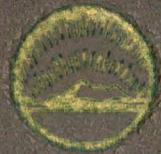


# CANOL



RESTRICTED

H. D. Collier



To the Whitehouse  
Museum (where it belongs)

from  
Don Church  
Richmond  
California

# CANOL











WAR DEPARTMENT  
CORPS OF ENGINEERS

★  
BECHTEL · PRICE · CALLAHAN  
*Constructors*

PROJECT OFFICE: EDMONTON, ALBERTA, CANADA

# CANOL PROJECT REPORT

# 1

MAY - DEC. 1942

*Richard Finnie*  
*2 Feb. '73*



CANOL—FOR THE REFINING OF CANADIAN OIL AND THE  
DISTRIBUTION OF ITS PRODUCTS IN NORTHWESTERN CANADA  
AND ALASKA.





JUNE 15 42

## **THIS IS NO PICNIC**

WORKING AND LIVING CONDITIONS ON THIS JOB ARE AS DIFFICULT AS THOSE ENCOUNTERED ON ANY CONSTRUCTION JOB EVER DONE IN THE UNITED STATES OR FOREIGN TERRITORY. MEN HIRED FOR THIS JOB WILL BE REQUIRED TO WORK AND LIVE UNDER THE MOST EXTREME CONDITIONS IMAGINABLE. TEMPERATURE WILL RANGE FROM 90° ABOVE ZERO TO 70° BELOW ZERO. MEN WILL HAVE TO FIGHT SWAMPS, RIVERS, ICE AND COLD. MOSQUITOS, FLIES, AND GNATS WILL NOT ONLY BE ANNOYING BUT WILL CAUSE BODILY HARM.

IF YOU ARE NOT PREPARED TO WORK UNDER THESE AND SIMILAR CONDITIONS

**DO NOT APPLY**

*Bechtel-Price - Callahan*

This sign is becoming part of the Canol legend — real hardships were the remoteness, the loneliness, waiting for mail from home.





**BECHTEL • PRICE • CALLAHAN**

*A Joint Venture of  
Nine Organizations with Special Qualifications*

**ORGANIZATION**

**SPECIALIZING IN . . .**

|   |   |   |
|---|---|---|
| <p><b>W. A. BECHTEL CO.</b> . . . . .<br/>Engineers and Contractors</p>         | } | <p><b>INDUSTRIAL CONSTRUCTION,</b><br/>including pipe lines, railroads, industrial plants and general construction.</p>                   |
| <p><b>H. C. PRICE CO.</b> . . . . .<br/>General Contractors</p>                 | } | <p><b>WELDING</b><br/>and pipe line construction.</p>   |
| <p><b>W. E. CALLAHAN CONSTRUCTION CO.</b> . . . . .<br/>General Contractors</p> | } | <p><b>HEAVY CONSTRUCTION,</b><br/>including water front, railroad, highway grading and industrial construction, and reclamation work.</p> |
| <p><b>BECHTEL COMPANY</b> . . . . .<br/>General Contractors</p>                 | } | <p><b>PIPE LINE</b><br/>and heavy construction.</p>   |
| <p><b>B M P COMPANY</b> . . . . .<br/>Engineers and Contractors</p>             | } | <p><b>DESIGN</b><br/>and construction in petroleum and chemical industries.</p>   |
| <p><b>J. H. POMEROY &amp; CO. INC.</b> . . . . .<br/>General Contractors</p>    | } | <p><b>STEEL ERECTION,</b><br/>water front, bridge work and heavy industrial construction.</p>   |
| <p><b>GUNTHER AND SHIRLEY COMPANY</b> . . . . .<br/>General Contractors</p>     | } | <p><b>HEAVY CONSTRUCTION,</b><br/>including water front, railroad, highway grading and industrial construction, and reclamation work.</p> |
| <p><b>R. A. CONYES</b> . . . . .<br/>Transporter and Contractor</p>             | } | <p><b>TRUCK TRANSPORTATION</b><br/>and pipe line construction.</p>  |
| <p><b>PAUL GRAFE</b> . . . . .<br/>General Contractor</p>                       | } | <p><b>EXECUTIVE MANAGEMENT</b><br/>of all types of construction.</p>  |





# THE CONTINENTAL SCOPE OF CANOL

## AREA

Roughly 1,500,000 square miles.

## GEOGRAPHY

Mostly wilderness, uninhabited; beyond civilization.

## CLIMATE

Arctic and sub-Arctic; few hours of daylight in winter; 20 hours of daylight in summer. Weather is sharply variable. While on the same day rain is falling in one area of the Project, snow on another, black summer flies are discomfiting workers in a third section.

