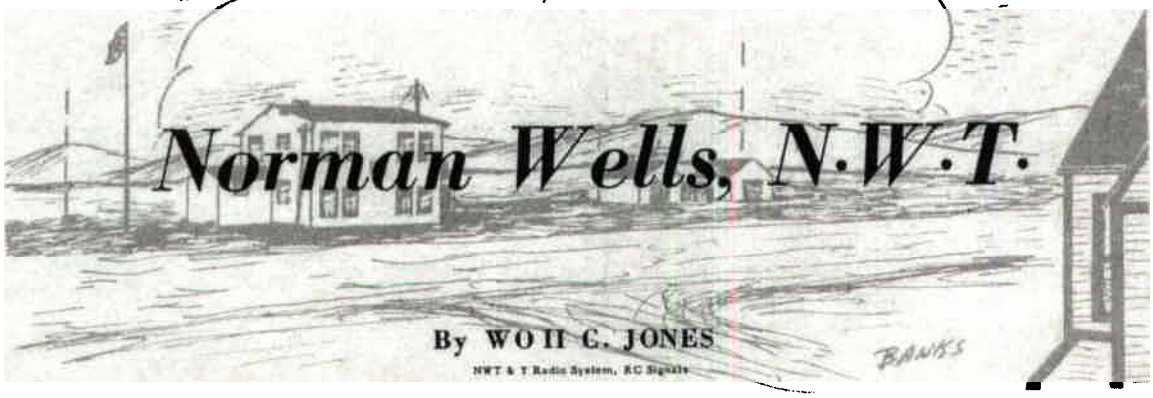
STATIONS OF THE NWT & Y RADIO SYSTEM: IV -



EVER since Alexander MacKenzie first paddled down the river which now bears his name, signs of oil seepage on the river bank, fifty miles below the mouth of the Bear River, aroused the interest of explorers and travellers. When the rapidly expanding automotive industry forced the search for oil to the far corners of the globe, the reports of seepage on the MacKenzie were investigated, culminating in 1921 when Imperial Oil Limited took over stakings, carried out drillings and proved the presence of oil in commercial quantities. The wells were then capped to await development of a market which could be reached economically.

In 1934 refining was started at Norman Wells as there was, by that time, a limited market in the settlements along the MacKenzie River. Communication was provided by a private commercial station operated by the oil company and working by radio telephony into the RC Signals station VEX, at the long-established fur-trading post of Fort Norman.

