

there are numerous snow-slide areas, some of which could not be entirely avoided.

The information collected in regard to the Bell-Irving-Iskut River valleys is now judged sufficient by the Commission to eliminate the Coastal Route from further consideration.

ROUTE "A"

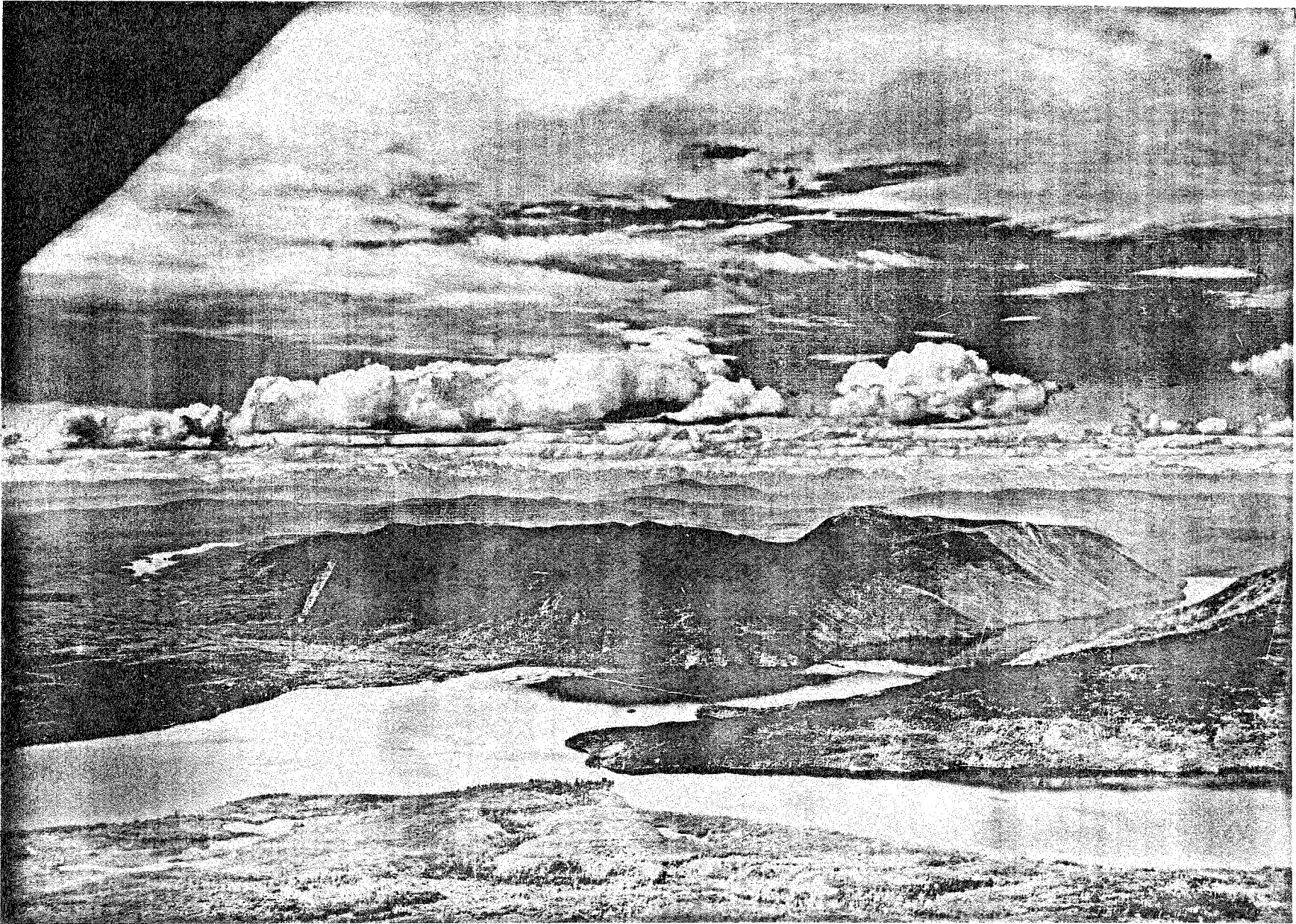
The main feature of this general route is that, while still affording reasonable opportunities of connections with coastal settlements at certain points, its situation further east results in lower precipitation, wider valleys and lower construction costs. A longer traffic season would also be enjoyed. This route offers more alternative locations than any other, sections affected ranging from minor changes to those involving considerable mileage. Starting from Hazelton, the "A" route would generally follow the Skeena, Nass, and Klappan River Valleys to the Tanzilla River Valley. Starting from the vicinity of Burns Lake or Topley the "A" route might follow the Babine Lake Valley to Bear Lake and the Skeena River, or the Babine Lake and Babine River Valley to a lower reach of the Skeena, north of Hazelton. From Fort St. James it could follow Stuart Lake, Trembleur and Takla Lakes, and continue northerly until the Skeena River Valley was reached. All "A" route locations eventually lead to the Dease Lake Trail between Telegraph Creek and Dease Lake and which follows the Stikine and Tanzilla River Valleys.