## SERVICE and SUPPLIES

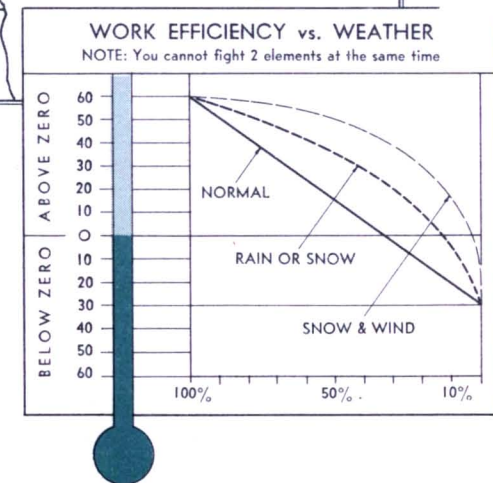
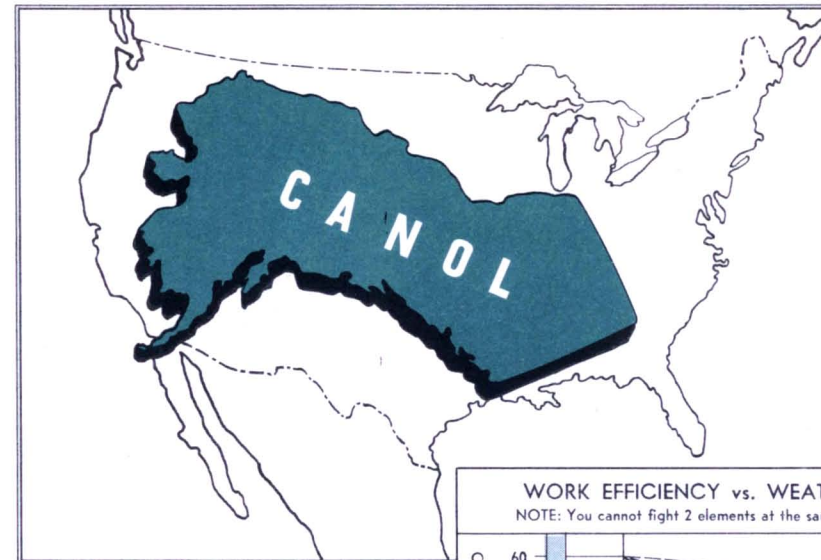
Problems similar to Army logistics (transporting, housing, feeding, welfare, supply, hospitalization, and others).

## WORKING CONDITIONS

As difficult as any encountered by any construction project anywhere.

## CONSEQUENTLY

- "The elements are BOSS in the north";
- Planning and coordination are vital;
- Supplies must be requisitioned months ahead;
- Normal efficiency of workers is greatly reduced by weather conditions, loneliness, remoteness and difficulty of adaptation.