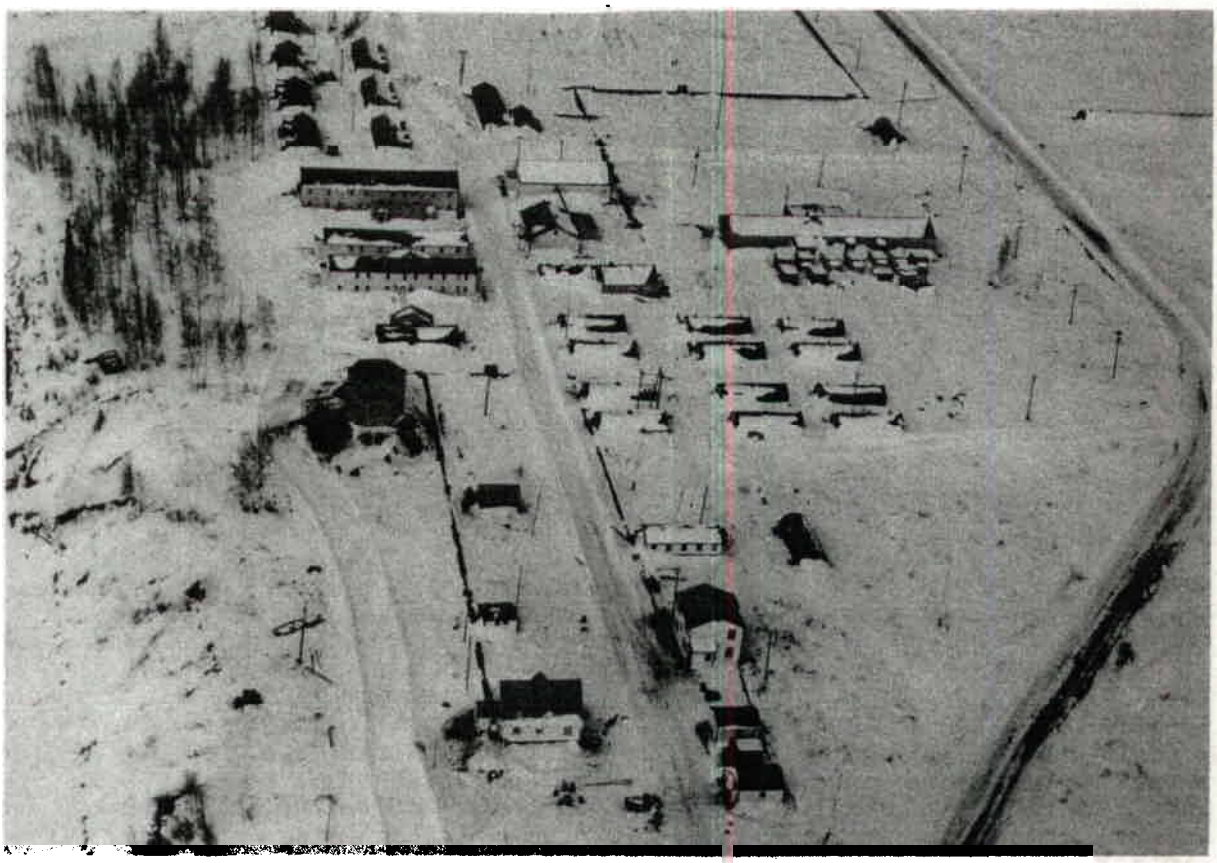
In 1942, as a measure to help combat the Japanese threat to Alaska and Pacific Coast shipping, the United States entered into the "Canol Project" which, in brief, consisted of expanding the Norman Wells field and shipping the produce to Whitehorse for refining and distribution. The magnitude of the project can be judged from the $130,000,000 that was invested in it and the fact that 40,000 U.S. soldiers and civilians were employed during the war in the MacKenzie area.

In theory the Canol Project was a self-contained task force with all communications provided by 843rd Signal Company, U.S. Army Signal Corps. In practice, a large percentage of their messages were handled by the NWT & Y Radio System. Messages for the huge camp at Norman Wells were handled by the Imperial Oil station and three U.S. Army stations, contacting VEC (Fort Simpson) and VEX (Fort Norman).

Early in 1943 it was decided, in collaboration with officials of the oil company and officers of the U.S. Corps of Engineers, that an RC Signals station should be established at Norman Wells, thus making available at that point the complete services of the NWT & Y Radio System. To implement this decision, U.S. Engineers and Imperial Oil Limited agreed to carry out the required construction, on a contract basis, with the Canadian Government. Building materials came from Edmonton, but owing to congestion of freight to be handled on the river, it was late in the year before enough had been delivered to permit completion of buildings to a point where they could be occupied.

In August, 1943, WOII D. W. Bastock, who had been selected to take charge of the new station, came from Fort Simpson to look after the equipment as it came off the boats. On arrival he took up residence in a tent pitched on the site which had been chosen for the receiving station and quarters. Later in the summer he was joined by four operators and a cook. It was some months before any operating was done, but during this time all hands, including the WO-in-charge and the cook, proved their qualifications as first class navvies. The highlight of this period was when WOII Bastock "borrowed" a D8 Caterpillar bulldozer from the U.S. Engineers for several weeks, and had everyone on the project looking frantically for the missing machine despite the fact that he drove it into the engineers' own yards daily for their own mechanics to fuel, lubricate and service.

