

Crystal Two: The Origin of Iqaluit

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ABSTRACT. Iqaluit is unique among Canadian Arctic communities in that it originated not from a commercial venture, such as mining or the fur trade, or as a government administrative centre, but as a Second World War military airfield. This airfield, though never fully used for its intended purpose as a refueling base for short-range military aircraft en route from America to Great Britain, is the cornerstone of the city of Iqaluit. It opened the region to development during the postwar years. As a result, Iqaluit became a key transportation and communication hub for the eastern Arctic and, ultimately, the capital city of the new territory of Nunavut. This survey of Iqaluit's wartime origins and subsequent development focuses on four topics. The first is the pre-war and wartime effort to establish an air route from North America to Europe via the Arctic; the second, the world events that precipitated construction of a series of northern airfields, including Crystal Two, that would form the links in the Crimson Air Route. The third is the importance of the Crystal Two airfield for the postwar development of Iqaluit, and the final focus is on the resourceful individuals who pulled it all together, overcoming a myriad of apparently insurmountable obstacles to complete their mission.

Key words: Crimson Route, Crowell, Crystal Two, Forbes, Frobisher Bay, Hubbard, Iqaluit, Roosevelt, Second World War, United States Army Air Forces, U-boat

RÉSUMÉ. Iqaluit est unique en son genre au Canada en ce qu'elle n'a pas vu le jour à la suite d'une entreprise commerciale, comme l'exploitation minière ou la traite des fourrures, ou encore en tant que centre de l'administration gouvernementale, mais comme terrain d'aviation militaire durant la Deuxième Guerre mondiale. Bien qu'il n'ait jamais servi complètement son but prévu de base de ravitaillement en carburant pour les avions militaires à court rayon d'action volant entre l'Amérique et la Grande-Bretagne, ce terrain d'aviation est la pierre angulaire de la ville d'Iqaluit. Il a ouvert la région au développement durant les années de l'après-guerre, faisant ainsi d'Iqaluit une plaque tournante majeure du transport et des communications dans l'Arctique oriental et, en fin de compte, la capitale du nouveau territoire du Nunavut. Cette étude sur les origines d'Iqaluit durant la guerre et son évolution subséquente se concentre sur quatre grands éléments. Le premier est l'effort avant et durant la guerre visant à établir une route aérienne entre l'Amérique du Nord et l'Europe via l'Arctique; le second, les événements mondiaux qui précipitèrent la construction d'une série de terrains d'aviation dans le Nord – y compris Crystal Two – qui allaient créer les relais de la route aérienne Crimson. Le troisième est l'importance du terrain d'aviation Crystal Two pour le développement d'Iqaluit après la guerre, et le dernier concerne les individus ingénieux qui ont mené à bien le projet, tout en étant confrontés à une myriade d'obstacles apparemment insurmontables pour accomplir leur mission.

Mots clés: route Crimson, Crowell, Crystal Two, Forbes, Frobisher Bay, Hubbard, Iqaluit, Roosevelt, Deuxième Guerre mondiale, aviation militaire des États-Unis, sous-marin allemand

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INTRODUCTION

Fifty-six kilometres (28 nautical miles) from the Arctic community of Iqaluit lie the decaying remains of Crystal Two, a former United States Army Air Forces (USAAF) base located on Crowell Island. Inuit call it *Mialigaqталiminiq*, 'the place where the Americans lived.' Few non-Inuit residents of Iqaluit are aware of this site's existence or its significance to area history. Like many Canadians, they probably assume that the community of Iqaluit originated as a Hudson's Bay Company post, as is the case for most other communities in the Canadian Arctic. In fact, Iqaluit is a product of the Second World War and owes its existence to the small cadre of American

servicemen who established an advance base/weather station at Crowell Island in October 1941 and subsequently built an airfield at the head of Frobisher Bay in 1942–43.

At the beginning of the Second World War, the United States and Canada entered into discussions regarding the defence of the North American continent and, in particular, of Canada. Already at war with Germany, Canada was facing the threat of invasion, although the possibility seemed remote in the minds of some Canadians. The Canada-U.S. Permanent Joint Board on Defence, established in 1940, made a number of ongoing recommendations to further the mutual defence interests of the two countries. Mutual agreements notwithstanding, the United States had no intention of allowing Canada to be invaded

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by a belligerent power. Even before the official outbreak of hostilities between the British Commonwealth and Germany—at a time when Hitler’s ambitions had become obvious to all but a few—President Roosevelt affirmed American support for the maintenance of Canadian sovereignty. In a 1938 speech, Roosevelt declared: “I give you assurance that the people of the United States will not stand idly by if domination of Canadian soil is threatened by any other empire” (Dziuban, 1959:3).

Given the advantage of over 60 years’ hindsight, the idea that Germany and her confederates (which at the time included the Soviet Union, albeit as a friendly “neutral”) had any chance of victory over the Allied forces during the Second World War seems preposterous. Nevertheless, the outcome of this struggle was not a foregone conclusion during the early years of the War. By mid 1940, Britain and its Commonwealth stood alone against Nazi Germany, whose powerful and largely unopposed armed forces had already conquered most of Europe and were poised to cross the English Channel and conquer a besieged Great Britain. Canada and the United States were concerned that if Britain were to be invaded and overrun, as some members of the Roosevelt administration considered inevitable, Germany might try to gain a foothold on the Western Atlantic and North American possessions of the vanquished European nations. Areas of concern included Iceland, Greenland and, to a lesser extent, Newfoundland and Labrador. The Americans were keen to ensure that the Germans would be denied any opportunity to establish a presence in the Western Atlantic (Dziuban, 1959; Carlson, 1962). After the fall of Denmark in the spring of 1940, the Americans were particularly worried that the Germans might use Greenland as a military staging area. The fact that Greenland was the world’s sole source of commercially available cryolite—a crucial constituent used in the manufacture of aircraft aluminium—gave the Americans additional cause for concern (Christie, 1995).

Canadian and U.S. fears were not unfounded: in at least two documented cases, German troops established manned weather stations on the east coast of Greenland in 1941 and 1942. The Germans needed information on weather systems approaching from the west to assist their U-boat operations in the North Atlantic; hence, the east coast of Greenland and Arctic North America were ideal locations for weather stations. Both of these bases were attacked and captured by American commandos shortly after they were discovered (Balchen et al., 1944). By 1942, U-boats were lurking off the North American coast, and by late 1942, they were sinking ships in the St. Lawrence River. A few of the U-boat incursions into North American waters were examples of daring and pluck. One such incursion occurred in October 1943, when U-537, a Type IX long-range U-boat, penetrated the North American Arctic and set up an unmanned weather station at Martin Bay, Labrador, 44 km (24 air miles) from Port Burwell. Canadian authorities remained unaware of this station’s existence until 1980, when an Austrian historian wrote to the Canadian government to

inquire about its fate (J.P. Showell, pers. comm. 1998). A file on U-537, which can be found at the U-boat Archives in Cuxhaven, Germany, contains photographs of the armed U-boat crew on North American soil, grinning for the camera in the manner of holidaying tourists.

German forays into the western Atlantic were also cause for concern, but they paled in comparison to the devastating effects of the Luftwaffe’s daily bombing raids on Great Britain and the tremendous toll that U-boats were exacting upon Canadian and British merchant shipping. Although sympathetic to Britain’s plight and also concerned over U-boat successes against Allied shipping, Roosevelt was constrained in his efforts to assist Britain by powerful isolationist elements then prevalent throughout the United States. Nevertheless, after two years of hedging, the United States began to quietly assist Great Britain and her allies in whatever manner it could, short of an all-out declaration of war. The pragmatic Americans recognized that, ultimately, North America’s first line of defence lay in preserving Great Britain’s sovereignty; therefore, every effort must be made to ensure that she did not fall to the Nazis.