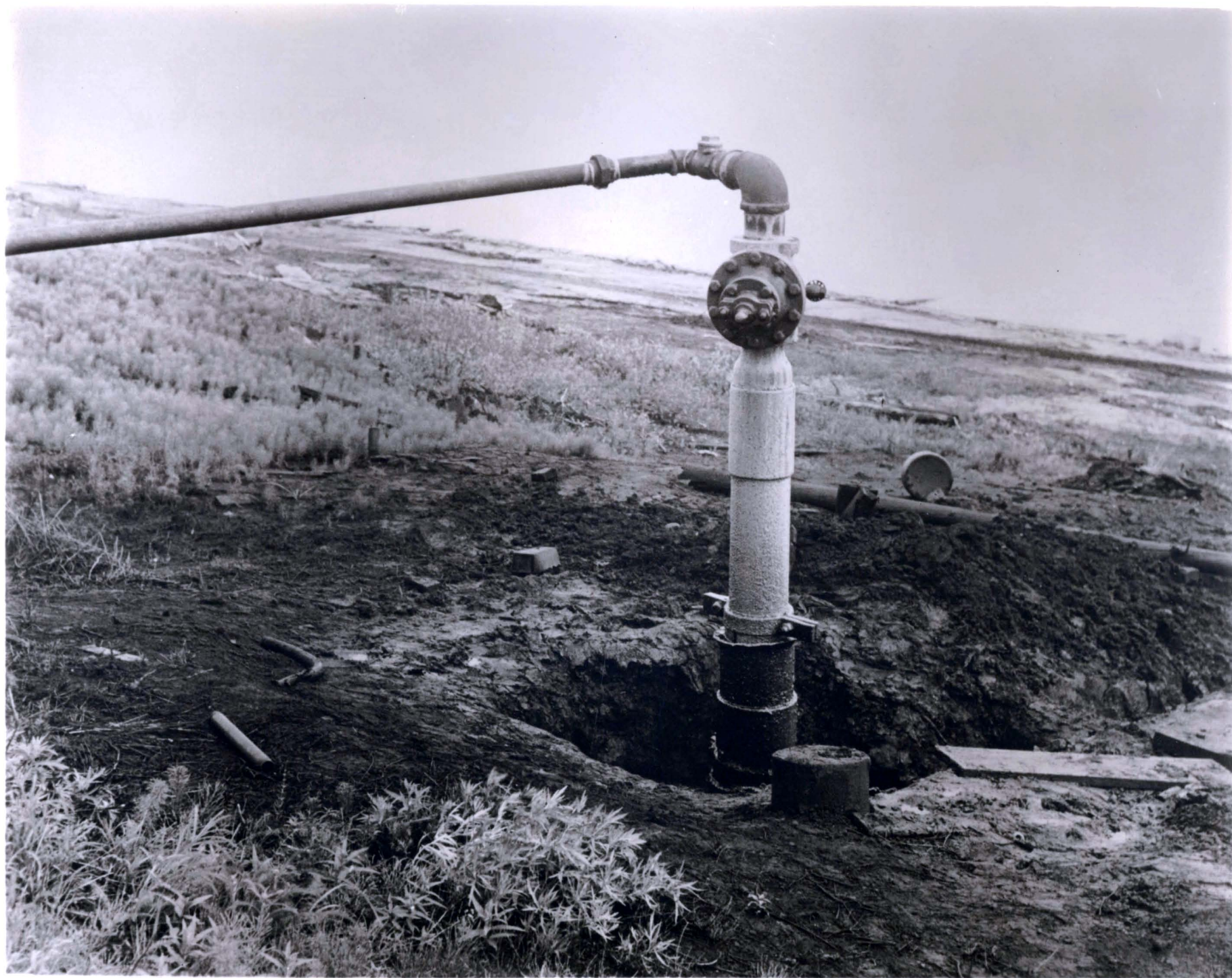






*Canol in relation to the rest of the world.*





*The original discovery well at Norman Wells, drilled in 1919-20 and still producing.*





*Norman Wells, mainspring of the Canol project—the most northerly oil wells and refinery in the world.*





*Blowing No. 18X at Norman Wells.*





## THE COUNTRY

- Latitude — between 54° and the Arctic Circle  
Longitude — between 110° and 155°.
- Mostly mountainous, wooded, with countless lakes and rivers.
- Land of midnight sun, the northern lights.
- Home of Indian, Eskimo, trapper, trader and miner.
- Locale of early goldrush.







*The mighty Mackenzie River, flowing into the Polar Sea, is the second largest river in North America.*





*Great Slave Lake, fifth largest on the continent, shallow, treacherous, and cradle of storms.*





*Constructor's base camp at Peace River.*





*Skagway at the foot of the White Pass—ghost of Gold Rush days.*





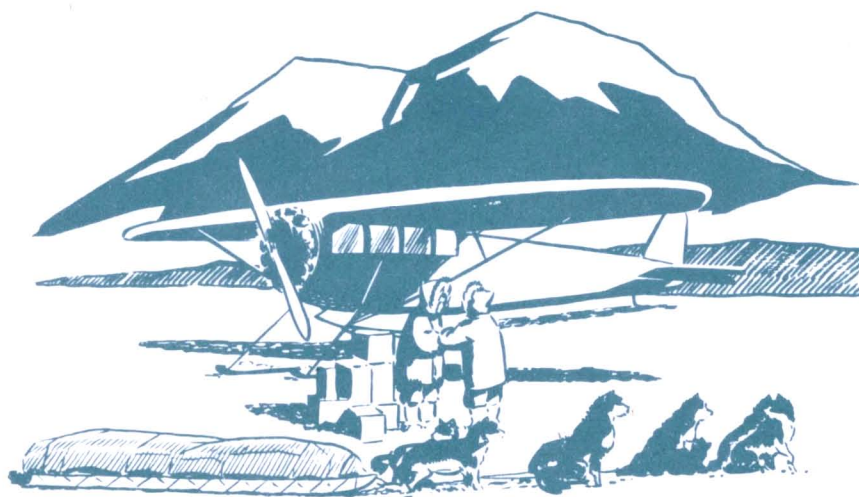
*Muskeg everywhere—eight feet of muck at Port Edward.*





## RECONNAISSANCE

- Norman Wells to Whitehorse region practically unknown.
- Maps of many section of country sketchy and inaccurate.
- First reconnaissance trip for Project made by plane, June 1942.
- First ground reconnaissance trip between Norman Wells and Whitehorse made by dog teams in November and December, 1942.







*The first reconnaissance. BTX at Sheldon Lake.*





*Dog-team being trained at Peace River for reconnaissance work.*





*On the Divide, a lake suitable for aircraft.*





## TRANSPORTATION AND COMMUNICATIONS

Existing facilities limited, inadequate, and taxed to capacity by other war-effort activities. Requires construction of roads, airports, tugs, river barges and terminal facilities.

Ocean route between Prince Rupert and Skagway operated by Army Transport Service.

Canol operates private air line for movement of personnel, emergency supplies and mail.

The Alcan Highway has become the life line of the Western division.

