

The Origin of Canol's Mackenzie Air Fields

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This account of the Canol's Mackenzie air fields is based on personal diaries and reflects the author's participation from the spring of 1942 to the summer of 1945.

In her interesting article, " 'Punch' Dickins and the Origin of Canol's Mackenzie Air Fields" (*Arctic*, Dec. '79), P. S. Barry concludes with several questions to which she failed to find answers. She surmised that if there were any, they would require a search of formerly "classified" government and military documents pertaining to Canol. Sources of information she drew from were reports, letters, magazine articles, and one book (*Canol*, my impersonal pictorial history of the project). Few of her sources of information had first-hand familiarity with the subject. I did, and had she queried me I could have answered most of her questions and clarified her facts.

Toward the end of May 1942 at my home near Ottawa I received a telephone call from my friend Vilhjalmur Stefansson in New York. With him in his office, seeking his advice as an Arctic explorer and author, were several top men in a pro-tem partnership of American engineering-construction companies to be known as Bechtel-Price-Callahan. One of them came on the line and said, "I've just read your new book, *Canada Moves North*. Dr. Stefansson recommends you highly for your up-to-date knowledge of an area where we have a War Department contract to undertake a secret defence project. We've had no experience in northern Canada, so we'd like to hire you as a liaison officer and consultant to help get the project started. How soon can you leave for Edmonton?"

I was the first Canadian employed on the Canol Project, and became one of only a handful of Canadians and Americans who were intimately associated with it in all of its phases and in all areas of activity from conception to completion two years later.

Stefansson and I, in newspaper and magazine articles, had been advocating utilization of the Norman Wells field, then the most northerly producing oil field in North America, as an emergency source of fuel for the protection of Alaska and northwestern Canada after the outbreak of World War II, thus possibly providing inspiration in Washington for what was called the Canol Project — Canol being an acronym for Canadian Oil, not "Canadian Norman Oil Line," as Ms. Barry has it.

She states, "The Canol Project was the first major intrusion of industrial-age activities into the Mackenzie District since commercial whaling collapsed in 1911; its effects were felt all the way to the Arctic Coast." There was never much whaling within the Mackenzie District, and the main

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rendezvous for Western Arctic whalers in Canada was Herschel Island, which belongs to the Yukon. Apart from that, how about the initial Norman Wells development from 1919 to 1925? And how about the brisk mining operations on Great Bear Lake through the 1930's, resulting in the further development of Norman Wells and the plying of new boats and barges along the Mackenzie River system and Great Bear Lake to deliver freight and fuel to the Eldorado uranium mine at Cameron Bay and nearby mineral exploration camps? These were major industrial intrusions in their day, though dwarfed by Canol.

As for the cost of Canol, which was officially \$134 million but which may well have exceeded that substantially if all peripheral military expenditures were included: the over-all cost applied not only to the Mackenzie District but also to the Yukon and Alaska. It was spent to build and service nearly a thousand miles of products pipelines up and down the Alaska Highway between Watson Lake and Fairbanks and a spur between Whitehorse and Skagway, besides the 577-mile crude oil line from Norman Wells to Whitehorse, a refinery at Whitehorse, and all supporting facilities such as the landing strips, access roads and a telephone line over the main Canol route. Even though such wartime projects, prosecuted hurriedly without sufficient advance planning, are bound to be expensive and wasteful, Canol now seems relatively cheap — even considering thirty years of inflation — in comparison with today's 800-mile Prudhoe Bay-Valdez oil line costing eight or nine *billion* dollars.

What is historically significant about Canol is that it was the forerunner of all large-scale petroleum-development and long-distance pipeline projects in northwestern Canada and Alaska.

THE ORIGIN OF THE AIRFIELDS

I was plunged into a rapid succession of events after my arrival in Edmonton just after midnight on May 28, 1942, along with a colonel in the U.S. Army Corps of Engineers, Theodore Wyman, Jr., who was to be officer in charge. Wyman told me that speed was of the essence, that northward-bound engineer battalions and civilian craftsmen would soon be pouring into Edmonton, followed by thousands of tons of freight required for the construction of a crude oil pipeline from Norman Wells to Whitehorse, where there was to be a new refinery to help fuel the Alaska Highway and its airports — all within six months.