THE CRIMSON ROUTE

It was against this backdrop that, in early 1941, the United States, with the Canadian government’s approval, activated a plan to establish a chain of northern airfields and weather stations. Their primary purpose was to help ferry short-range military aircraft from the United States to Great Britain (under the terms of the U.S. Lend-Lease Act). These aircraft were needed to bolster the severely depleted Royal Air Force and to establish a military presence in what was acknowledged to be a weak link in North America’s defensive armour. The plan was eventually formalized under Recommendations 17 (July 1941) and 26 (June 1942) of the Canada-U.S. Permanent Joint Board on Defence (Dziuban, 1959).

By 1941, German submarines reigned supreme in the North Atlantic. German U-boat men referred to this period as “the happy time” (Botting, 1979; Showell, 1989). As a result, many of the short-range military aircraft shipped from the United States to Britain via the sea lanes ended up on the bottom of the ocean. The only other option for transporting these aircraft to Great Britain was to fly them across the Atlantic; however, their limited flying range precluded nonstop crossings. Thus, it became imperative to establish a chain of airfields across the far North that would allow the planes to “hopscotch” across the Atlantic, refuelling along the way.

This chain of airfields, initially called the “North East Staging Route,” also became known as the “Crimson Project” or “Crimson Route.” It was purportedly named after the Red Cross, which was responsible for evacuating wounded soldiers from the European theatre to North America, along the same route (Main, 1967:178).

The Crimson Route, as it was originally proposed, was to comprise three distinct routes. The eastern route would commence at Presque Isle, Maine, with airfields located at Labrador, northern Quebec, Upper Frobisher Bay, the east and west coasts of Greenland, and Iceland, terminating at Prestwick, Scotland. The western route would originate at Great Falls, Montana, with airfields located at Regina, The Pas, Churchill, Southampton Island, and Upper Frobisher Bay, where it intersected with the eastern route. The central route would originate at Detroit, Michigan, with airfields located at North Bay, Kapuskasing, Moosonee, Richmond Gulf, and northern Quebec, where it intersected with the eastern route. When it was finally established, the Canadian portion of the Crimson Route had been scaled down from the originally proposed version. It included newly constructed airfields at The Pas, Churchill, Southampton Island, Frobisher Bay, Fort Chimo, Mingan and Goose Bay (keeping in mind that Labrador was, at the time, a British possession).

It should be noted that the “Crimson Route,” as the term was used by the American military, was understood to be the far northern route that originated in Montana and passed through northern Canada, Hudson Bay, Baffin Island, Greenland, and Iceland. The term “North Atlantic Ferrying” or “Staging Route” instead referred to the route from Maine through Newfoundland/Labrador, Greenland, and Iceland (Conn and Fairchild, 1960; Craven and Cate, 1983).

EARLY ATTEMPTS TO ESTABLISH AN ARCTIC AIR ROUTE BETWEEN AMERICA AND EUROPE

In general, early Arctic flights between America and Europe fell into two categories. The first sought to demonstrate the capabilities of aircraft and the advantage of shorter air routes between the two continents. The second category supported scientific investigations of Arctic geography and meteorology as a precursor to establishing airfields and weather stations. Interest in Arctic routes increased in the decade that preceded the Second World War. The United States, England, Germany, Denmark, and Norway sent expeditions to Greenland or northeastern Canada to investigate sites en route. Baffin Island, and the Frobisher Bay area in particular, figured prominently in many of these investigations. This fact was not overlooked by the U.S. military when it finally came around to planning for the Arctic airfields (Dunbar and Greenaway, 1956; K. Greenaway, pers. comm. 2002).

One such effort worth mentioning was undertaken in 1928 by Berk R.J. (“Fish”) Hassell, a well-known, eccentric aviator who would later become the commanding officer of Crystal Two. Hassell and another American aviator, Parker D. (“Shorty”) Cramer, attempted to fly to Europe via northern Canada and Greenland. The two airmen became lost on approaching Greenland and, running low on fuel, they found a level area on the Greenland

icecap at the head of a long fjord and made a smooth landing. Fifteen days later, the pair arrived at Søndre Strømfjord on foot, near starving. The flight to Europe was abandoned, and they returned to the United States by ship with Professor William Hobbs of the University of Michigan, who was gathering meteorological data in the area (Ellis, 1954).

In 1934, Colonel Charles A. Lindbergh reported on an aerial survey that he had conducted for Pan American Airlines to investigate the possibility of finding a commercial air route from America to Europe via Greenland and Iceland. Lindbergh recommended that before any decisions were made in this regard, a chain of weather stations be set up along the proposed route to collect meteorological data over a period of years. These data would be examined to assess the feasibility of establishing a commercial air route across the Arctic. Of significance to this paper, Lindbergh further suggested that “a study of the weather conditions on Baffin Island would be very interesting” (USAAFWS, 1945:44).

Two other individuals worthy of mention are the aforementioned Professor William Hobbs and Bernt Balchen, a Norwegian-American polar aviator who had flown Admiral Byrd on the latter’s pioneering flights in Antarctica. Both Hobbs and Balchen were vociferous proponents of establishing airfields in Greenland, but for many years, officials in Washington ignored them. Ironically, Charles Lindbergh was purportedly less than enthusiastic about the commercial viability of a trans-Arctic air route and, in particular, the feasibility of establishing airfields in Greenland. For a time, Lindbergh’s views prevailed in official Washington. Eventually, however, through sheer perseverance (abetted considerably by the onset of World War II), Hobbs and Balchen managed to win over a few key individuals. One was General H.H. Arnold, Commanding General of the USAAF, who subsequently became one of their more influential supporters (Carlson, 1962).

The Battle of the Atlantic and the successes of the U-boats in sinking allied cargo ships provided the impetus that prompted the Americans to devote more attention to establishing a northern air route. At this point, the previous efforts of countless polar aviators and researchers came to the forefront. President Roosevelt himself was “deeply concerned” with the development of the project (Forbes, 1953:2).

CRYSTAL ADVANCE BASES

In July 1941, Captain Elliot Roosevelt, an intelligence officer with the United States Army Air Forces (USAAF) and son of the president, and Lieutenant (Lt.) Commander Alexander Forbes, United States Naval Reserve (USNR), flew the first of a series of reconnaissance missions out of Argentina, Newfoundland, to locate potential sites for the Arctic airfields that were to form the links in the northeastern section of the Crimson Route. After conducting a futile

search along the Labrador Coast, they stopped at Northwest River, where the Grenfell Mission and a Hudson Bay Company Post were located, to investigate a nearby site that Forbes had photographed from the air two years earlier. They found that a team of Canadian surveyors had preceded them by two months. The Canadians, who were participating in a separate British-led effort to establish a North Atlantic ferry route, were searching for an alternative to Gander, where bad weather often restricted flying. Their team leader, Eric Fry, had already identified what appeared to be an ideal site for an airfield: an extensive, sandy plateau along the shore of Goose Bay on the Hamilton River, locally referred to as “Blake’s Berry Patch” (Christie, 1995:127). Roosevelt and Forbes, after visiting the site themselves, concurred. Nevertheless, Roosevelt recommended that the USAAF take over the project because he felt that the Canadians lacked the proper equipment and manpower to construct an airfield as quickly as was required (Forbes, 1953:8). Roosevelt’s fears were later proven to be unfounded: the Canadians completed three 7000-foot (2134 m) gravel runways there by the end of 1941 (Forbes, 1953:41; Dziuban, 1959:184). After departing Northwest River, Roosevelt and Forbes proceeded to northern Quebec to select a site for the first far northern airfield. They chose a site on the west side of the Koksoak River, 12 km to the south of the Hudson Bay Company post at Fort Chimo. Potential sites for a base at Frobisher Bay and one on the northeast coast of Baffin Island were also identified during subsequent reconnaissance flights towards the end of July 1941 (Dziuban, 1959).