Major portion of supplies, materials and equipment to be hauled from end of rail over Alcan Highway. Under normal conditions, trucks average approximately 200 miles per day. Highway in good hauling

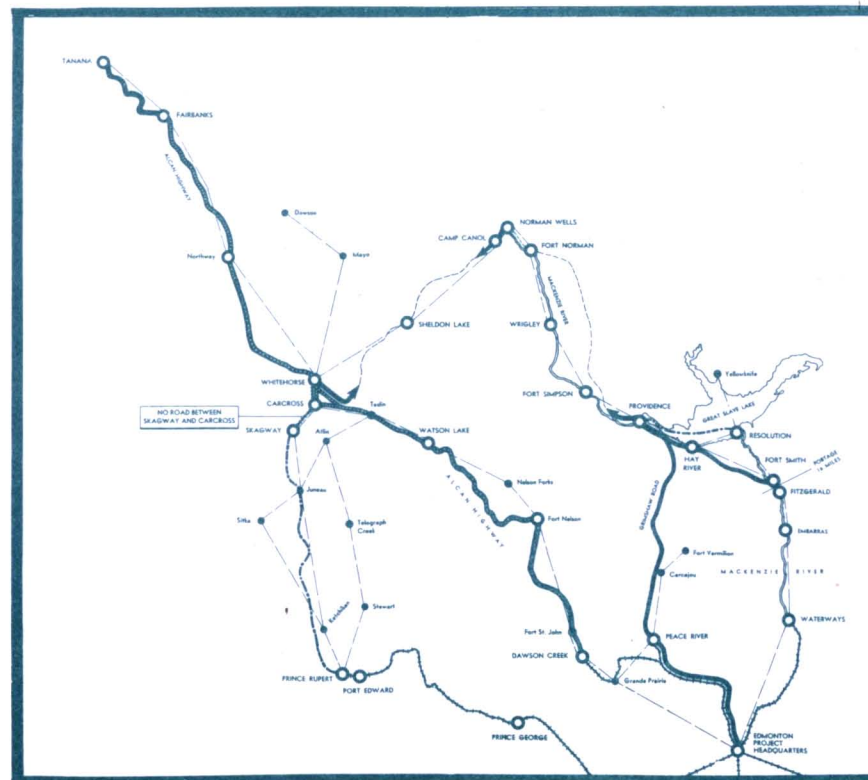
condition during winter.

Heavy rain, snow and storms frequently stop traffic on highway. Occasional Chinook winds thaw out iced surface of road and reduce speed of travel until temperatures again drop below freezing.

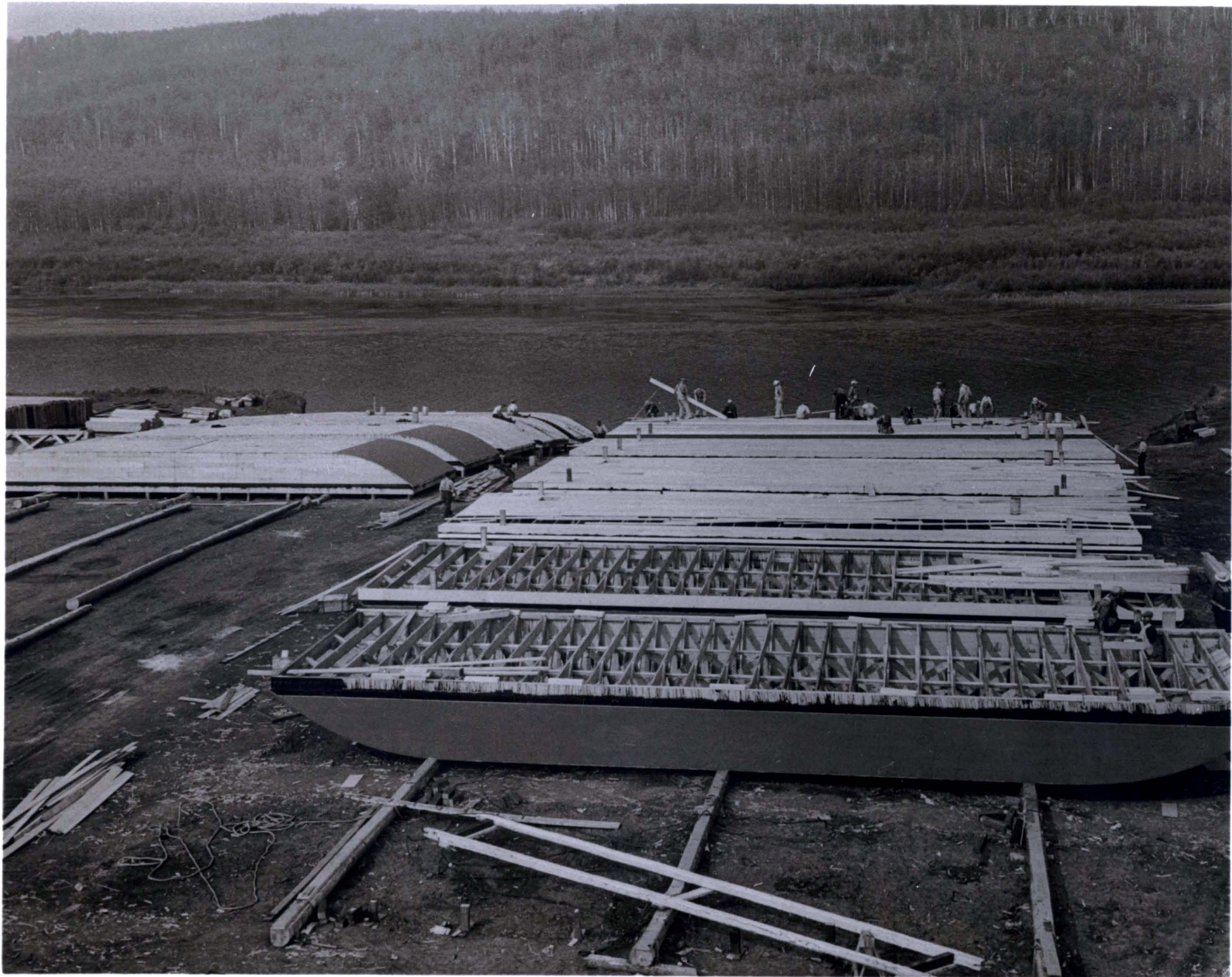
Dog teams are being trained for reconnaissance work.

