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On the northern fringes of the continent W.E. has built the first units of America's Distant Early Warning Line

ALASKA'S "northside" is a remote and desolate place. Deep within the Arctic Circle, it is the land where the tundra ends at the shore of the ice-choked Beaufort Sea. It is where Point Barrow juts out like an icy finger pointing at the Pole only 1200 miles away.

During the long winter darkness, it is a land of raging blizzards, of sub-zero cold. During the brief few weeks of summer, the surface of the tundra becomes a mire, while a few feet below the surface the ground remains eternally locked in "permafrost."

This is a land, it would seem, that only the Eskimos, who live in huddled settlements along the coast and hunt the polar bears, white foxes and seals, would want to claim. This is a land so distant, so different from that which most of us know, so far removed from the problems and tensions of the world that it might just as well be on another planet.

Yet, early this year, long before the drifted snow began to melt, huge Air Force cargo planes came roaring in over the frozen pinnacles of the Brooks Range, their bellies crammed with tractors, machines, building material and supplies.

Out over the flat, white frozen sea and tundra the "cat trains," boxcar-like "wannigans" on skis pulled by giant tractors, set their lonely courses toward distant, secret sites. By the time signs of Spring showed in early May, new settlements, principally of wannigans, had appeared on the frozen waste: the air was filled with the roar of engines, the shouts of construction workers. The snow and mud were churned into a brown slush by the treads of tractors and go-devils, otters, weasels.

Then with summer when the ice broke, the U. S. Navy sent a great flotilla threading its way up through the Bering Strait and disgorged tons of materials on the shore. Soon new structures began rising on the Arctic landscape.

This strange undertaking, this great movement of men and materials to this distant Arctic shore, has to do with something which for reasons of secrecy was long known simply as "Project 572." It was and is something in which a special group of Western Electric and other Bell System people played a major role. It was, and is, one of the most unusual undertakings of which we have ever had a part and one of the most important.

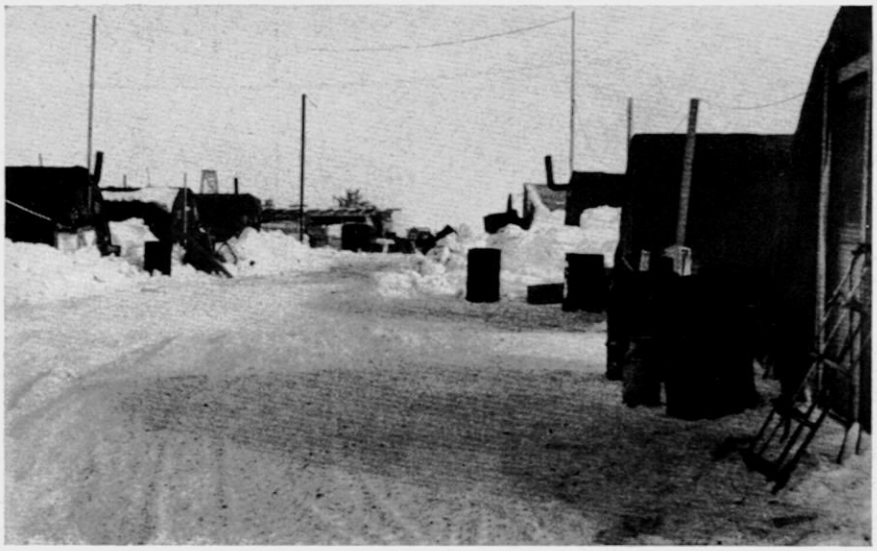
But first there was "Project Lincoln," a group of scientists at Massachusetts Institute of Technology whose ponderings were concerned with America's survival in the atomic age.

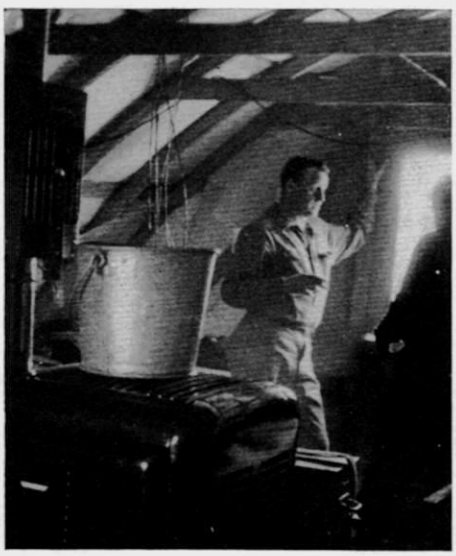
One thing which came out of this awesome study was the need of an early warning system which would give the alarm if bombers based at airfields on the other side of the Arctic Circle should come screaming across the Pole and down over Alaskan or Canadian wilderness.