Neither he nor any members of his staff had ever been in the North, and they had no inkling that the time limit set for them by equally uninformed Washington planners would not be met.

Having covered much of the Mackenzie District several times in previous years as a writer, explorer and film-maker, I was well acquainted and had traveled with many men who were veterans there in various fields, such as river transportation, winter road building and maintenance, bush flying, surveying, and camp construction and management, among other things.

During my first week or so in Edmonton my chief task was to round up all of the competent Canadians I could find to help in what I supposed was a patriotic effort for the defence of Canada and Alaska against the Japanese, whose forces were already moving toward the Aleutian Islands.

A high-priority assignment was to arrange a charter for a suitable plane on floats to carry key men from Norman Wells across the Mackenzie-Yukon divide to Whitehorse to scout a route for the proposed pipeline. No direct flight had ever been made between those two points. Grant McConachie, then western manager for the newly-formed Canadian Pacific Airlines and later its president, was particularly cooperative and we had numerous consultations in the Macdonald Hotel, where we were temporarily quartered.

He volunteered to select a plane and crew for this initial reconnaissance flight over vaguely-mapped country. Indeed, he would pilot the plane himself if he could spare time from his managerial responsibilities. (As it turned out, he flew as far as Norman Wells, where pressures of business elsewhere obliged him to turn the controls over to James [Bud] Potter for the run to Whitehorse on the 12th of June.) Among the younger bush pilots, McConachie was one of the most imaginative and knowledgeable in regard not only to flying under all conditions but also to transportation problems in general. It was he who pioneered the route from Edmonton to Whitehorse, with his Yukon Southern airline, that determined the route for the building of the Alaska Highway and its airports.

On June 2nd I told him about the tremendous tonnages of freight the U.S. Army Engineers expected to push down the Mackenzie River by boat and barge by the end of the present open season. He expressed doubt that it could be done at all, and went on to say that even if it took longer there would have to be the support of large cargo planes of the DC-3 type, and they needed landing fields. At that time there was no real landing strip in the whole of the Mackenzie District. The bush planes that had always served with skis in winter and pontoons in summer since the 1920's were fine for exploration and for carrying a few passengers and a little freight, but they had to be grounded for north and south flights in the interim periods between break-up and freeze-up. Only planes on wheels could be used for uninterrupted service the year around.

If Colonel Wyman could commandeer some DC-3s through the U.S. War Department, C.P. Air could furnish pilots, mechanics and other technicians. McConachie added that our mutual friend A.M. (Matt) Berry, one of the foremost old-time Canadian bush pilots and a winner of the McKee Trophy, could be entrusted with locating all necessary fields. If the colonel could lend him a half-dozen bulldozers and 300 men, he could have the fields operational within two months.

Matt was already supervising the clearing and grading of a field at Fort McMurray, Alberta, for C.P. Air. It was nearing completion, and he was to go next to Fort Smith, just within the Northwest Territories border, to start another for the company. McConachie rapidly named other strategic locations: Fort Chipewyan, Fort Resolution, Fort Providence, Fort Wrigley

and Norman Wells. He declared that if he were asked to do so he could run a daily service between Edmonton and Norman Wells with three or four DC-3s, carrying personnel, freight and even line pipe. For such planes a clearing a mile long and 500-1000 feet in width, in line with the prevailing wind, would be adequate.

"What the colonel's got to do is get formal permission from the Canadian government to build the fields wherever he wants them," McConachie remarked. (Colonel Wyman, not noted for his tact or diplomacy, apparently overlooked this nicety, as Ms. Barry indicated in her article. However, the colonel may have assumed that his superiors in Washington would take appropriate action.)

I at once shared McConachie's enthusiasm. If the colonel could be convinced that the fields were needed, it might be a long-range boon to C.P. Air as well as other carriers, but I was sure that McConachie had no ulterior motive in trying to further the Canol Project. My own thought was that the fields would both aid the wartime project and become peacetime assets to the Mackenzie District at no cost to Canada.