Only telephone line in operation (part of the rail-road system) is between Skagway and Whitehorse. Use of it by Canol restricted to one morning and one afternoon call. Edmonton is connected by wire and phone to the United States.

All radio communications are handled by the United States Army Signal Corps.

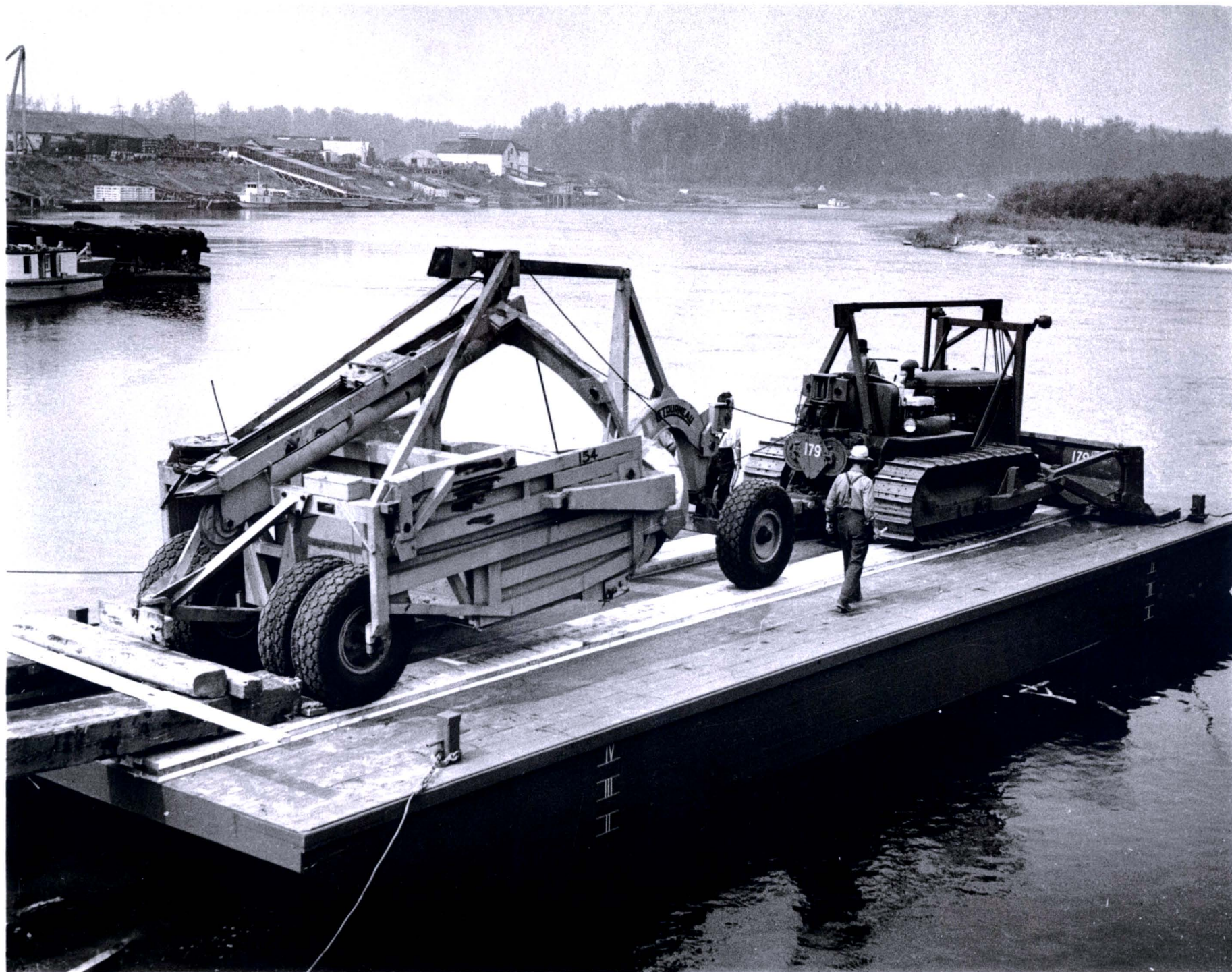






*Camp Prairie Shipyard. Barges to go down the Athabasca, the Slave, Great Slave Lake, the Mackenzie.*





*D7 Tractor and Carryall moving onto first 100-ton barge launched at Camp Prairie, August 5, 1942.*