The overall plan called for the construction of seven airfields and weather stations. Four were to be located in North America, at Goose Bay, Labrador; Fort Chimo, Quebec; Frobisher Bay, NWT; and Padloping Island, NWT. (By 1942, the idea of constructing an airfield at Padloping Island would be dismissed as impractical.) The other three would be located in Greenland, at Narsarsuaq, Angmagssalik (referred to as “Ikatek” in some contemporary documents), and Søndre Strømfjord. To this day the latter serves as an occasional stopover for international transpolar flights. The three bases to be located in the Canadian Arctic were code-named “Crystal One” (Fort Chimo, now known as Kuujjuak), “Crystal Two” (Frobisher Bay), and “Crystal Three” (Padloping Island). The bases in Greenland were code-named “Bluie West 8” (Søndre Strømfjord, now Kangerlussuaq), “Bluie West 1” (Narsarsuaq), and Bluie East 2 (Angmagssalik). Goose Bay was apparently not assigned a code name.

By the time the sites for the Crystal airfields had been identified, it was too late in the season to begin construction. Nevertheless, the Americans wanted at least to establish advance bases/weather stations at the sites in order to gain a head start on the 1942 construction season and gather valuable weather data over the autumn, winter, and spring. In late September 1941, a fully laden U.S. Army transport vessel, *Sicilien*, headed north from Halifax accompanied by several commercial trawlers, *Fabia*, *Flow*,



FIG. 1. Captain Robert Bartlett (left) and Lt. Commander Alexander Forbes (right) on board *Morrissey*, 1943. Sherman Wengerd Folio/NWT Archives, N-1987-022:0012. Prince of Wales Heritage Museum, Yellowknife, Northwest Territories.

Cambridge, *Lark*, *Selis*, *Cormorant*, *Polarbjorn*, and *Quest*, which were also carrying cargo, under the overall command of Lieutenant Colonel Robert W.C. Wimsatt, USAAF. The intention was to carry the bulk of the supplies as far as Port Burwell, where the smaller vessels would take on additional supplies to carry to their respective destinations. After unloading the supplies destined for Crystal One, on the Koksoak River, *Sicilien* would then accompany *Lark*, *Selis*, and *Polarbjorn* to the mouth of Frobisher Bay, unload supplies for Crystal Two, and then rendezvous with *Cormorant* and *Quest* before proceeding to Crystal Three.

Dr. Alexander Forbes (Fig. 1), a lieutenant commander with the United States Naval Reserve Medical Corps, was asked to accompany the expedition in the dual capacity of technical advisor and Arctic pilot. Forbes was well qualified for the task. An internationally noted physiologist by training, he was also a Master Mariner, geographer, electronics expert, and airplane pilot. During the First World War, he served with the United States Navy (USN), installing and testing electronic equipment on destroyers. In 1931, at the suggestion of Sir Wilfred Grenfell, he sailed his 97-foot (30 m) schooner *Ramah* on an expedition to map and chart a portion of the Labrador Coast. He returned to Labrador in 1935, as a relief pilot and photographer, to take aerial photographs of the region around Cape Chidley.

The convoy reached Port Burwell in early October 1941. *Fabia*, *Cambridge*, and *Flow*, accompanied by Forbes, were to head south to Fort Chimo to establish Crystal One under the leadership of Commander Ike Schlossbach, USN. *Sicilien*, *Cormorant*, and *Quest* were to sail to northeastern Baffin Island under the command of Lt. Colonel Wimsatt to establish Crystal Three, which turned out to be the most eventful and dangerous mission of all. Lieutenant Commander Charles J. Hubbard, USNR, who was most familiar with the region, took charge of *Cormorant*. With the assistance of a local pilot, who had been literally pulled out of his sickbed at the mission hospital in Pangnirtung, he guided the small convoy of ships to their final destination at Padloping Island (Forbes,



FIG. 2. Major Crowell in Thule Greenland, 1952. Photo courtesy of Spencer Apollonio.

1953:30). Captain James G. Dyer, who had just returned from the Antarctic, was to be the Commanding Officer of Crystal Three over the first winter.

Three supply ships—*Polarbjorn*, *Selis*, and *Lark*—were to sail to Frobisher Bay under the command of Major John T. Crowell, USAAF (Fig. 2), and establish Crystal Two. Crowell, a Master Mariner with over 15 years of Arctic and Antarctic sailing experience, was already familiar with the geography of Frobisher Bay. In 1926 and 1927, he had sailed to Labrador, Baffin

Island, and Greenland as Master of the schooners *Sachem* and *Radio*. He had visited Frobisher Bay in 1927, in command of Donald MacMillan's well-known New England Arctic research vessel, *Bowdoin*, and again in 1937 as Master of *Gertrude L. Thebaud* (Apollonio, 1990; S. Apollonio, pers. comm. 1999–2001).

The Crystal Two party, in addition to Major Crowell, included Captain Joachim, a physician; Professor William Carlson, a civilian technical advisor; Private Tony Columbo, a dog-sled driver with previous experience in Antarctica under Admiral Richard E. Byrd; Privates Otto Riedl and Arthur Barrett, both weather observers; Staff Sergeant Lynwood Bright, an airplane mechanic; Sergeant James Hicks; Staff Sergeant Leonard Barnes; Private Paul Evans; Private Ulysses Beebe; a cook referred to only as “Gibbs,” and another unnamed individual referred to as “a communications man” (Hubbard, 1941; USAAFWS, 1945:47).

These 13 men were to establish a base at Cape Rammelsburg, a large promontory on the southwest side of Frobisher Bay located 37 km (20 nautical miles) southwest of present-day Iqaluit. This was the site that Captain Roosevelt had recommended on the basis of his reconnaissance flights in the summer of 1941. Until 1942, the only available charts of the area were based on the limited and inaccurate mapping undertaken by Charles Francis Hall between 1860 and 1862. Thus, the party had to rely primarily upon physical descriptions and aerial photos passed on by Roosevelt. Unfortunately, after five days of searching under abysmal weather conditions, the party was unable to locate and positively identify the site. Fearing the imminent onset of winter, Crowell and Carlson decided to set up an advance base where they could overwinter for the 1941–42 season. They chose a small island (now called Crowell Island, Fig. 3), located off the northwestern end of Pugh Island, 15 km (8 nautical miles) south of Cape Rammelsburg (Hubbard, 1941; Carlson, 1962).

Crowell and his party were assisted by five additional men drawn from the U.S. Army Engineer Corps, who were to return with the ships once the base was constructed. Unloading was made difficult by Frobisher Bay's 11 m



FIG. 3. Crystal Two Advance Base on Crowell Island, 1943. Photo facing northeast. Note the large flat areas to the east of the main base, which appear to be suitable locations for an airstrip. Sherman Wengerd Folio/NWT Archives, N-1987-022:0040. Prince of Wales Heritage Museum, Yellowknife, Northwest Territories.

tidal range, horrendous weather, and the primitive lightering equipment, which consisted of two lifeboats lashed together with rope and timbers, a small landing barge, and two small motorboats. Even with assistance from an Inuit family who were already living on the island, it took several days to ferry all of the gear ashore, as unloading from ship to shore could be accomplished only at high tide. Manoeuvring the heavy sections of the prefabricated buildings into place proved difficult, but by late October, Crowell and his crew had three buildings fully erected and ready for occupation (USAAFWS, 1945).