Radio equipment, power plants and masts were provided by RC Signals, and were put into operation as soon as the building program permitted. For the next twelve months operations were necessarily on a temporary basis, as work

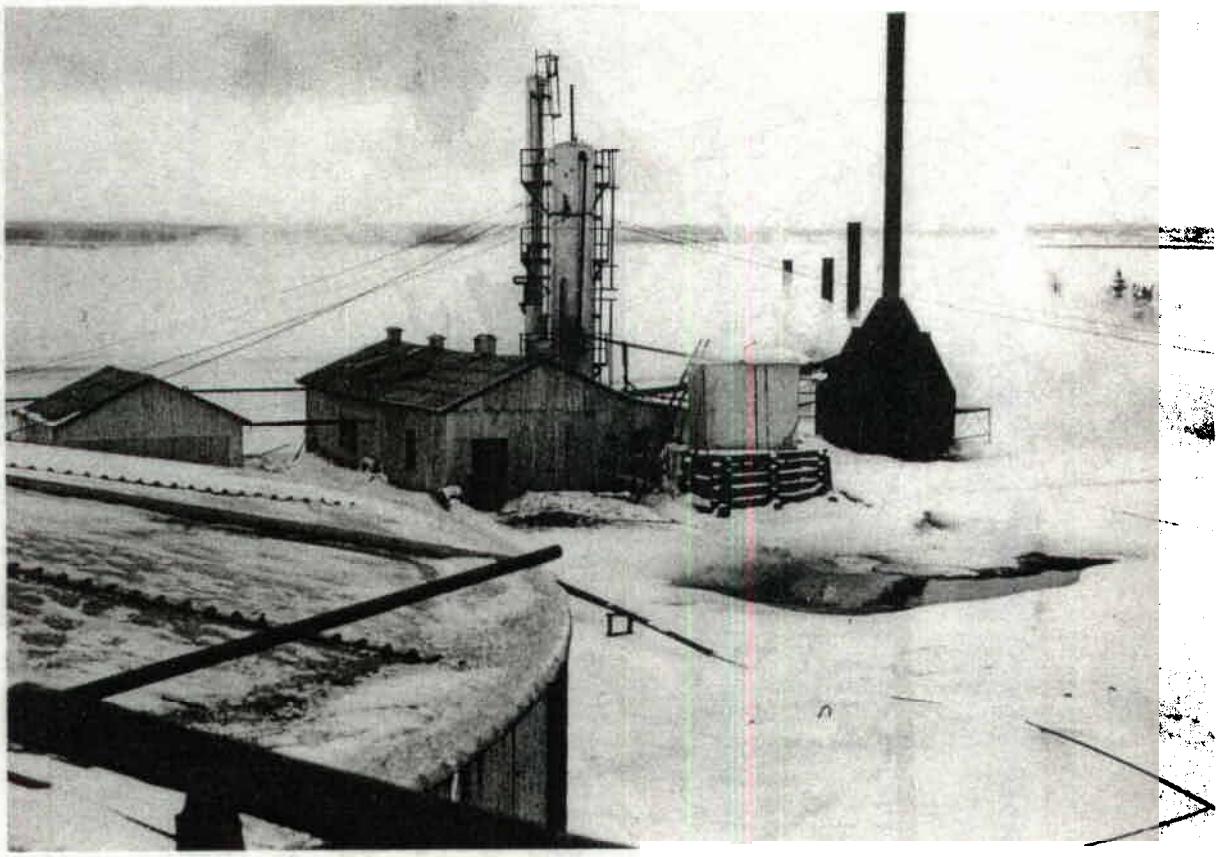


Nine years ago the northern oil town of Norman Wells was added to the growing list of NWT & Y Radio System stations. Signals buildings are in the foreground, above.

on buildings and installation of equipment continued as materials arrived. It was on the 8th of November, 1943, that other stations of the NWT & Y Radio System first heard the call of VEV, Norman Wells. At that time the operating was done from a 16' x 20' unlined warehouse in the Imperial Oil camp, while the transmitters were situated near the present site, five miles east. The transmitter building was 30' x 20' and was divided into two rooms, one for the power generators and one for the transmitters and living accommodation. The only door protecting the transmitter room from the chilly November breezes was a piece of canvas draped over the door frame.