*Barge being lifted out of water at Fitzgerald and placed on the trailer for portage haul.*





100-ton barges crossing the 16-mile Fitzgerald-Fort Smith portage.





*Colored troops stacking pipe.*





*Troops loading pipe onto army pontoons at Fort Smith.*





The Distributor picks up her six barges, totalling nearly 1500 tons, the biggest single load ever sent down the Mackenzie.



CANOL



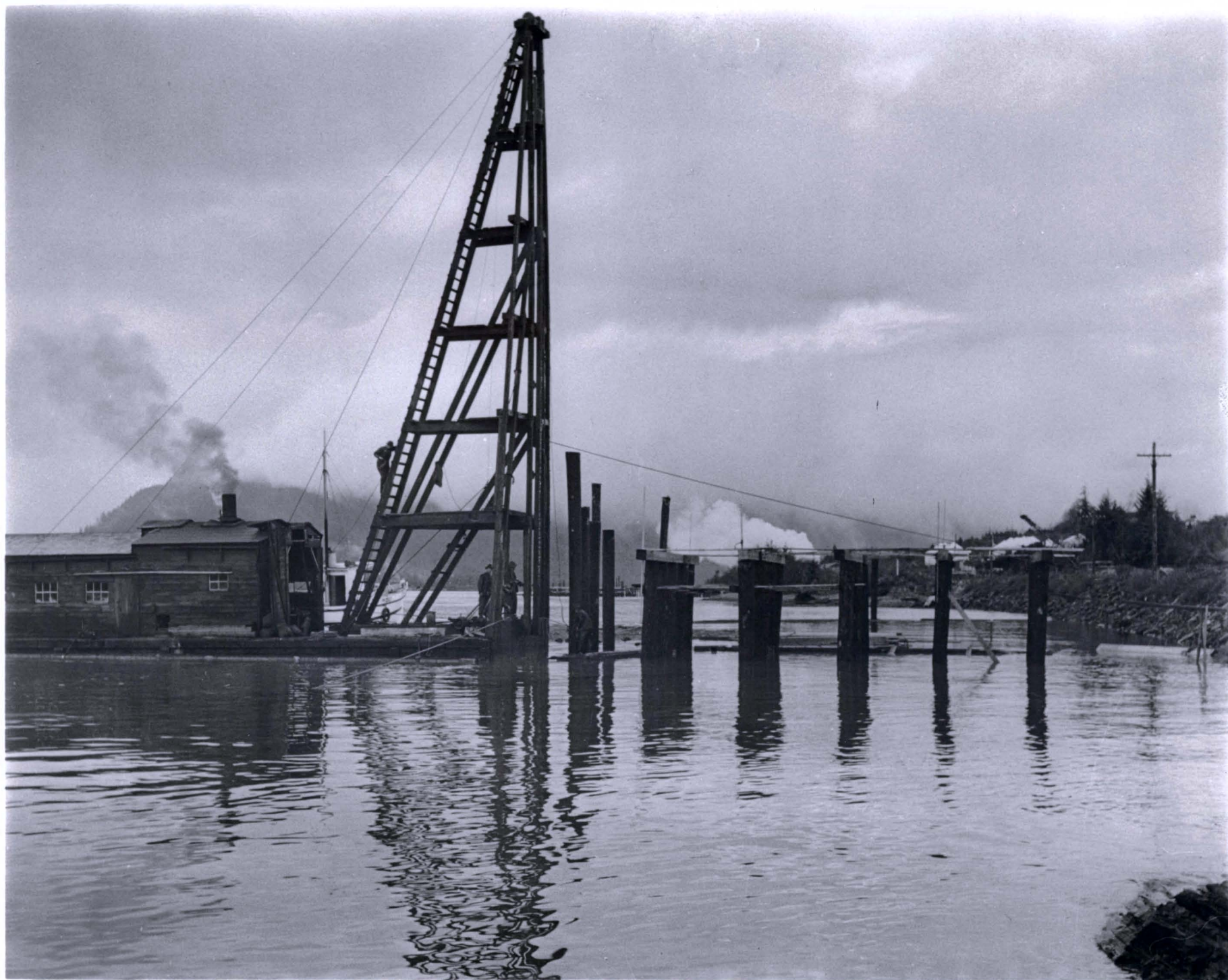
*Meat on the hoof for Canol Camp.*





*Carloads of six-inch pipe at Prince Rupert. It will travel by barge to Skagway and by narrow-gauge railroad to Carcross and Whitehorse.*