It was at this juncture that Professor Carlson convinced Major Crowell to send Bright, Riedl, Beebe, the unnamed communications man, and Professor Carlson himself back south with the ships. Private John Pope, one of the army engineers, volunteered to replace one of the men leaving the base (Hubbard, 1941). Carlson had forebodings about the operation and was convinced that to remain was to invite “annihilation.” He reasoned that, if it became necessary to evacuate the base by air later on during the winter, it would be much easier to accomplish with fewer men to rescue (USAAFWS, 1945:17).

Nine men, Crowell included, overwintered on Crowell Island in 1941–42. They must have lived comfortably, if not in relative luxury. A visit to the site in 1996 revealed two vintage 5000 watt, gasoline-powered electrical generators, as well as a number of coal-burning stoves, which still looked serviceable despite having been exposed to the elements for over 54 years. The station was equipped with a phonograph and two dozen records, as well as plenty of books and games. Each man had his own set of skis and snowshoes. The planned shipment of beer, however, had been left behind at the embarkation docks in the south for lack of cargo space on the supply ships (USAAFWS, 1945:52). Subsequent inspection reports indicated that “morale at the Crystal Stations was extremely good” (USAAFWS, 1945:69). Major Crowell, who had a keen admiration for Inuit, developed a close friendship with Nakasuk (Fig. 4), the leader of the small family group camped on the island. Contemporary documents refer to him as “Paluchi,” a misspelling of “Paulusi” (pronounced Pa-oo-loo-see), the name given to Nakasuk by the church



FIG. 4. Nakasuk in 1943. Sherman Wengert Folio/NWT Archives, N-1987-022:0037. Prince of Wales Heritage Museum, Yellowknife, Northwest Territories.

and the one he went by when with white men (Kilabuk, pers. comm. 2001). Nakasuk, who supplied Crowell and his men with wild game and other assistance throughout the winter of 1941–42, also became Crowell’s “guide, philosopher, friend, factotum and counsellor” (USAAFWS, 1945:69; Forbes, 1953:70).

On 7 December 1941, the Japanese Navy attacked Pearl Harbor, thereby thrusting the United States into World War II. Shortly thereafter, a reluctant Germany, in fulfilment of its obligations under the Tripartite Pact, declared war on the United States. All pretext of American neutrality dissolved overnight.

CONSTRUCTION OF THE CRYSTAL TWO AIRFIELD

Over the winter of 1941–42, the Americans continued planning for the construction of the Arctic airfields. Lt. Commander Forbes was concerned that all materiel would have to be transported to the sites by ship. It was therefore of the utmost importance that the sea approaches to these sites be properly charted: a sentiment that he conveyed in a memorandum to the War Department (Fenn, 1969). As a result of his memorandum, Forbes was assigned the task of overseeing the hydrographic and mapping surveys of Crystal One and Crystal Two, as well as acting as guide and Arctic advisor. In early July 1942, Forbes again sailed north, this time on the two-masted schooner *Effie M. Morrissey*, owned and skippered by her Master and Newfoundland’s most famous son, Captain Robert (Bob) Bartlett (Fig. 1).

Their first destination was Crystal One, where they were to conduct a hydrographic survey of the Koksoak River, which Captain Bartlett (1946:602) described as “a tide-swept, boulder-paved demon.” Once this survey was set in motion, they were to split into two groups, one of which, under Forbes’ command, would proceed north to Frobisher Bay, pick up Major Crowell, and conduct a reconnaissance of the area to find a suitable location for the Crystal Two airfield.

Unlike Crystal One, the permanent site for the Crystal Two airfield had not yet been determined. The site that

Captain Roosevelt had originally chosen (the “Roosevelt Site” that Crowell’s party had been unable to reach the previous autumn) was ruled out by Major Crowell, who presumably visited the site sometime during the winter of 1941–42. He cited the poor anchorage it offered and the lack of sufficient level ground on which to construct an airstrip (Forbes, 1953). Commander Hubbard also “strongly advised against it” (Kadjan, 1942a:2).

Crowell Island was under consideration because of the 4500 feet (1372 m) of level ground immediately east of the base (refer to Fig. 3). In fact, the feasibility of landing aircraft at this site had already been demonstrated, first by Commander Hubbard, who had visited Crystal Two (as well as the other Crystal bases) in a ski-equipped airplane during the winter of 1941–42, and later by Major Clark Hosmer of the USAAF Weather Service, who visited the Crystal Bases in April 1942 (USAAFWS, 1945; Forbes, 1953). The Crowell Island site was discarded, however, primarily because the length of the potential airstrip was short of the desired 5000–6000 feet (1524–1830 m) and because it was felt that an island would not be an ideal place to locate an airbase (Kadjan, 1942a; Forbes, 1953). A more promising site at the head of Frobisher Bay, at Koojesse Inlet east of the Sylvia Grinnell River (Fig. 5), was identified by Commander Hubbard during one of his reconnaissance flights in June 1942. Forbes’ first task was to verify that the site would be suitable for an airfield; if so, he was to sound and chart the approaches in preparation for the arrival of the supply ships.

Morrissey arrived at Crystal Two on 22 July 1942, and was followed shortly thereafter by the cargo vessel *Polaris*. It had taken some effort to locate Crowell’s camp, for all Forbes had to go on were rough descriptions of the area passed on to him by Lt. Commander Hubbard and radio messages earlier relayed by Crowell. Like Crowell the previous autumn, Forbes and company were handicapped by a lack of reliable and accurate charts. After a brief search, Forbes managed to find his quarry. Ice in upper Frobisher Bay precluded the immediate reconnaissance of Koojesse Inlet, so they used the time to explore and chart as much of the immediate area as they could. They focused on Cincinnati Press Channel (Fig. 6), which runs roughly north to south, with Crowell Island located at its north end.

By the end of July 1942, upper Frobisher Bay was finally clear of ice, so *Morrissey* and *Polaris* proceeded to Koojesse Inlet. Crowell, Balkin (a construction engineer with the Al Johnson Construction Company), and Henry Kadjan (the airport surveyor) wasted no time in commencing a quick reconnaissance, after which the site was pronounced, in Forbes’ own words: “the place for the airport” (Forbes, 1953:71). The site fulfilled the basic requirements: it was accessible by sea, it offered a good anchorage with reasonable foul-weather protection from most directions, and it had a large, flat open plain on which to construct an airfield. The land survey crews immediately went to work, for much had to be done and the season was already well advanced. Ships’ carpenters were landed and

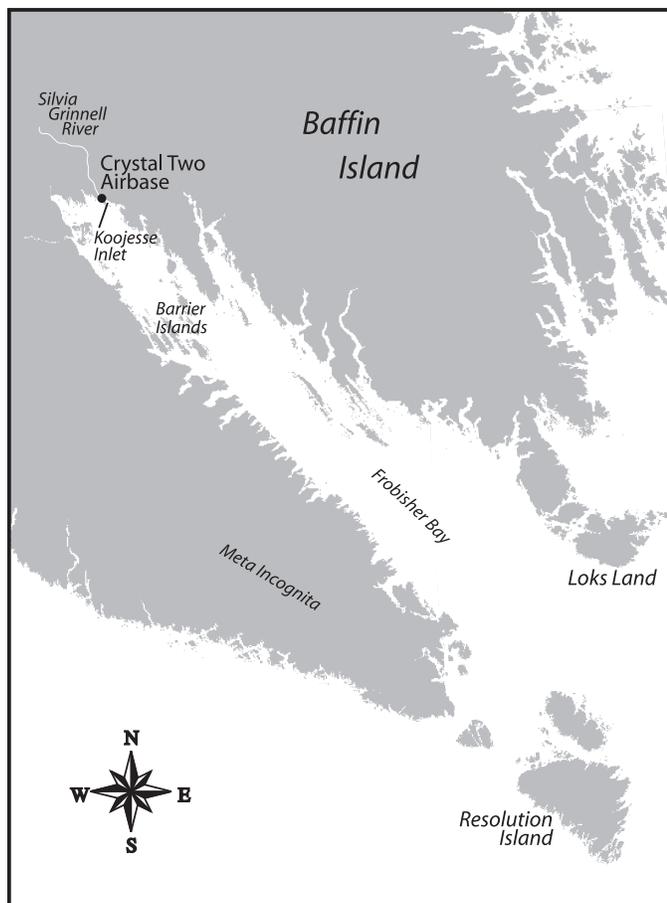


FIG. 5. Map of Frobisher Bay, showing location of the Crystal Two airbase.

began to build quarters for the men. The next few weeks were devoted to surveying and preparing the site for the new airbase.