As the jet bomber flies, these Arctic regions are about six hours from America's industrial heart. In terms of national defense every minute of warning

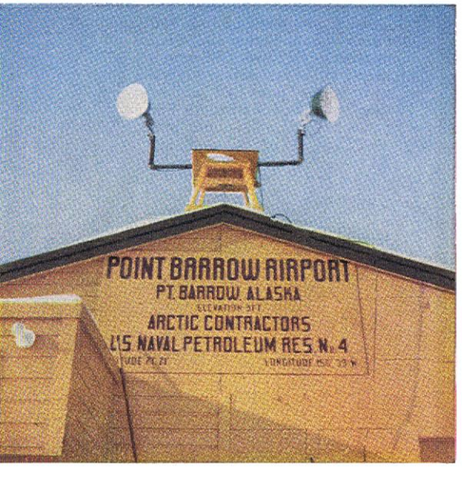
Advance parties of W.E. men flew north in Air Force cargo planes more suited to their vital northbound freight than to the comfort of personnel. Advance men picked sites of radar installations, plotted location of materiel depots, charted the long line of supply from all over the States to the far north.

Below: Water heated in buckets on stovetop provided water for washing. Men were billeted in Jamesway huts like those shown at left along snow-covered "Main Street."





Despite their distance from civilization W.E. and other Bell System members of Project 572 crew ate hearty in the far north. At left is a scene in the "mess hall" at "chow time," with Bell System, Air Force personnel and a few bush pilots.