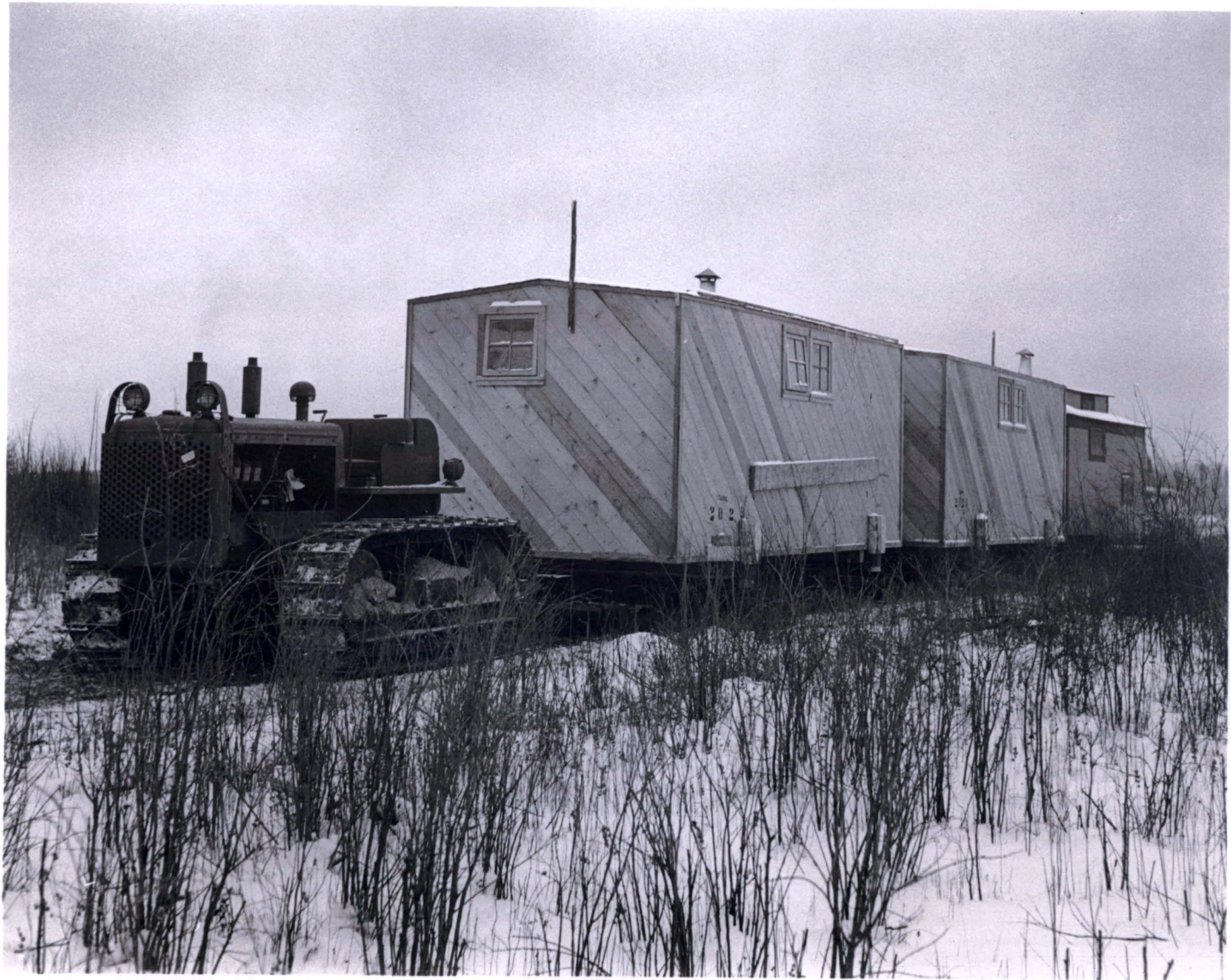
*Driving piles for Port Edward dock.*





*Crane being unloaded at Skagway. The barges are beached at low tide.*





*Bunk and cook houses being moved to new positions at Mile 132 along the Grimshaw Road.*





## H O U S I N G

- From the beginning, living quarters have been at a premium.
- Lack of adequate transportation for camp and housing materials made it mandatory to erect tent camps and to rent any available structure for shelter. Garages, churches, fire halls, saloons, trading posts, curling rinks, barns and bungalows are used as offices, warehouses and dwellings.
- Permanent base camps are being constructed along transportation routes and at terminals.
- Prefabricated igloo-type buildings, easily and rapidly erected and dismantled, supply camp house.
- Line camps (constructed in units on skids, trailers and trucks) provide sleeping quarters, mess halls, bath houses, laundries, dry rooms and repair shops.