From the vicinity of Dease Lake, northerly and westerly towards Atlin, minor alternative locations present themselves the selection of the lowest ground south of Atlin being an important consideration.

Reconnaissance surveys undertaken by the Province of British Columbia in 1930 along various sections of the "A" route provided very useful information. Some of the work was done along what is now designated as the "Coast" route. Ground and aerial surveys made at that time indicated that a route

"A" Route

Looking across Junction
west arm Takla Lake.



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generally following that known as "A" was feasible. It was not possible at that time, nor desirable, to collect enough information to determine which particular valleys or drainage basins afforded the best general location.

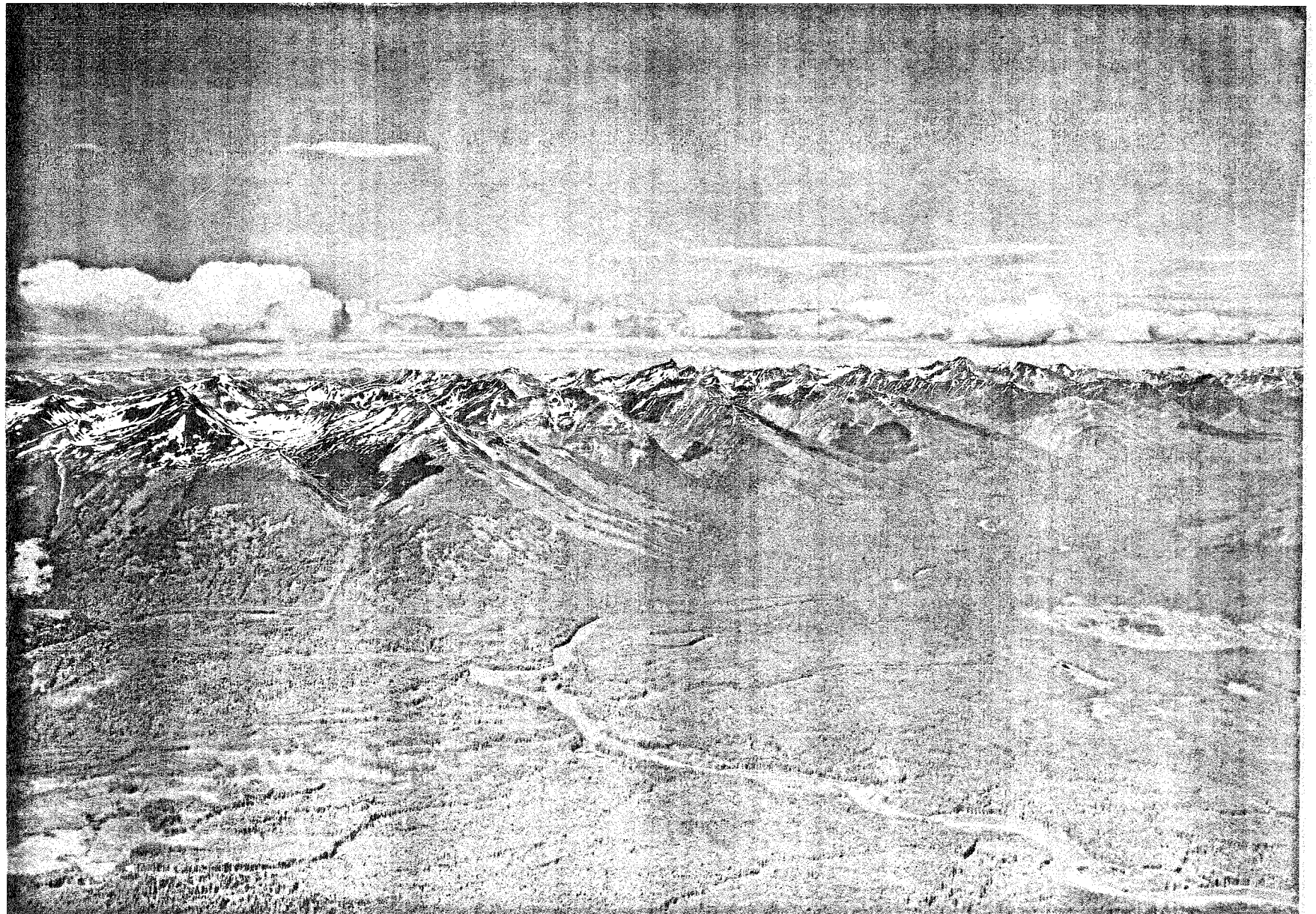
Consequently, in the 1939 season the Commission undertook further investigations of the "A" route with a view to selecting a general location that would combine favourable climatic conditions with reasonable construction costs and still afford possibilities of access to the coastal regions to the west. The field investigations comprised both aerial and ground reconnaissance, and are described in items (3) (5) (6) and (7) in the field activities previously listed. This information supplemented or confirmed that previously obtained.