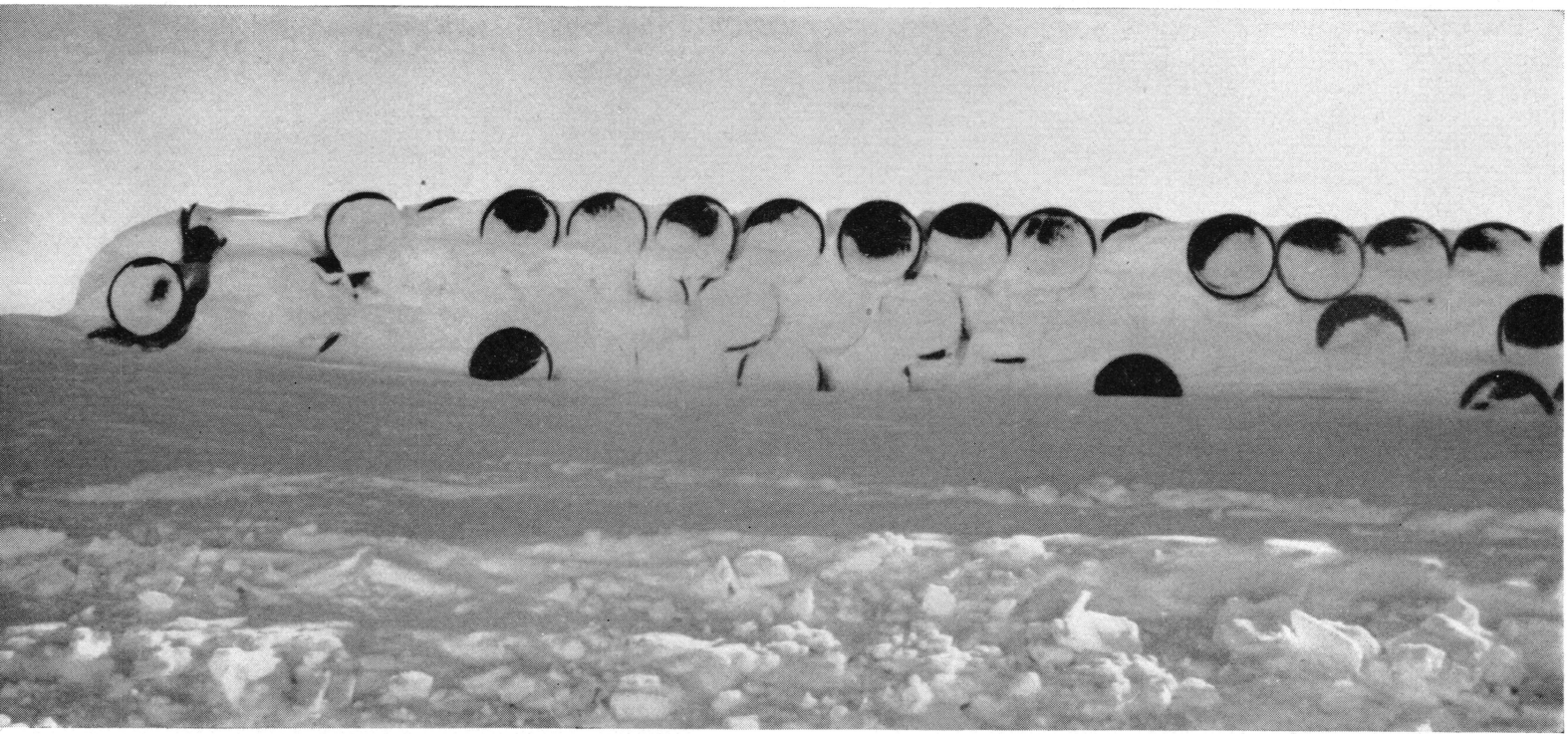


West coast ports were point of departure for most of the materiel and equipment needed for the big job in the far north. Ships delivered their freight at Alaskan ports for shipment further north. In summer ships in convoy sailed directly for Alaska's northern coast.

Huge Air Force planes picked up heavy gear from Alaskan bases, toted it over the mighty Brooks Range to the north coast. Here a big "drag line" inches into the belly of a husky air freight ship.

Point Barrow, the "top of the world," became a familiar way station to W.E. and other Bell System personnel on the 572 project who plotted its logistic plan as if for a major amphibious operation.

"Cat trains"—freight sledges pulled by tractors—hauled materiel across the Arctic ice and tundra on final leg of long journey by ship and plane from the U. S. This picture was taken from a light plane piloted by experienced bush pilot.



Drifting snow obscures mound of oil barrels transported from the States to serve tracked vehicles and construction machinery needed for the 572 project. Job had an exacting tight schedule because of the rigors of Arctic weather.

is precious. It represents that much more time to get interceptor planes into the air, to ready anti-aircraft defenses, to get civilian populations to safety. If we had six hours' warning it might make the difference whether an attack succeeded or not.

But before we could have those six hours we needed radar stations in the Arctic. We needed radio which could pierce the severe electrical storms which sweep across the Arctic and knock out conventional communications. And we had to have equipment that could function with a minimum of human attention. In other words, we needed new techniques which, until recently, simply didn't exist.

Project Lincoln scientists proposed new methods which offered technical promise and scientists working closely with the Bell Laboratories set about developing and modifying equipment.

Then came Project 572. It was born last December when Bell System officials were requested by the Department of Defense to undertake responsibility for engineering, construction and operation of the initial section of a "Distant Early Warning" line in the Arctic and to have it functioning within the year.

That was when Western Electric came into the picture.

To get the job done, a special group was organized in Radio Division to coordinate and manage the project. This select team was assembled from many parts of the Bell System to handle the engineering, procurement, transportation and administration of the project. Under the contract with the Air Research and Development Command of the Air Force, it was the task to do a complete job in establishing a segment of a "DEW" line. This included not only engineering, construction, transportation and storage, but obtaining everything that was or would be needed in time to meet construction and transportation schedules.