The transmitters used in the early days of Norman Wells included a 500-watt long-wave, a 2-Kw long-wave and a two-channel 300-watt short-wave set. The short-wave rig worked out none too well and the 2-Kw long-wave was found to overload the generating sets. The 500-watt long-wave rig, however, is still in use for working to outstations. Until April of 1944, there was no telephone line or control cable between the transmitter and the receiver sites, with the result that all relay traffic was handled at the transmitters, while local traffic was handled through the receiving station in town. To protect equipment not in use, a warehouse was erected, consisting of "tents, field officers for the use of, one only".

All that, however, is long past. The warehouse has been moved to a point about half a mile closer to the transmitters, a garage erected, and a nine-roomed receiving station completes the town end of the station. The front door of the receiving station opens into the office, the operating room opening off one side. Living accommodation consists of a lounge, kitchen and mess hall downstairs and four large bedrooms upstairs. Most rooms have built-in clothes closets. A modern bathroom completes the amenities of the upper floor. The civilized refinements available at the receiving station include hot and cold water, natural gas and steam heat. At the transmitting station, the original transmitting room has been partitioned off into four single rooms and a large kitchen. A separate transmitting building has been constructed with concealed duct wiring and fluorescent lighting. Connected to the transmitter



Centre of activity at Norman Wells is the Imperial Oil refinery on the banks of the MacKenzie River.
Photo courtesy Imperial Oil Limited

room is an engine room which accommodates three 30-Kva Caterpillar diesel engines, a battery bench, work bench and spare parts shelving. On occasion, the station Jeep has been driven into the engine room at the end of the Diesels, without overcrowding.

In recent years the station equipment has undergone a complete change. Now in operation are a 10-Kw, a 2-Kw and 500-watt long-wave sets and a four-channel 2-Kw, four-channel 300-watt and a two-channel 300-watt short-wave unit. Another 300-watt long-wave and a four-channel 300-watt short-wave transmitter are held as spares. The original receiving equipment -- two Marconi SMR-3's, two VRL's and two CSRDE R-9's -- has been replaced by a bank of six AR-88's. After the installation of a sixteen-pair lead-covered cable from the transmitters to the receiver site it was possible to key all transmitters from the operating desks. Each of the CW desks is identical, with key jacks for all transmitters at each position. The remote control unit is between the two operating positions. On the 'phone desk are the remote control units