On the morning of June 6th, McConachie had a twin-engine Barkley-Grow plane on floats ready for the reconnaissance party at Cooking Lake near Edmonton. He was at the controls with Jack Rennie as mechanic. Besides myself as observer and photographer, the passengers included a construction manager and a petroleum engineer, both Americans who had never been in the North, and Guy H. Blanchet, Dominion Lands Surveyor. I had brought Blanchet out of semi-retirement in Victoria and hired him for the project. He had spent many years in northern exploration and mapping for the Canadian government. It was he who selected the basic pipeline route with a ground as well as air traverse, and later became chief of surveys for the project.

Reaching Fort McMurray that afternoon, we immediately sought out Colonel Wyman, who was overseeing the arrival of troops and the setting up of a tent camp for them in an area known as The Prairie between there and rail head at Waterways. (I had queried him by telegraph in advance, and he had replied that he would confer with me and my party.) I introduced Grant McConachie to him, and he listened intently to the air field recommendation. Matt Berry was present with the rest of us and occasionally joined in the conversation to back up McConachie.

At first the colonel seemed noncommittal, protesting that he could only follow instructions from his superiors, but McConachie wasn't a "Bush Pilot With a Brief Case" for nothing (the title of a biography published after his death.) He was a big man with a winning smile, amiable, personable and persuasive, and he clearly knew his subject. It did not take long for Wyman to act. Within a few weeks Matt Berry, assisted by George Dalziel, a younger bush pilot and ex-trapper, was laying out landing strips at all of the locations previously named by McConachie to me, plus intermediate fields at Embarras Portage, Hay River, Fort Norman and Canol Camp, a major supply base set up across the Mackenzie River from Norman Wells.

The program we had pleaded for became conspicuously successful. Without it, operations at Norman Wells and Canol Camp would have been seriously hampered. The first C-47 (the U.S. military version of the DC-3) landed at Norman Wells before the end of September. Later, C.P. Air got a contract to service Canol, but the military planes were flown by American pilots and crews with the Air Transport Command of the U.S. Air Force.

McConachie was pleased that the fields now existed. One day he remarked to me, "Dick, I believe that if it weren't for you those fields wouldn't have been built yet." He was being characteristically gracious, since the idea had been his.

Contrary to the suspicions of some researchers that the air fields were foisted on Canada by the U.S. Army, the fact is that they were conceived and promoted by individual Canadians in the conviction that they were aiding the joint war effort, and at the same time getting for Canada a gift of enduring value for northern development.

Ms. Barry was puzzled that the Mackenzie Valley fields were activated almost a year before the commencement of actual pipe-laying for the Norman Wells-Whitehorse crude oil line. (Crews worked from both ends toward Macmillan [not MacMillan] Pass to meet for a ceremonial tie-in or "golden weld" in February 1944). All feasible modes of transportation were needed, including a winter truck and tractor road that was pushed overland from Peace River to Norman Wells, to deliver vital freight and passengers throughout the year. New wells had to be drilled and storage tanks had to be erected on both sides of the Mackenzie. Semi-permanent and mobile camps had to be provided, and detailed right-of-way locating and clearing had to be done before construction of the pipeline, with its pump-station buildings and machinery.

Ms. Barry asks what role the C.P. Air merger played in the "unauthorized" installation of the Mackenzie Valley air fields, and what was Bechtel-Price-Callahan's part in starting construction without approaching Canada through regular channels. My answers are that the C.P. Air merger was coincidental and had no connection with the airfields beyond placing Grant McConachie in a position where he and his organization could be of service to us; and that Bechtel-Price-Callahan, the prime Canol contractor for the U.S. Army Corps of Engineers, simply followed the client's orders and had no involvement in diplomatic procedures. If the U.S. War Department neglected to obtain specific authorization from Ottawa, it may have been with the assumption that it already had blanket authorization to resort to any reasonable means of completing the Canol Project in the cause of joint U.S.-Canadian defence.

Ms. Barry asks finally whether C. D. Howe, as minister of transport, was the "pivotal" figure in Canada's "ambivalent" policy regarding airports in the Mackenzie District. I can offer only a conjectural answer to that question. C. D. Howe may or may not have known that the air fields as well as winter roads were being built as part of the Canol Project (there were many eyewitnesses among resident government representatives who could have

notified Ottawa and probably did), but I cannot conceive of any ambivalent Canadian policy toward them, though the noses of some Ottawa bureaucrats may have been put out of joint because they were not immediately consulted by their Washington counterparts about every move before it was made.