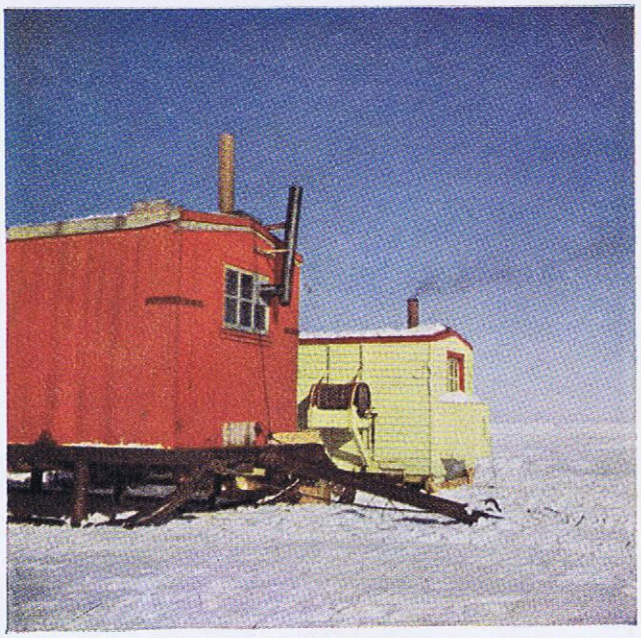
Every piece of the complex electronic equipment had to be especially made or converted. Every board and nail, every tractor, crane, truck, wannigan or steam pointing machine had to be obtained. All the mountains of food and fuel, everything needed to house the people working in the Arctic and everything for the project itself had to be assembled and transported to the scene of operations—some 2,800 miles by sea from the loading point. Except for materials flown in in advance by plane or brought in by cat train from Point Barrow, all of it had to be brought to the construction point and most of the construction done during the two-month summer.

Early in the same period, a pilot installation was set up in the United States to pre-test the equipment, get the "bugs" out of it before it was installed in the Arctic and to train personnel.

For the operating job, Western Electric assembled a team of specialists, people hand picked from our own organizations, from the Long Lines Department of A. T. and T., from 17 Bell Telephone Companies, the Bell Telephone Company of Canada and from our Canadian affiliate, the Northern Electric Company. These people were not only carefully selected for their skills—W.E. and A. T. and T. personnel men made flying trips all over the Bell System to give each one carefully prepared, searching

Flag in a trackless waste

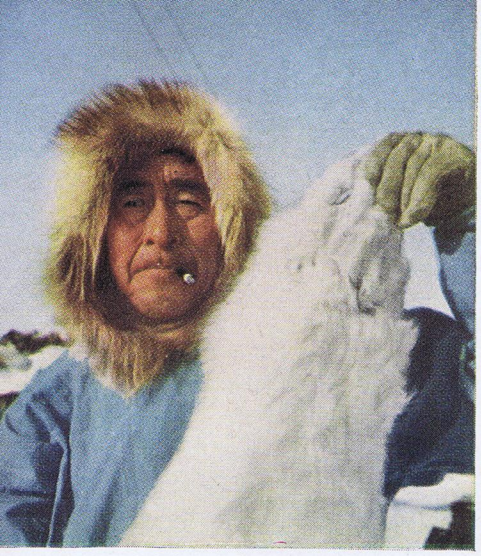
marked site for construction to come

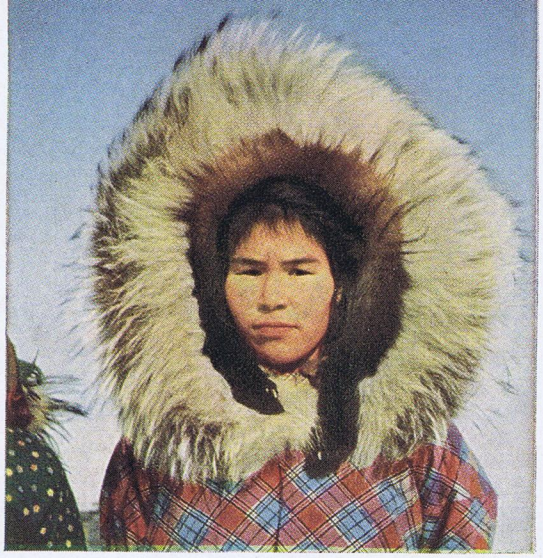


Living quarters at construction sites were "wannigans," box cars mounted on sledge runners for ease of transport over the snow.