The feasibility of the northern section of the "A" route in British Columbia was dependent upon the finding of a satisfactory location across the large area between Telegraph Creek and Atlin. While considerable information was obtained through field investigations in 1939 on this section, further data were required and a large amount of reconnaissance work was undertaken in the season of 1940 between those points. The results of this additional information showed that a satisfactory route was available and that elevations that would be reached were not prohibitive. The detailed report submitted by Mr. J.H. Mitchell, Construction Engineer, Surveys and Engineering Branch, Department of Mines and Resources, covering his investigations in the Telegraph Creek-Atlin Lake area, is included in the appendix of this report.

First-hand information was also required of a route that from general reports afforded great promise, namely that from Fort St. James along Stuart, Trembleur and Takla Lakes and thence northerly towards the Skeena or Nass Rivers. The investigation of this important route was undertaken by Mr. P.M. Monckton, Engineer on the staff of the Public Works Department, Province of British Columbia, and his report on 1940

"A" Route

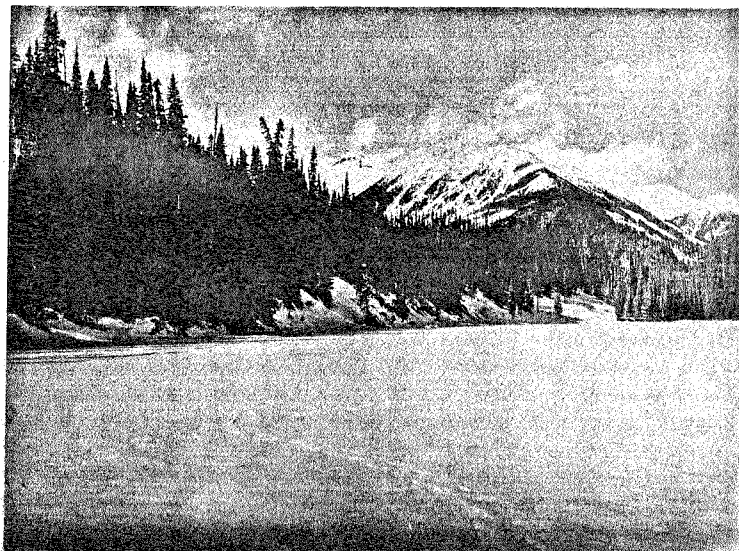
Looking down Sustut
River to Junction
with Skeena River.



