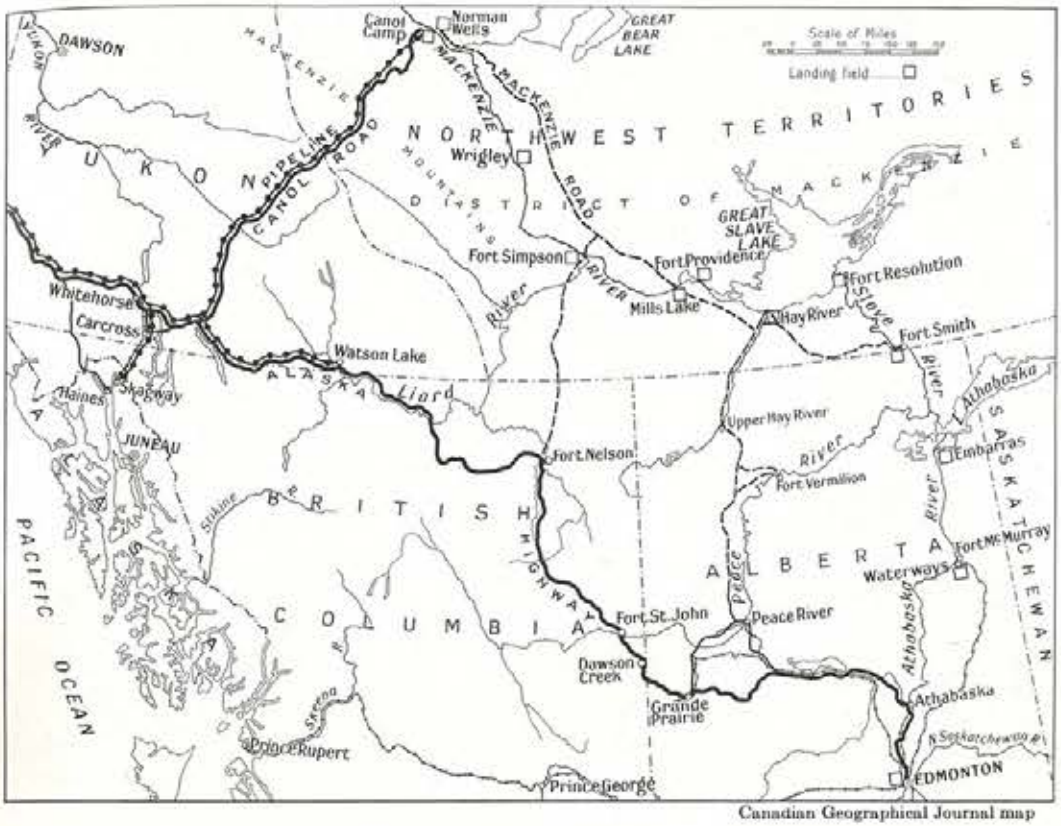

Canadian Geographical Journal map

The Epic of Canol*

by RICHARD FINNIE

THE CANOL PROJECT was one of the most stupendous construction feats of its kind ever undertaken. It was also one of the least understood and most maligned. For two years it involved the labours of thousands of soldiers and civilians whose activities ranged over hundreds of thousands of square miles in northwestern Canada and Alaska.

Canol—short for Canadian oil—was conceived by the United States War Department in the spring of 1942 as a device to help fuel the Alaska Highway and its airports from the handiest local source. That source was Norman Wells in the District of Mackenzie, the most northerly producing oilfield in North America.**

When work was beginning on the Alaska Highway, Lt.-General Brehon B. Somervell, then Chief of the U. S. Army Service Forces, instructed an assistant to look into the strategic possibilities of Norman Wells. The assistant conferred with some petroleum experts and then submitted a brief memorandum to the General, recommending that a crude-oil pipeline be run in a bee-line to Whitehorse, Yukon, centrally located on the Alaska Highway, and that a refinery be erected there to handle the 3,000 barrels of fuel per day that the Norman field was believed to be capable of producing. The memorandum was approved as written, and the project was turned over to the Chief of Engineers for execution.