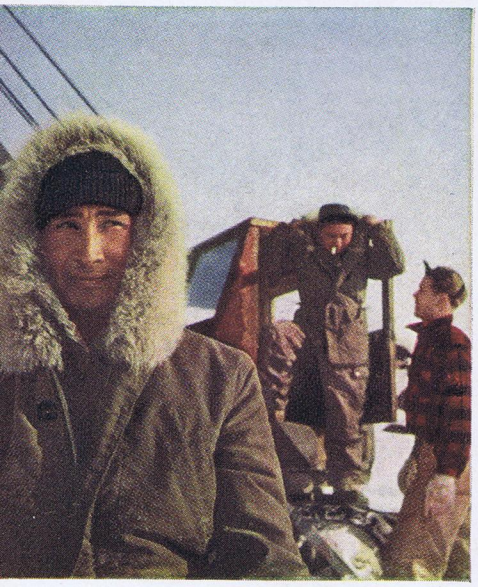
It took live "steam-pointing" to drill holes in ice and "permafrost" to set stakes and poles which when set immediately froze fast.

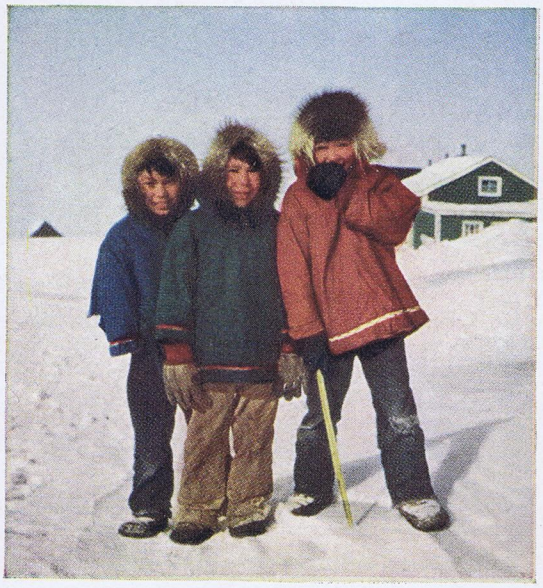
Crumbling ice barrier in summer months permitted unloading of a convoy of LST's directly on the beach on the continent's "northside." Organization and coordination of vast movement of materials from the U. S. to the Arctic was major Western Electric responsibility.

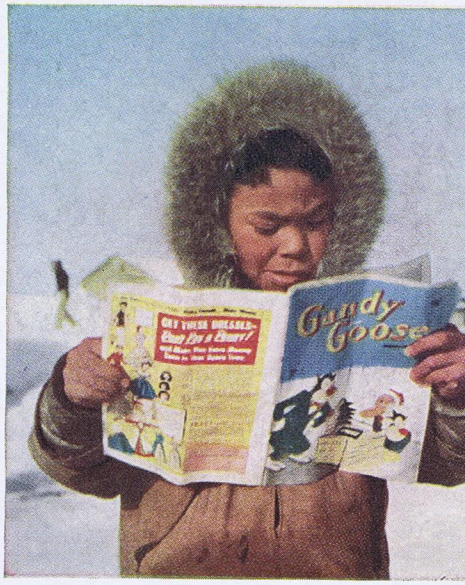




To these Eskimos the region of the D.E.W. Line is home and includes their immemorial hunting and fishing grounds. Old gentleman at left sold white fox skin to *WE* photographer—$5.00. Girl (center) is local beauty. Universal ebullience of youth shows in lad at right.



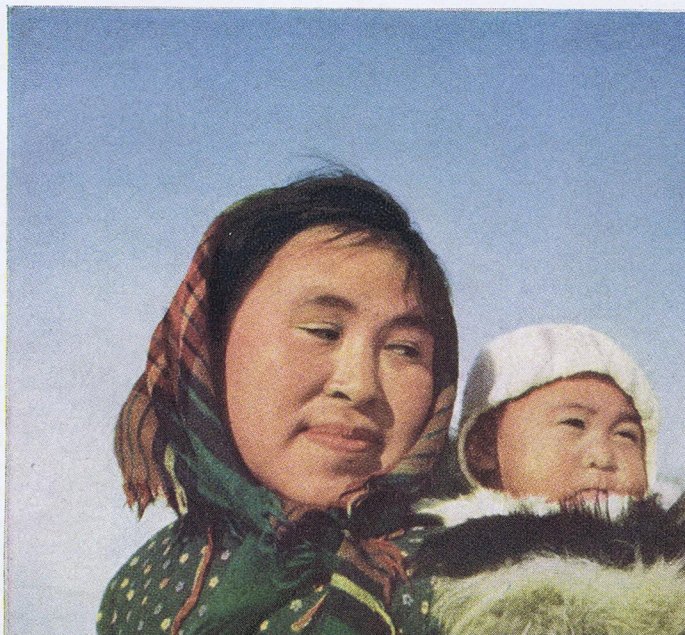




Many Eskimos are employed on U. S. projects, show considerable skill handling heavy construction material. Children (center) go to school operated by the U. S. Government. That far north feels other influences of U. S. culture is evidenced by the boy (right).