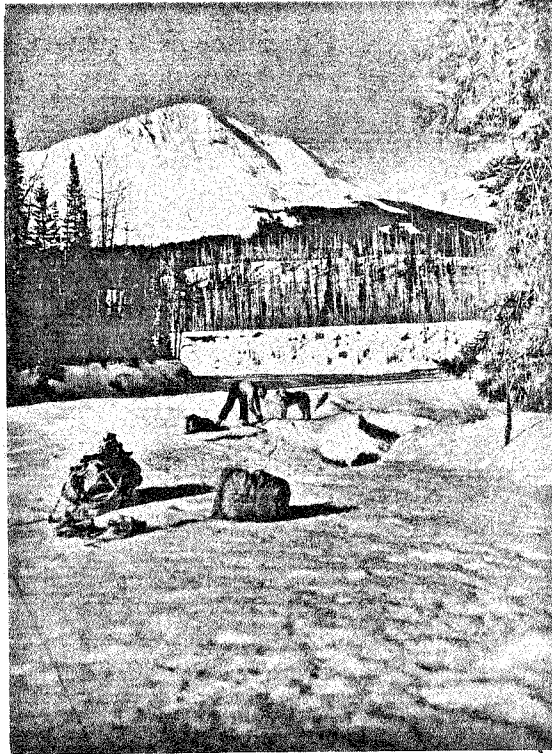
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Skeena River below Kilankis Creek;
Mar. 26/41. (West of Central "A"
route and about M. 102 from Hazelton).



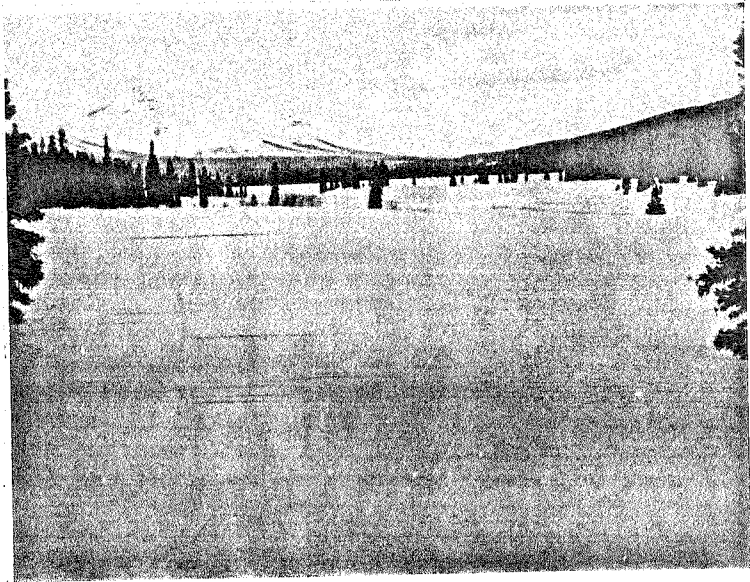
Skeena River and Slangeesh Range
10 miles above Sustut River.



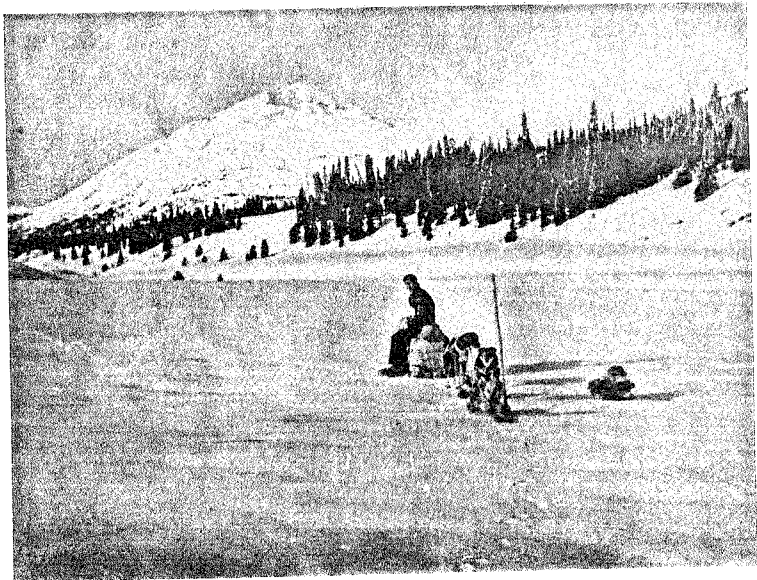
Mosque River (at Junction with Skeena River)
M.249 - Mar. 29/41.