While work on the base was underway, Forbes and Crowell conducted soundings of the area from Koojesse Inlet to Cape Vanderbilt. This included the very important job of trying to locate a suitable deepwater passage through the Barrier Islands—a group of over two dozen islands that bisect Frobisher Bay into upper and lower sections—to facilitate the passage of the cargo ships that were to follow. Cincinnati Press Channel was initially considered; in fact, Major Crowell favoured it. Nevertheless, it was discarded because of a bar that traverses its south end, reducing the water depth as low as one to two fathoms (2–4 m) at low tide. Forbes therefore began to search for an alternative channel. The passage that Forbes called “Whaleboat Passage,” which is now the main shipping channel (Pike-Resor) into upper Frobisher Bay, was deemed unsuitable because of shoal water extending some distance offshore. A deepwater channel was finally located near Frobisher’s Farthest (Fig. 6), on the eastern side of the Bay, after which it was sounded and charted by Forbes and his crew.

The cargo ships started arriving in mid-August, which kept Major Crowell busy with the job of meeting them at the south end of the Barrier Islands and guiding them into Koojesse Inlet. In late August, a large convoy of ships

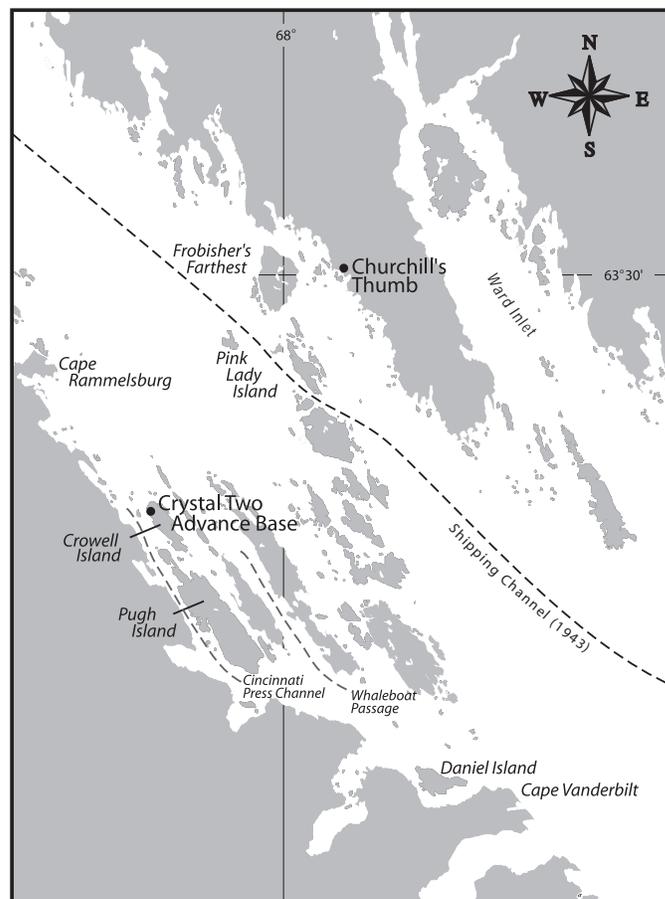


FIG. 6. Map of Cincinnati Press Channel, showing location of the Crystal Two advance base and the shipping channel through the Barrier Islands.

arrived at the site, carrying roughly 200 civilian construction workers from the Al Johnson Construction Company as well as tons of materiel, and the work began in earnest. The project suffered a setback on 27 August, when *Chatham*, one of the cargo ships, was sunk by U-517 off the Labrador Coast. The ship was carrying 6000 tons of materiel, including construction equipment intended for use at Crystal One and Crystal Two (Craven and Cate, 1983; Rohwer, 1998).

Forbes continued with the hydrographic survey and charting program. It is worth noting that many of the unusual names that still appear on Frobisher Bay charts can be traced back to Alexander Forbes. These include “Churchill’s Thumb,” “Alligator Island,” “Pink Lady Island”—Forbes was fond of a beverage by the same name (Turner, D.S., pers. comm. 2000)—and numerous other odd-sounding names that seem so out of place in an Arctic setting, but which nevertheless stuck.

By September 1942, the Koojesse Airbase had developed into a bustling community. A hospital was built, as well as living quarters for the workers, a canteen, workshops, garages, warehouses, and a small tent city. The well-paid men amused themselves in their off-hours with poker games, where large sums of money were won and lost, and the occasional movie. Heavy equipment moved

about the community as they built roads and, most importantly, the airfield facilities.

An interesting incident occurred at Crowell Island at the beginning of September, when one of the men, Tony Columbo, claimed to have seen a submarine periscope. Major Crowell immediately dispatched two heavy machine guns to the site and ordered a blackout. It was later presumed that Columbo had seen a seal popping its head above the water, so the state of siege ended peacefully (Forbes, 1953:86). Nevertheless, some crew members believed that Columbo might well have seen a submarine (G. Pomeroy, pers. comm. 2001). Although the idea of a U-boat penetrating that far into Frobisher Bay seems absurd, the possibility cannot be entirely ruled out, for U-boats were regularly operating along the Labrador coast. It is known, for example, that a German submarine was monitoring the progress of the airbase at Narsarsuaq and that the Germans knew quite a few pertinent details about that base (Pockock, 1949:266). At the very least, it appears that the Germans were aware of the Americans' activities with respect to constructing airfields in Greenland (Balchen et al., 1944) and therefore might also have been aware that an airbase was being constructed at Frobisher Bay.

On 1 October 1942, Lt. Commander Forbes and Major Crowell departed for Washington. Major Berk Hassell, USAAF, succeeded Crowell as the commanding officer of Crystal Two. In mid-October 1942, the Crystal Two base was officially transferred from Crowell Island to the new site at Koojesse Inlet, which, prior to the transfer, had been referred to as "Chaplet" (War Department, 1942; USAAFWS, 1945:76). Crowell Island continued to be used as a field base until its final abandonment in September–October 1943. It appears that around this time, Crystal Two, a.k.a. "Chaplet," had been assigned yet another code name: Izoc (Fig. 7). The origin of this name is unknown, but it is shown on War Department site maps dated 1943 (War Department, 1943). "Crystal Two" and "Chaplet," however, appear to have been the most commonly used names.

Construction work on the airbase continued throughout the winter of 1942–43. By the end of 1942, two gravel runways had been laid out: Runway No. 1, a 6000-foot (1830 m) runway oriented northwest to southeast, and Runway No. 2, a 5000-foot (1525 m) runway oriented northeast to southwest. By April 1943, both were operational, though not fully developed (Wilson, 1943).

Lt. Commander Forbes occupied the winter months with the onerous task of converting the hundreds of air photographs and soundings taken during the previous summer into accurate hydrographic charts. While Forbes had accomplished much in the way of obtaining hydrographic data, it was decided that there was a need to expand on his initial surveys. A team of Navy hydrographers would be sent in to conduct detailed soundings and tidal observations of both the Koksoak River and Frobisher Bay.