*Temporary living quarters at Canol Camp.*





*Crew quarters being fabricated at Camp Prairie for shipment to airfield sites and Camp Canol.*





*Makeshift housing in Skagway—four of some thirty-odd buildings leased by the Constructor for living and working space.*





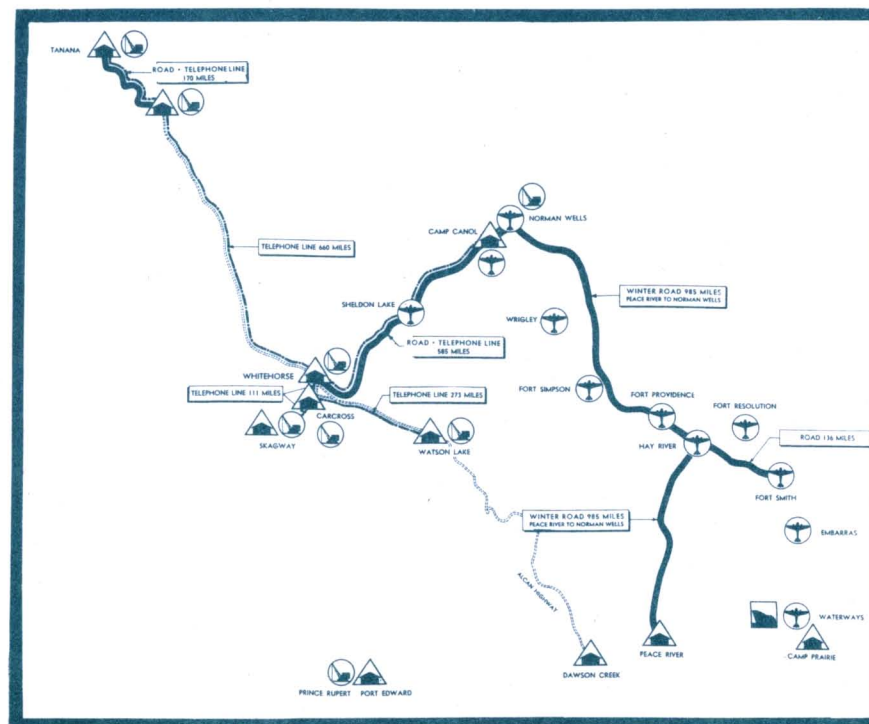
*Constructor's camp seen from bench back of Whitehorse.*





## CONSTRUCTION PROGRESS

- Operations must be carefully planned and scheduled.
- Progress is influenced by:
  1. weather
  2. distances
  3. transportation facilities
  4. availability of materials (affected by scarcity and priorities).
  5. difficulty of procuring experienced workmen with youth and strength to endure extreme living conditions (affected by Selective Service requirements).
- Recruitment offices have been established in Seattle (Wash.), San Francisco (Calif.), Los Angeles (Calif.), Minneapolis (Minn.), St. Louis (Mo.), Dallas (Texas), Tulsa (Okla.), and Utica (N.Y.)
- Service of Supply activities consume a major portion of the entire effort.







*Army tractor school against Peace River background.*





*Bulldozer at work on one of nine airfields.*





*D8 Caterpillar climbing a hill 1/2 miles from Canol Camp, on the line road.*





*Port Edward tank farm road.*



*Skagway—Constructor's road. The creek diverts a hillside stream from the tank sites.*



*Alcan highway at Whitehorse.*



*Tractor and grader on Grimshaw Road at Mile 115 from Peace River.*





*Railroad trestle at Camp Prairie.*



*Colored troops at work on a railroad spur at the Constructor's Peace River Camp.*



*Railroad spur construction at Port Edward.*





*Welding between Mile 94 and Mile 95 north from Skagway.*





*Welded pipe running northward along railroad 1 mile out of Carcross.*





*Tank Site No. 3 at Whitehorse ready for tank.*





*First welding on the first 80,000-barrel Constructor's storage tank, Norman Wells, September 23, 1942.*





*Skagway—No. 6 tank shielded by trees.*







**B E C H T E L • P R I C E • C A L L A H A N***Project Headquarters*

JASPER AVE. & 113th STREET  
EDMONTON, ALBERTA, CANADA

P. O. BOX 336

PHONE: EDMONTON 22191

*Design and Procurement*

MILLS TOWER, 220 BUSH STREET  
SAN FRANCISCO, CALIFORNIA, U.S.A.

PHONE: YUKON 2850