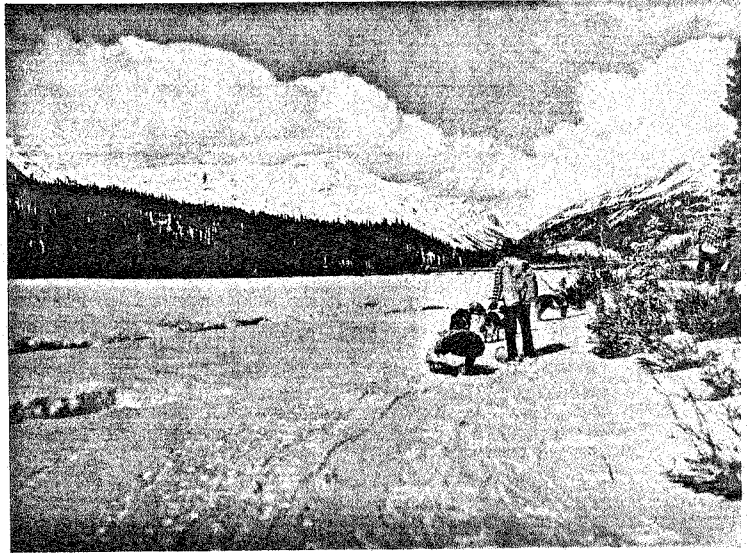
On Skeena River near Anthracite Creek
(Apr. 3/41) (about M.290).



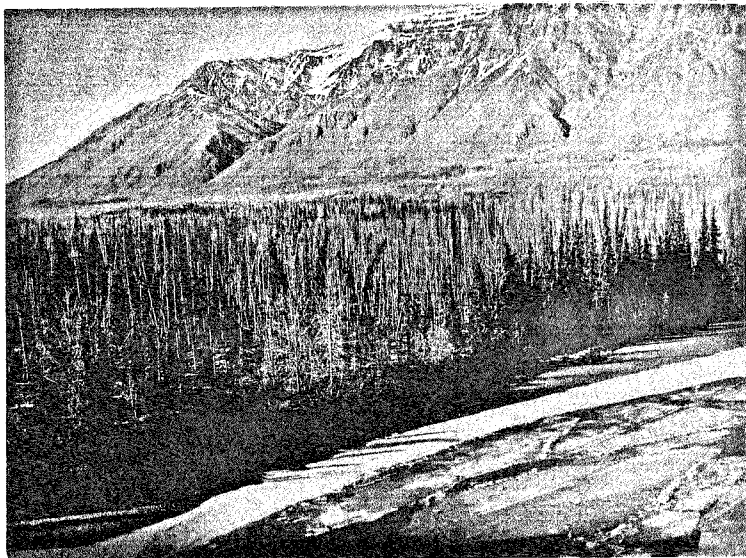
Skeena River Valley at Caribou Creek -
M.304.



Spatsizi River Valley - M.323.
(4 miles N. of Skeena Spatsizi Divide)
Apr. 12/41.



Valley of Little Klappan - M.343
Apr. 14/41.



Klappan River Valley - M.374

reconnaissance work over this section and extending from Fort St. James to a few miles south of the Dease Lake trail, is included in the appendix.