That was at the end of April, 1942. Almost

*This is an adaptation of an address delivered under the auspices of The Canadian Geographical Society and in the presence of Their Excellencies the Governor General and the Viscountess Alexander at the National Museum, Ottawa, December 4, 1946, in conjunction with a showing of the film "Canol", in sound and colour, photographed, written, and produced by Richard Finnie for the U.S. War Department.

**See "The Canol Project", by Oliver B. Hopkins, *Canadian Geographical Journal*, November 1943.

immediately the Imperial Oil Company was enlisted to step up the production of Norman Wells, and within three weeks a pro-tem combination of American contractors known as Bechtel-Price-Callahan was given the job of building the pipeline and the refinery, with requisite facilities. B-P-C invited me to fly to Edmonton to help them get started. Later I was taken over by the Corps of Engineers, and saw the project through to the end. I never lost my enthusiasm for it, nor my belief in its basic soundness. I hoped, of course, that it would contribute to the war effort; but I felt that ultimately it would make a greater contribution, in one way or another, to the postwar development of northwestern Canada.

At the time Canol was begun, our situation was not a happy one either in Europe or the Pacific. There was an imminent threat to our west coast and to Alaska, and indeed the Japanese soon had troops in the Aleutians. The sea lanes to Alaska might be blocked, and with a shortage of freighters and tankers it was imperative that an overland route to Alaska be opened up and given an assured fuel supply. All that was done, and with amazing speed.

Through supplementary Canol pipelines that were laid from Skagway to Whitehorse and from Watson Lake to Fairbanks was pumped gasoline that fuelled not only the ground vehicles and aircraft engaged in local operations, but also swarms of American lend-lease fighters and light bombers that were ferried to the Soviet Union for use against the Germans on the eastern front.*

The Alaska Highway and its airports were never wholly secret. From the very beginning their construction and operation were reported in the newspapers and the publicity was for the most part favourable. The Alaska Highway was quite properly hailed as a great construction triumph, aiding in the defence of this continent.

In contrast, the Canol Project, despite its integration with the Alaska Highway, was kept officially secret in its entirety for a year, and partly secret for some time afterward. But unlike the Manhattan Project, it could not be kept behind locked doors; it was too spread out for that; and all travellers, including journalists and politicians, could see some evidence of it and hear gossip about it from Edmonton to Norman Wells, Skagway to Whitehorse or Fairbanks. As soon as the first stories about it were released—and they were garbled stories—it became a target for assorted critics, most of whom were ill-informed. From first to last, Canol suffered from the lack of a consistent and reasonable public relations policy. The fact was therefore obscured that the project was justifiable as a war measure and that it had lasting peacetime value.

Before the United States Army Engineers went to work on the Alaska Highway, our own Department of Transport had established the main airports along the Canadian section of the route and commercial aeroplanes were using them on scheduled flights. Long stretches of the road itself had already been pioneered. In fact, not counting dog-team trails, there was a series of motor roads or winter tractor roads connecting a number of points along the 1600-mile route from Dawson Creek, British Columbia, to Fairbanks, Alaska. With Canol it was different.

As a job of pioneering in northern wilderness, Canol was bigger than the Alaska Highway. Before they could begin laying their main pipeline the Canol constructors were obliged to create a supply system through an immense, undeveloped region, much of which was hardly explored. In doing so they actually pioneered more airfields and more miles of roads than did the builders of the Alaska Highway. In effect, they opened up a secondary Alaska Highway with a secondary chain of airfields.

Altogether, some nine thousand miles of northern routes were used on the Canol Project, two thousand of which were pioneered by the constructors—civilian and military—and over those routes, by boat and barge, truck and tractor, aeroplane and railroad train, considerably more than a hundred thousand tons of freight were moved.