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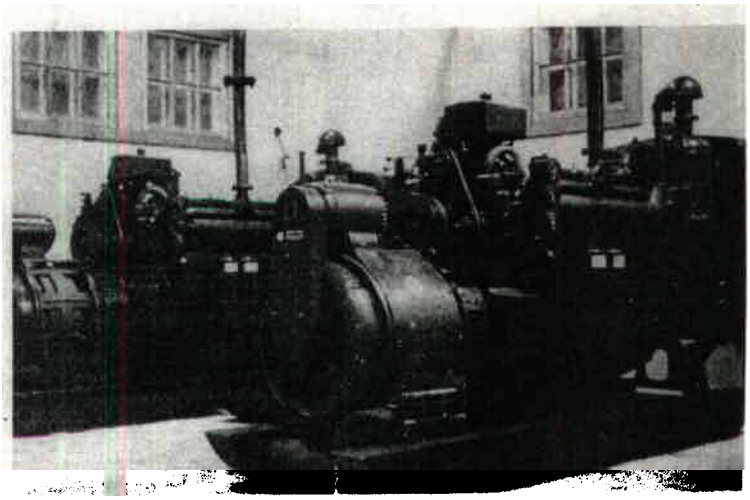
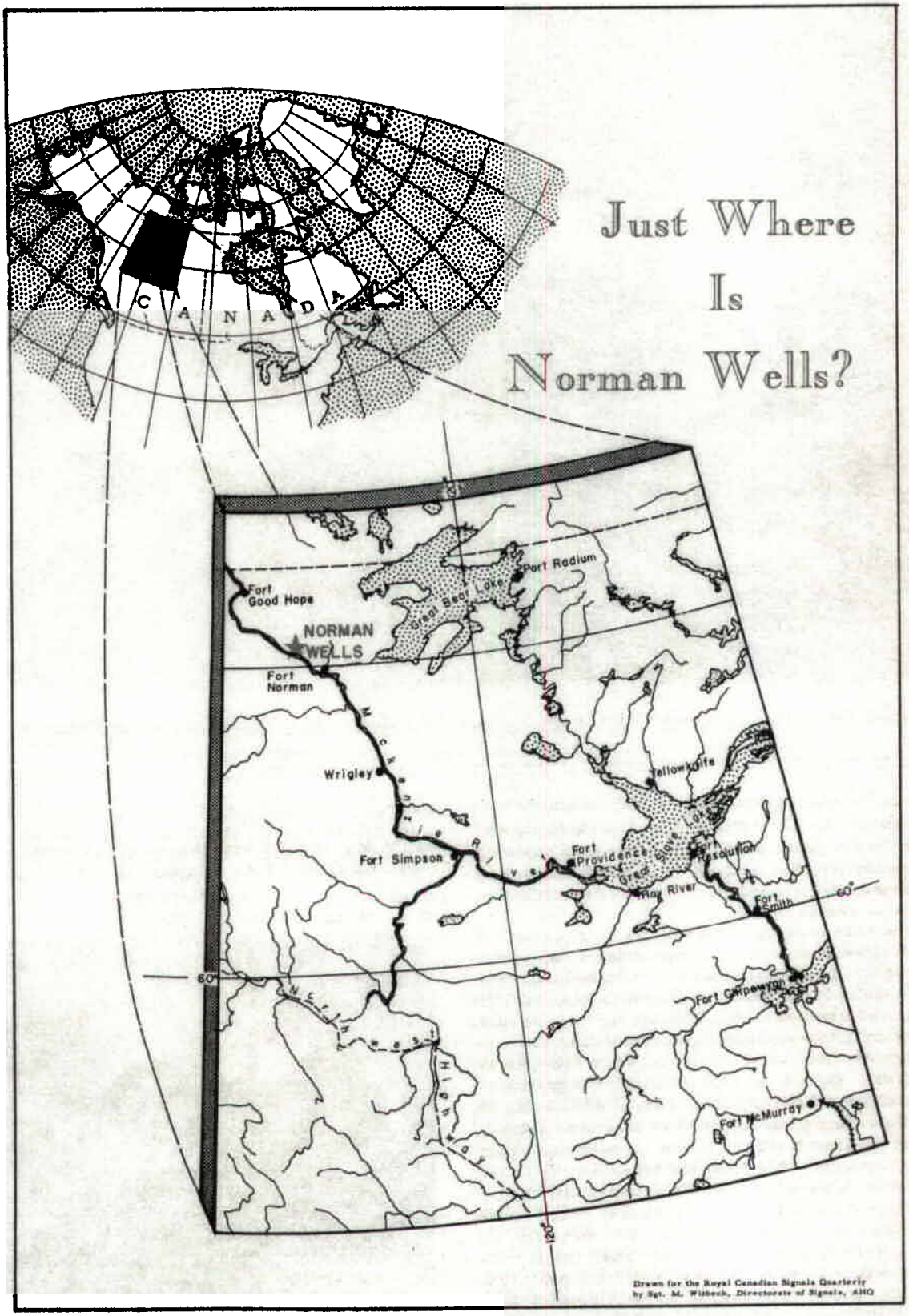