"Easter parade," the photographer called this picture which was made on Easter morn last Spring.

Mother and child show that far North Eskimos cling to traditional papoose style of transportation for babies.



interviews—and they received rigid physical and psychological tests, lessons in Arctic survival to be sure they could adjust themselves to the rugged and inhospitable living conditions in the Arctic.

Then after fast, intensive training in their new jobs, faced with the fantastically close deadline which the weather imposed, they went to work.

Some of the project staff virtually "disappeared" for a while, so engrossed were they with their new assignments on 572. Some practically "commuted" to the Arctic, running up tens of thousands of travel miles on commercial air lines, transport planes, and ships. Night and day the work went on—procuring, assembling, building, testing, eliminating red tape, working against time, making the most of the few weeks of good weather.

Summer has long since gone in the Arctic now. The sun has dipped below the horizon not to appear again for many months. The Beaufort Sea is once more a frozen plain.

There are Western Electric and other Bell System men up there now and equipment all snugly housed in heated, specially insulated buildings. Nearby there are new Eskimo houses made of discarded boxes and crates on which the stenciled words "Western Electric" appear at frequent intervals. There are airstrips which are kept cleared for receiving food and fuel and supplies. And in the light of the Aurora Borealis strange rubber domes rise up, looking like the tops of silos, or astronomical observatories.

Just where these fixtures are is highly classified information. "Somewhere in the vicinity of Barter Island" is all that can be said. But it has been announced that these, the first experimental installations in the "DEW" line, will be fully operational soon. That the radars in their rubber domes soon will be sweeping the dark skies.

And it has been said that this system will be so lightning fast and comprehensive that a warning signal can be transmitted to the United States within seconds of the time an enemy aircraft comes within range. Moreover, unlike other radar which requires constant human attention, this new equipment sounds an alarm automatically, which means fewer men have to be on hand to service it in the Arctic.

This is an experimental installation. Upon its performance will depend the decision to extend the DEW line across the Arctic from Alaska to Greenland in an unbroken arc.

What the outcome of the experiment will be it is too early to say, of course. But this we do know. The "Lincoln" scientists, the Bell System people, the construction workers, the Air Force and Navy people, the Eskimos, everyone who helped has made mighty strides toward winning this particular battle for time: toward gaining for us that six hours which some day might mean survival.

WE's photographer tells how it was on continent's northern rim

The following is excerpted from a letter from *WE's* photographer who earlier this year took most of the pictures on these pages:

Well, here I am on the point of land that extends farther north than any point on the North American Continent. Seven of us sleep in a hut which looks like a whale-boat turned upside down. We sleep on cots and bedding consists of a sleeping bag and my pillow is a nylon-covered pair of padded Air Force pants. We wash in a couple of gasoline drums that are split in half and the ragged edge turned down so you don't cut an artery and bleed to death. We brush our teeth outdoors and rinse from an old tomato can. One consolation—"chow" is terrific, sirloin steak, and for Easter we had turkey done in the best Stateside fashion. A bush pilot has been flying us over the Arctic Ocean to the various sites. It is beautiful—and somehow terrible and cruel—here. Temperatures vary as much as 25 degrees in four hours—from ten to 35 Below, that is. We've had extremely good light to very bad, the exposure meter sometimes reading as high as it does in the desert. When the sun is below the horizon the light can still be blinding—and absolutely shadowless. Which makes flying—and even walking—dangerous sometimes. You can walk into a fifteen foot snowdrift without even seeing it. With no sun a white wraith-like mist seems to be a background for everything. This region is made for tough men, pioneers in the mold of our ancestors. They perform miracles out here on the tundra and take it for granted. Tomorrow we're taking a Norseman (ski plane) out to catch up with a "cat train". . . .