Before the war there was not a single airport for transport planes in the Northwest

*See "Canadian Petroleum Goes G.S." by John Ness, *Canadian Geographical Journal*, July 1945.

Territories—a region comprising more than a third of the total area of the Dominion. Before the war there was no road in the Northwest Territories longer than eight and a half miles. Today, in the Mackenzie District alone, we have eleven full-fledged airfields and several emergency landing strips, all but one of which were built for the Canol Project. Today, in the Mackenzie District, we have more than a thousand miles of overland roads, and in Northern Alberta, British Columbia, and the Yukon Territory hundreds of miles more of them, all pioneered for the Canol Project. We also have new camp sites and town sites, oil wells, pipelines and telephone lines, and other facilities. In connection with the Canol Project many thousands of square miles of hitherto unknown country were explored and opened up. Whatever mineral deposits they may contain are now available as never before.

On the heels of the Canol constructors came naturalists and geologists of the Canadian Government and of private organizations, and last spring over some of the roads of the project rolled the snowmobiles of Exercise Musk-ox.* I hope that these roads will be maintained and improved so that other vehicles may use them—the trucks and cars of prospectors, settlers, and tourists. There is more awe-inspiring scenery, mile for mile, along the Canol Road from Norman Wells over the Mackenzie-Yukon divide toward Whitehorse than along the three-times-longer Alaska Highway, which has some spectacular vistas of its own.

Besides its material accomplishments, Canol provided an education in modern pioneering methods: it was a colossal practical experiment in sub-Arctic transportation and construction, meeting and solving problems of permafrost (permanently frozen soil)** and cold-weather operation of equipment on a vast scale.

Although Canol was pre-eminently an American undertaking, Canadian companies (e.g. Imperial Oil, Hudson's Bay Company, Northern Transportation Company, Canadian Pacific Airlines) and Canadians as individuals had a lot to do with its success. While the labour was predominantly American, Canadian surveyors, geologists, aviators and transportation experts played key roles in exploratory work, in the locating and building of roads and airfields, and in the moving of freight.

It was in June, 1942, that the first flight was made across the unexplored Mackenzie-Yukon divide between Norman Wells and Whitehorse to seek a feasible route for a road and pipeline; and I had the privilege of helping to arrange that expedition and being a member of it. Twenty months later, in February 1944, after having followed every phase of the project in the field, as northern adviser and historian to the Army and the civilian constructors, I had the satisfaction of witnessing the "golden weld"—the final tie-in of the two ends of the main Canol pipeline. Not only was the pipeline itself completed, but there was an all-weather service road and telephone line accompanying it for 520 miles between Norman Wells and a point on the Alaska Highway 80 miles east of Whitehorse; there was a refinery at Whitehorse; there was a thousand-mile series of supplementary pipelines radiating from Whitehorse to the southeast, to the northwest, and to the south, besides pumping stations, tank farms, innumerable camps, hundreds of miles of access roads, a dozen airfields, and a major oilfield development. It was an extraordinary achievement.

No one should begrudge the fact that the war ended without need of petroleum from Norman Wells to repel an attack on the Alaskan mainland, or to help fuel a thrust at Japan through Alaska; various circumstances, including the atomic bomb, took care of that. But it was good insurance nevertheless, and Canol pipelines did play an important part in the wartime operation of the Alaska Highway and its airfields. Incidentally, the Norman oilfield proved capable of producing far more than the original quota of 3,000 barrels per day; it could have produced about seven times that amount if necessary. Canol was not only one of the war's most unusual construction projects, it was also one of the most enduringly beneficial.

*See "Winter Manoeuvres in Canada", by J. Tuzo Wilson, *Canadian Geographical Journal*, February 1946.

**See "Civil Engineering in Frozen Soil, U.S.S.R.", by A. I. Dementiev and V. F. Tumel, *Canadian Geographical Journal*, January 1946.