By June 15, 1942, when C. H. (Punch) Dickins, vice president and general manager of C.P. Air, wrote to R. A. Gibson, then deputy commissioner of the Northwest Territories, telling him about the projected flight strips, he must already have had a report from McConachie on our meeting with Colonel Wyman at Fort McMurray. In whatever discussions Dickins had with Bechtel-Price-Callahan executives concerning air transportation for the Canol Project, he must have been told that they could enter into no binding agreement with him independently; they would first require a directive from the War Department or from Wyman as contracting officer to make it permissible and reimbursable. As one B-P-C construction manager put it, "We're just flunkies for the Army on this job."

Ms. Barry cites a report by Major General W. W. Foster, who, a year after Canol started, was assigned by the Canadian Cabinet War Committee to determine precisely the details of American activities in the Mackenzie District. Approaching retirement with little or no prior knowledge of Canol, he had to gather and summarize a mass of confusing details. He gave the date of 15 May 1942 for first construction on the Mackenzie air route. This could have applied only to the field at Fort McMurray, which preceded any Canol groundbreaking.

Unquestionably, the Mackenzie Valley air fields constructed by B-P-C for the U. S. Corps of Engineers grew out of our conference with Colonel Wyman, 6 June 1942.

Contrary to Ms. Barry's assertion that there was a "panic" to complete the Norman Wells-Whitehorse line by the autumn of 1942, the Corps of Engineers soon realized that all of the necessary preparatory work utterly precluded meeting that deadline. Meanwhile the Japanese forces in the Aleutians were driven out and a feared threat from Japanese submarines to tankers plying the Pacific Coast diminished. A 110-mile pipeline was quickly laid over the White Pass to bring imported gasoline from Skagway to Whitehorse for the northerly half of the Alaska Highway and its airports. This was followed by other pipelines between Watson Lake and Fairbanks which could carry imported products or those from Norman Wells crude oil as soon as the main pipeline and the Whitehorse refinery were ready.

By this time the urgency surrounding the original project was gone, but it was thought that it might still prove useful to divert scarce tankers from Alaskan waters, and with all of the essential materials delivered it was deemed less costly to go through with the project than to abandon it.

When the line was laid — four inches inside diameter except for about 110 miles at the Whitehorse end, which was six-inch pipe — it was not "carelessly put together" as Ms. Barry asserts. It was done expeditiously but professionally, thoroughly inspected and tested by experienced B-P-C craftsmen and engineers; having camped with them and frequently filmed all

steps of their operations, I can testify to their thoroughness. But, like all of the products lines, the crude line was laid on the surface of the ground and was therefore vulnerable to rock slides and other hazards. However, according to Alex Hemstock, an engineer employed by Imperial Oil at Norman Wells from 1943 to 1945, most leaks occurring during the nearly one year of operation of the main Canol line were caused by dents or by inadequate factory-made longitudinal welds rather than faulty field work.

Incidentally, the Fairbanks line continued in service until long after the war, and the Skagway line is still in use today; it supplies imported diesel fuel and stove oil to Whitehorse.

In 1977, with then Commissioner S. M. Hodgson of the Northwest Territories, I inspected the old Canol route from Norman Wells to the Yukon border. The pipeline had long since been cut up and carried away by salvage crews, along with all equipment and machinery worth taking. But some thirty years after the line's abandonment there was no evidence of environmental damage by oil spills or traffic. The only traces of past activity were the battered remains of pump stations, maintenance camps, cabooses, scattered fuel barrels, clusters of stripped trucks and graders. The access road was often discernible only by thick growths of poplar between stands of spruce. (Our impression was confirmed by Peter Kershaw of the University of Alberta who, with his wife Linda, studied the route in detail for a doctoral thesis.)

The principal flight strips carved out along the Mackenzie Valley for the Canol Project remain in constant use, now paved and enlarged as full-fledged airports with all modern adjuncts. Despite whatever controversy they may have caused at the outset, they are monuments to Grant McConachie's foresight.