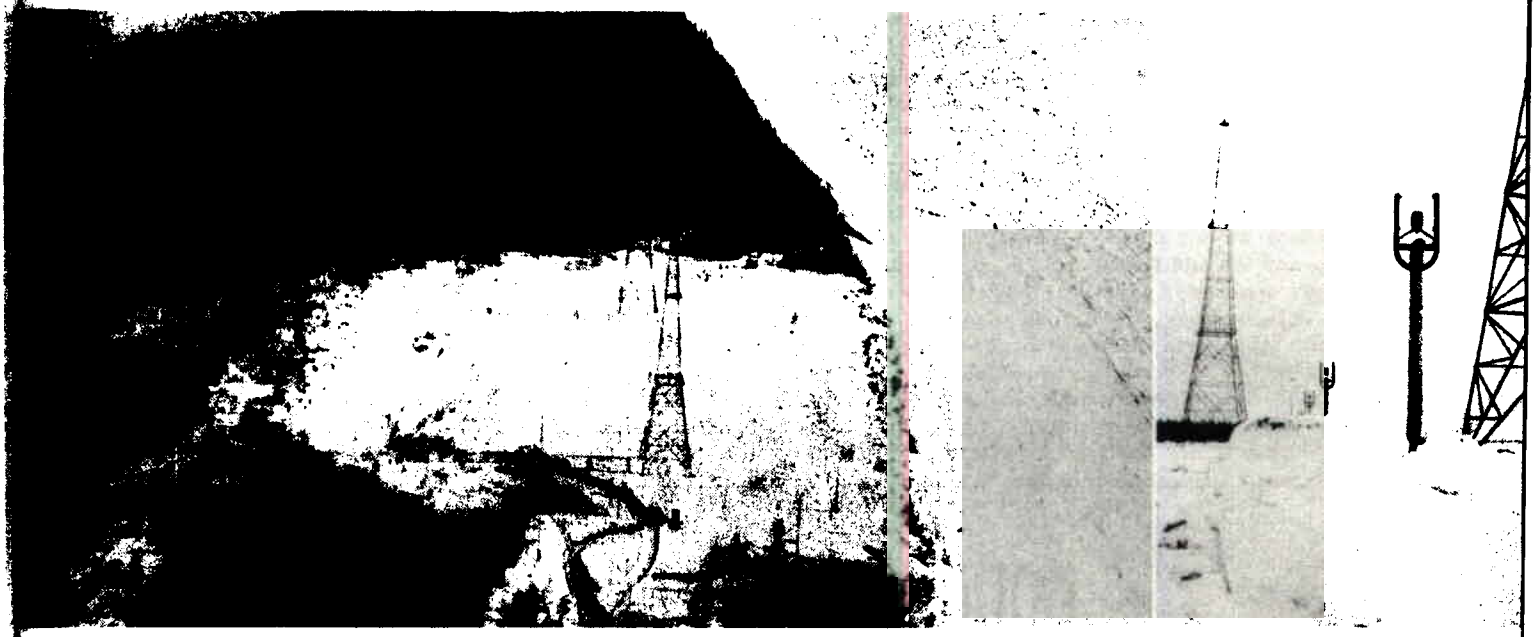
At the transmitter building, power is supplied by these massive 30-Kva Caterpillar diesel power plants.