Forbes was placed in command of the 1943 survey program and was provided with a team of five hydrographers, as well as a group of enlisted men. Two of

the hydrographers, Lieutenant Sherman A. Wengerd, USN, and Ensign Daniel S. Turner, USN, both geological engineers by profession, made significant contributions to the success of the survey. As it turned out, both men also contributed to the recorded history of Iqaluit because they kept detailed diaries of their activities and observations.

Forbes, Turner, Wengerd, and a small party of enlisted men arrived at Crystal Two in August 1943, onboard *Morrissey* with Captain Bob Bartlett. The men immediately set to work erecting control point monuments along the coast in preparation for sounding and charting the harbour and the surrounding area as far south as Daniel Island. The hydrographic survey work continued at a hectic pace throughout the summer, and much was accomplished. Forbes and his crew endured many privations while carrying out their assignment: plagues of mosquitoes, violent storms, rain, sleet, snow, injuries and malfunctioning equipment. Wengerd's (1943) diary is replete with stories of how the crew, after spending hours of hard physical labour (which included hauling 41 kg sacks of cement) in erecting survey monuments on high promontories, would return to the area a day or two later, only to find them blown down or completely destroyed by high winds.

Frobisher Bay's large tidal range made offloading the supply ships problematic because the tidal flats at Koojesse Inlet extend over 1 km from the shore at low-water springs. This problem was exacerbated by the large boulders that covered the whole area, which made for a treacherous approach. A deepwater docking facility was considered; however, it was decided that it would be easier and more practical to clear a path across the tidal flats. This would allow barges and flat-bottomed ships to come in close to shore on the high tide, beach themselves, and then be offloaded directly onto waiting trucks at low tide (Forbes, 1953:81). To this day, the same method is used for discharging cargo from supply ships at Iqaluit, but the pathway must be cleared each summer, for during the eight-month winter, ice continually picks up large boulders and deposits them on the previously cleared tidal flats.

Work on the airfield continued at a steady pace. According to D.S. Turner (pers. comm. 2001), extensive blasting was required to obtain aggregate material for construction of the runways. The engineers and builders were plagued by problems related to permafrost. At the time, the Americans had very little (if any) experience in working under such conditions. The Soviets had extensive experience in the specialized field of construction and engineering in permafrost regions, but since very little literature on the subject was available or had been translated into English, the Americans could not benefit from the Soviets' experience (D.S. Turner, pers. comm. 2000). Washouts were frequent, sometimes resulting in gullies as deep as 5 m cutting across one or the other of the two runways. Water would often well up from below the surface, creating gaping holes that had to be filled with rocks and smoothed over. Maintaining the runways was a constant battle, but in the end the U.S. Army prevailed, often through brute

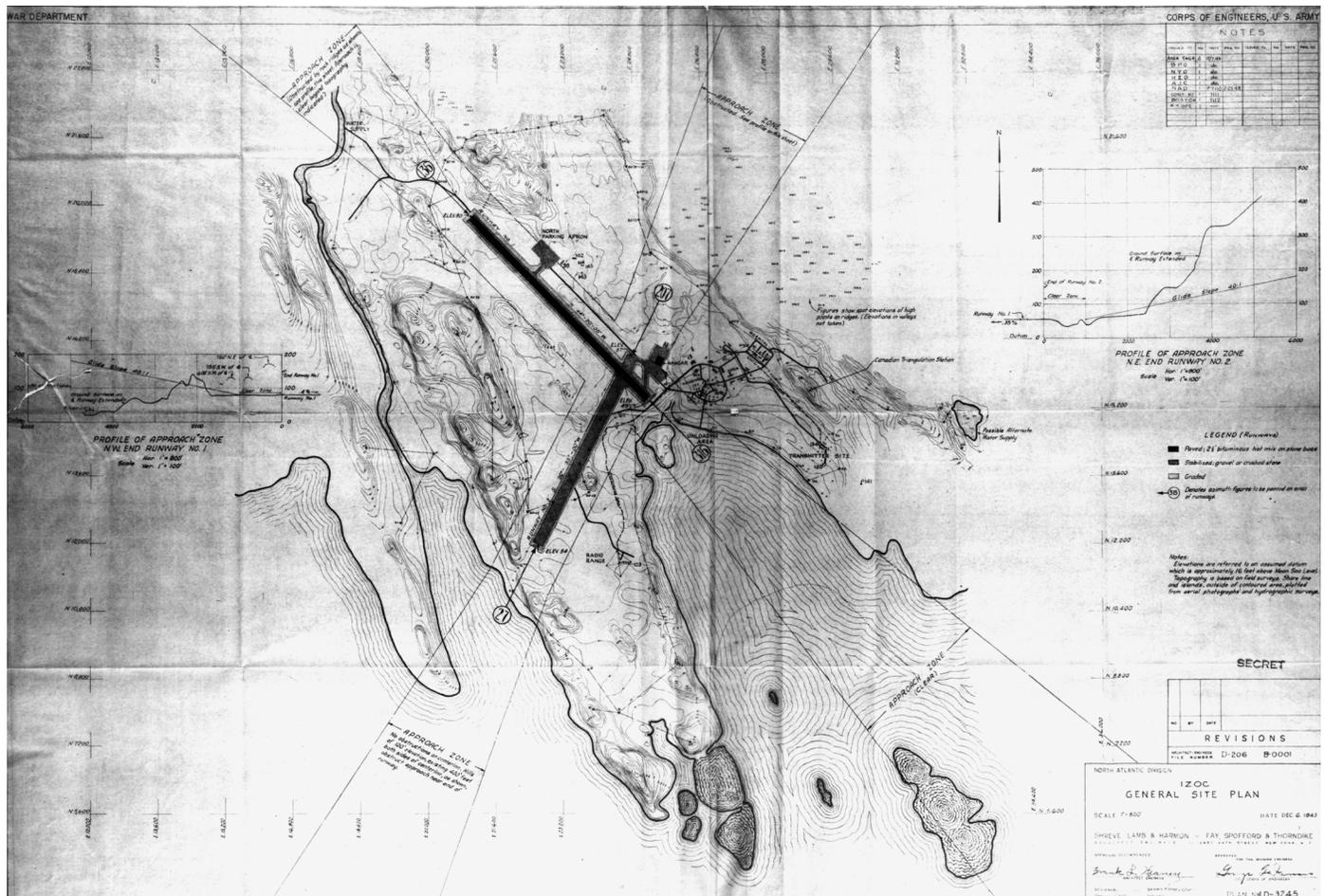


FIG. 7. Izoc general site plan (1943), showing location of the two runways. National Archives of Canada. R.G. 12, Vol. 1405, File number 5150-31, pt.1. Ottawa.

force. Dan Turner (pers. comm. 2000) described the military approach to problems:

If you don't succeed, then HIT 'EM AGAIN, HARDER. In permafrost, that meant dig wider and deeper! STRIP the surface, haul in fill dirt. Passive remedies were against their principles...At Crystal One, I saw them bury a boom crane 2/3 the length of the raised boom, right in the middle of the runway. The crane had been brought down there to extract a dozer that had disappeared in the runway. Only the exhaust pipe cap was showing above the muck.

In August, Nakasuk, who continued to work for the Americans after Major Crowell's departure, was returned to Crowell Island with his family and tons of accumulated gear (Wengerd, 1943; Forbes, 1953). As payment for his services, the Americans later turned over the Crowell Island Base to Nakasuk after its abandonment in September–October 1943. Thereafter, it became known to the Americans as “Paluchi's Camp” (Turner, 1946).