Just Where
Is
Norman Wells?
C A N A D A
Fort Radium
Fort Good Hope
Great Bear Lake
NORMAN WELLS
Fort Norman
Wrigley
Mackenzie River
Yellowknife
Fort Simpson
Fort Providence
Great Slave Lake
Fort Resolution
Hay River
Fort Smith
60°
Fort Chipewyan
Peace River
Fort McMurray
120°
Drawn for the Royal Canadian Signals Quarterly
by Sgt. M. Witbeck, Directorate of Signals, AHQ



Five miles east of town the 300-foot steel towers of the transmitting station loom high above the tree tops. Feeder lines mounted on insulators are afforded unique shielding by the four outer wires strung on "U-Brackets" atop stub poles.

Photo courtesy Imperial Oil Limited

Winter travel at Norman Wells depends, locally, on the station jeep and, to outside points, on the ski-equipped aircraft of the RCAF (left) and Canadian Pacific Airlines (right).

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for the 300-watt short-wave transmitters which are normally used for working the boats and aircraft in the vicinity. Until a couple of years ago the Department of Transport operated a range station and aircraft communication net, but this has now been taken over by RC Signals, necessitating a separate 'phone desk. Last fall the station was further enlarged with the completion of a two-storey duplex permanent married quarter, and an additional room was added to the single quarters at the transmitter site.

In November, 1945, traffic passed during the month piled up to the grand total of 10,047 groups; the average to-day is around 100,000 groups per month. The all-time high was reached in April of 1946 with 194,798 groups.

The original staff of the station consisted of a Warrant Officer-in-charge, four operators and one cook. From all accounts, operating was a part-time job, after digging post-holes, peeling logs and clearing brush. The staff has now grown to include, besides the WO IC, one bookkeeper, two transmitter men, five operators and one cook. The operators work an eight-hour shift with one day off per week. In addition to operating, all men have various odd duties to perform to keep the station ship-shape.

The Norman Wells country has a great attraction and despite temperatures of sixty below in the winter months, colds are uncommon. In addition to outdoor sports, this station is fortunate in being able to participate in weekly picture shows, card games, table tennis and other forms of indoor recreation. None will deny that life is pleasant at Norman Wells, but it is not all play.

HONOURS AND AWARDS

Since Last Issue

The following honour and awards to members of the Royal Canadian Corps of Signals have been announced since publication of the last issue:

THE CANADIAN MEDAL FOR LONG SERVICE AND GOOD CONDUCT (MILITARY)

Capt. J. BRIDGES (AF)
WOI A. S. BENNETT (AF)
WOII C. McGREGOR (AF)
Sgt. S. NICHOLSON (AF)

THE CANADIAN FORCES DECORATION (CD)

Lt-Col. G. M. CHAPLIN (RF)
Major J. A. PARKER, MBE (AF)
Major J. T. PEACE (RF)
Major J. G. W. TURNEY (AF)
Major J. J. WILLIAMS (AF)
Capt. N. S. BENVIE (AF)
Capt. R. C. WALKER (RF)
Lt. T. W. BARNES (AF)
Lt. P. R. W. PETRICK (AF)
Lt. R. A. SPARHAM (RF)
2-Lt. H. C. COOK (AF)
2-Lt. J. F. SANDERSON (AF)
WOII R. T. O'BRIEN (AF)
WOII A. J. PATTERSON (AF)
WOII D. S. POLLEN (AF)
WOII A. SYMONS (RF)
Staff Sgt. S. T. ALLAN (AF)
Staff Sgt. E. L. GRIFFIN (AF)
Staff Sgt. J. B. KIMBER (AF)
Staff Sgt. H. E. NEWNHAM (AF)
Staff Sgt. S. A. READING (AF)
Sgt. C. H. CORKUM (AF)
Sgt. D. FISHER (SA11708) (AF)
Sgt. E. O. HANSON (AF)
Sgt. J. E. MARTIN (AF)
Sgt. R. D. McKENZIE (AF)
Sgt. M. D. MINOR (AF)
Sgt. F. MORRISON (AF)
Sgt. B. ROBERGE (AF)
Cpl. H. E. CARTER (AF)
Cpl. L. J. DOIRON (AF)
Cpl. D. LAFRENIERE (AF)
Cpl. H. E. NAYLOR (AF)
Cpl. the late R. A. POTVIN (RF)

FIRST CLASP TO THE CANADIAN EFFICIENCY MEDAL

Sgt. C. G. KOPPANG (RF)