In October 1943, Forbes, Turner, and Wengerd departed Crystal Two and returned to the United States. The groundwork had been laid, and the base was well on the

way to completion. The vast store of hydrographic data and air photos collected over the summer was turned over to the U.S. Navy Hydrographic Office. Up until the 1950s, when the Canadian Hydrographic Service conducted its own surveys to update and expand on the Americans' work, the U.S. charts were the only ones available for Frobisher Bay.

By the end of 1943, the airfield (Fig. 7), which included the two runways—No. 1 (paved) and No. 2 (gravel)—and a 30 000 sq. ft. (2788 m²) aircraft hangar and control tower, was fully operational. However, the Americans continued to experience permafrost-related problems with both runways, which required constant maintenance and repairs (Cooke, 1999).

Runway No. 2, as originally proposed by Lt. Commander Hubbard and Major Griswold, USAAF, was intended for use as an emergency runway (Kadjan, 1942b). Later, however, it was found to poorly oriented with respect to the prevailing northwest winds; moreover, it was subject to takeoff and landing restrictions imposed by the surrounding topography. Even as early as April 1943, it was suspected that Runway No. 2 was not a very encouraging prospect, although at the time the Americans continued with its development (Wilson, 1943). A ridge

122 m high obstructed the northeast approach, making takeoffs and landings to and from that direction difficult and sometimes dangerous (Cooke, 1999). Turner (pers. comm. 2000) recalled that aircraft always had to approach the runway from the southwest and take off towards the same direction. Additionally, a rock ridge 6 m high along the north edge of the runway, about midway along its length, further limited its use (Cooke, 1999). By mid 1944, further development on Runway No. 2 had been discontinued, and eventually it was abandoned altogether. The runway did prove useful, however, as a parking area for aircraft and vehicles and a storage area for drummed fuel.

THE OPERATIONAL YEARS

Despite all of the effort and money expended in the urgent construction of the Crimson Route, the changing circumstances of the war had rendered the far northern airfields virtually obsolete by the time they were completed. Thus, they were infrequently used for their intended purpose. Crystal Two recorded 323 aircraft arrivals for the year 1943, but few of these went on to Europe (Dziuban, 1959; Cooke, 1999). In fact, very few aircraft made their way across to Great Britain via the far northern sections of the Crimson Route (USAAFWS, 1945; Forbes, 1953:135).

By 1944, the U-boat threat had been largely neutralized by the Allies' superior anti-submarine warships and new technological developments, such as advanced sea and airborne radar units that could pick out a submarine periscope from great distances. Long-range anti-submarine aircraft had finally closed the so-called "Black Pit"—a region of the North Atlantic between Labrador and Iceland, with the southern tip of Greenland at its mid-point—where protective air cover had been absent during the first half of the war. As a result, U-boats started to suffer catastrophic losses. Conversely, as U-boats were being driven from the North Atlantic, shipping losses decreased dramatically. The war had taken an overall turn in favour of the Allies, so there was no longer a need to ferry aircraft over a far northern air route.

The demise of the U-boats notwithstanding, attempts at flying across the Greenland icecap proved to be hazardous ventures in themselves and resulted in a number of losses of aircraft and men (Forbes, 1953:135). With rapid advances in aeronautical engineering, short-range military aircraft equipped with extra fuel tanks could simply bypass the Crystal airfields and Søndre Strømfjord, flying from Goose Bay to Great Britain either directly or via Iceland.

In June 1944, the Canadian Government purchased the Crimson Route airfields for \$31.6 million (United States currency), \$6.8 million of which was expended for Crystal Two. Canada, becoming increasingly concerned about the American military presence on Canadian soil, was anxious to regain control of its northern territories. It was not until 1950, however, that the Canadians actually assumed official control of the Crystal Two airfield. Until that time, the

Canadian presence at Crystal Two had apparently consisted of two people. The first, Constable Verlin H. Marchbank of the RCMP, was there in 1944; the second, a liaison officer of the Royal Canadian Air Force (RCAF), arrived in 1947 (Cooke [E.F.], 1944; Cooke [O.], 1999). The Americans continued to occupy Crystal Two, albeit with the consent of the Canadian government, to operate the weather station and maintain the runway. The United States still believed the airbase had strategic value, particularly after 1945, with the onset of the Cold War.

In some quarters, the Crimson Route airfields were viewed as a colossal waste of money, even more so because Canada ended up purchasing them from the Americans. Malcolm MacDonald, High Commissioner for the United Kingdom in Canada, was taken on a flying tour of the airfields during the summer of 1944 and wrote a fascinating report based on his observations. MacDonald's sentiments were blunt and derisive:

I rather think that the Americans have added to the schools of White Whales, families of White Bears and thousands of White Foxes...a fine little herd of White Elephants....the Canadians are literally going to pay for the Americans' mistakes. (Grant, 1988:277)

History has demonstrated that MacDonald had been rather hasty in his judgment, at least inasmuch as the far northern bases along the Crimson Route were concerned. While they were seldom used for their intended role, they nevertheless retained their importance and utility in the capacity of meteorological stations, which assisted the war effort through improved weather forecasting for the North Atlantic shipping lanes and, to a lesser extent, as secondary military airfields (USAAFWS, 1945). Furthermore, the concerted efforts that went into the mapping, hydrographic surveying, and aerial photography of the airfields and the surrounding areas significantly expanded the knowledge of Canadian Arctic geography.

The Crimson Route airfields and their support facilities were excellent examples of mid-20th century technology and American audacity. Malcolm MacDonald's observations and impressions of the airfields are illustrative:

...the air bases...are striking examples of the American nation's magnificent impertinence, imaginativeness, energy, mechanical skill, and extravagance. I do not use the word "impertinence" only because, I understand, their army authorities started these works on Canadian territory without properly informing or consulting the Canadian government. It is also because they treated with similar indifference the obstacles which Nature—whose sovereignty in the Arctic is even more supreme than that of the Canadian Government—put in their way. (Grant, 1988:275)

MacDonald describes the facilities at Crystal Two:

Here the Americans have built what is in effect a small town. The present population is about 100 officers and men but there is accommodation for eight times that number. I stayed at the Commanding Officer's house....It has...wash basins...a shower...running hot and cold water...a lounge with a well stocked bar.

Besides the runways...there are various establishments in the station...barracks, mess-rooms and kitchens; a twenty-five bed hospital with a completely up-to-date operating room, X-Ray department and dentist's quarters; a shop and coffee-house; a theatre...a laundry; a barber's shop and Turkish bath-house....every item of food or drink that a "super" ice-cream machine and soda-fountain respectively can concoct....A new program of films is shown in the theatre three times a week. Sometimes the latest feature films from Hollywood can be seen in the Arctic wastes before they are seen in New York or Chicago. (Grant, 1988:275–276)

POSTWAR DEVELOPMENT

Crystal Two, which became known as Frobisher Bay shortly after the end of the war, was renamed Iqaluit in 1987. The community continued to undergo many transformations, at a steady pace, which will be discussed only briefly in this paper, for a book could be written about all of the interesting events and fascinating characters that contributed to its postwar evolution.

In 1947, the Americans returned in strength (400 personnel) to refurbish Runway No. 1. In 1948, the Hudson's Bay Company moved its trading post from nearby Ward Inlet to what is now known as "Apex," just a few miles southeast along the coast from the airfield. The RCAF officially took control of the airfield in September 1950. Between 1951 and 1958, as a result of the Cold War, the Americans returned to Frobisher Bay in several waves. First came the Northeast Air Command of the United States Air Force (USAF; the United States Army Air Forces became known as the United States Air Force as of 1947) and later, the Strategic Air Command. At the time, major programs were underway at the Thule Air Base in Greenland, including the joint American-Canadian Distant Early Warning (DEW Line) Radar Sites, closely followed by the Ballistic Missile Early Warning Site (BMEWS). Once again, the Americans had essentially reassumed control of the airfield by operating the air traffic control system that extended southward from Thule to Newfoundland. They continued to operate it into the next decade.

Frobisher Bay now functioned as a resupply and distribution centre. Concurrently, between 1951 and 1953, a radar station was constructed on a prominent hill northeast of Runway No. 1. Commonly referred to as "Upper Base," it was built as a part of the "Pinetree Line," a string of long-range search radar installations that spanned the entire length of southern Canada and arced northwards along the

Newfoundland-Labrador coast, terminating at Frobisher Bay. The Pinetree Line, which preceded the better-known DEW Line by five years, was entirely manned; each individual site had the capability to direct jet interceptors against enemy aircraft (R. L'Ecuyer, pers. comm. 2002).

In 1953, the Royal Canadian Navy established a high-frequency radio direction-finding (HF/DF or "Huff Duff") station on the west side of Runway No. 1. In 1954, the Americans began blasting away a rock ridge—which had long been considered a hazard to air navigation—located several hundred metres off the northwest end of Runway No. 1. By 1960, the runway had been completely rebuilt (using the crushed rock from the removal of that ridge), lengthened from 6000 to 9000 feet (1830 to 2744 m), and re-surfaced with a new coat of asphalt (Cooke, 1999).

In 1955, the Americans constructed a communication facility, code-named "Polevault," at Upper Base. It was to serve as a link between the DEW Line sites to the north, then under planning and construction, and the communications centres to the south. During that same period, the Canadian government established a more significant presence in the area with a Department of Indian Affairs and Northern Development regional headquarters and constructed a civilian town site at Apex. By 1957, the population of Frobisher Bay had reached 1200 (Advisory Commission on the Development of Government in the Northwest Territories, 1966).

In 1956, the Americans requested permission from the Canadian government to establish a Strategic Air Command (SAC) base at Frobisher Bay, where they could station a squadron of KC-97 mid-air refuelling tankers. These in turn would support SAC's B-47 nuclear bombers. Permission was granted, and construction of the base began in 1958.

Operation of the airfield was transferred late in 1957 from the RCAF to the (Canadian) Department of Transport (DOT), who would operate it as a civilian airport. The transfer does not appear to have affected the activities of the Americans, who retained a contingent of men to operate Upper Base and the SAC base, then under construction. In fact, the USAF was still the greatest user of the airfield (Cooke, 1999).

In 1961, the Pinetree Line radar station was closed, but the Polevault facility remained operational. After the introduction of long-range B-52 bombers (and the accompanying KC-135 tankers) in 1962, there was no longer a need for stationing mid-air refuelling tankers at Frobisher Bay. The SAC facility was closed in early July 1963, by which time at least seven KC-97 air tankers were permanently stationed there. By October 1963, the Americans had transferred responsibility for maintaining Polevault to the Department of Transport, and they subsequently departed Frobisher Bay (Cooke, 1999). The community continued to evolve and grow, finally becoming the capital of the new territory of Nunavut in 1999. As of 2002, the population has reached 5100 and is projected to increase to over 8300 by the year 2020 (Government of Nunavut, 2000).

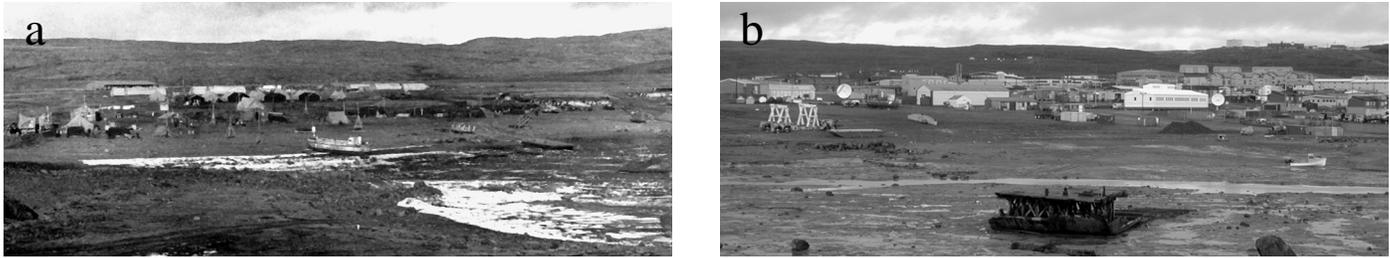


FIG. 8. (a) Koojesse Air Base, 1942. (Photo: A. Forbes in Forbes, 1953. Reprinted with permission from A.I. Forbes). (b) Koojesse Air Base, 2001 (same view). Note the many changes to the community as compared with the 1942 photograph. The wooden barge in the middle foreground is suspected to be a remnant of the 1940s. (Photo: R. Eno).

Iqaluit's airfield—the largest in the Canadian Arctic, with the longest runway—serves as a refuelling and emergency landing facility for both domestic and international flights. When DC-6-type aircraft were introduced to intercontinental air routes, these aircraft, on flights between Europe and the west coast of North America, began stopping at Frobisher Bay to refuel. During this period, planners had visions of Frobisher Bay's becoming a major international airport, with improved hangar facilities and large hotels. Such plans were dropped after the introduction of the long-range Boeing 707, since these large passenger aircraft no longer needed to refuel at Frobisher Bay (K. Greenaway, pers. comm. 2001).

The last vestiges of Iqaluit's wartime origins are slowly disappearing. The extreme northeast end of Runway No. 2—which, some evidence suggests, might have been the first runway to be constructed at Frobisher Bay (Pederson, 1958)—is now occupied by the current airport terminal building and parking lot. The southwest end of it is still discernible, but it is slowly being built over. It no longer resembles a runway, but looks more like a wide gravel road. The Canadian military, in a joint effort with the United States, constructed a North Warning System Logistics Support Base (as part of a larger network of modernized radar installations that replaced the DEW Line) on the site in 1993. More recently, local people have been constructing shacks and dog pens a short distance to the southwest. One can still find remnants of the 1940s era in the form of old vehicles and other assorted metal debris in an old dump site just beyond the southwest end of Runway No. 2. The Crystal Two advance base at Crowell Island has been reduced to a field of scattered and mostly unrecognizable debris, although Crowell Island itself is still used as a seasonal camp site by Inuit hunters and their families.

At least one building left in Iqaluit can trace its origins to the Second World War: the original aircraft hangar, built in 1943, which served as Frobisher Bay's airport terminal until it was replaced by a more modern facility in 1985–86. Shortly thereafter, it was purchased by First Air for use as an office and cargo shed. First Air recently renovated the hangar, which bodes well for its future as a preserved historic landmark. Unfortunately, the control tower had to be demolished.

CLOSING REMARKS

Iqaluit is projected to experience rapid growth over the next several years. As more people move into the area, an increasingly smaller percentage of Iqaluit residents will know or appreciate the historical events that led to the creation of what is rapidly becoming a major Arctic centre (Fig. 8a, b). Currently, there are no plaques or monuments that commemorate Iqaluit's wartime origins, despite the fact that Iqaluit owes its existence to the Second World War. Tourism publications make only passing reference to the war years, and most of them contain factual errors. No doubt this contributes to the lack of historical consciousness on the part of most residents.

2002–2003 marks the 60th anniversary of the airfield at Iqaluit. It is hoped that this paper will generate an interest in Iqaluit's Second World War origins, thus keeping this history alive. It is a regrettable fact that the names of the American servicemen, who were in a sense the founding fathers of Iqaluit, remain unknown to the majority of residents and visitors. Their names and their deeds should not be consigned to anonymity.

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