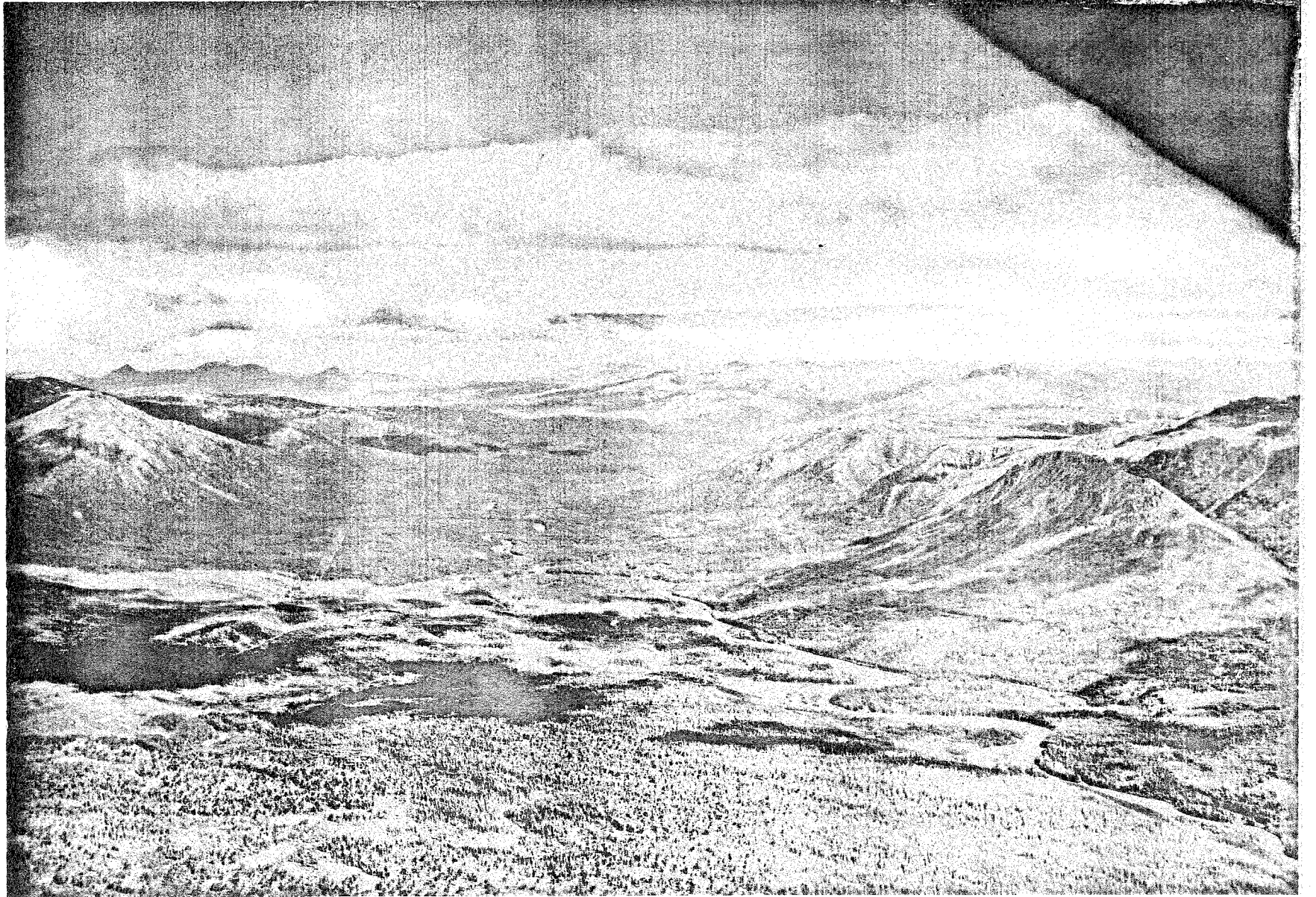
This report covered a route via Bear Lake and River to Thutade Lake and thence by Caribou Hide and the Spatsizi River to the vicinity of Ealue Lake, and which is regarded as a practical one.

In the early spring of 1941 the same engineer while investigating snow conditions travelled a more direct route from Bear Lake, namely, up the Skeena River to the Skeena-Little Klappan Divide, thence down the latter River to Ealue Lake. From previous information obtained it had appeared that this route had serious disadvantages because of heavy snowfall and late accessibility in the Spring. The 1941 reconnaissance, however, showed that snow conditions were not as bad as previously reported and that the Skeena route could be regarded as feasible. As it is also 67 miles shorter for the section of road between Bear Lake and Ealue Lake, than the Thutade Lake route, the Skeena route, subject to confirmation by location surveys, is preferred. Cost estimates have consequently been prepared on the basis of utilizing this route.

With the additional information obtained by the 1940 and 1941 reconnaissance surveys, the Commission are in a position to definitely state that there is a feasible and satisfactory route, from the standpoint of construction and maintenance, from Fort St. James along the Stuart, Trembleur and Takla Lake Valleys to the Dease Lake District and Atlin, B.C., and which, for convenience, is termed the "Central A" route. This route has greater advantages than any alternatives of the "A" route and the description given herewith, subject to some local revisions, is indicated by reconnaissance surveys as the best location:

Beginning at Fort St. James this route follows the east side of Stuart, Trembleur and Takla Lakes and along the east bank of Driftwood River and Bear Lake to the Sustut River. Crossing

"A" Route

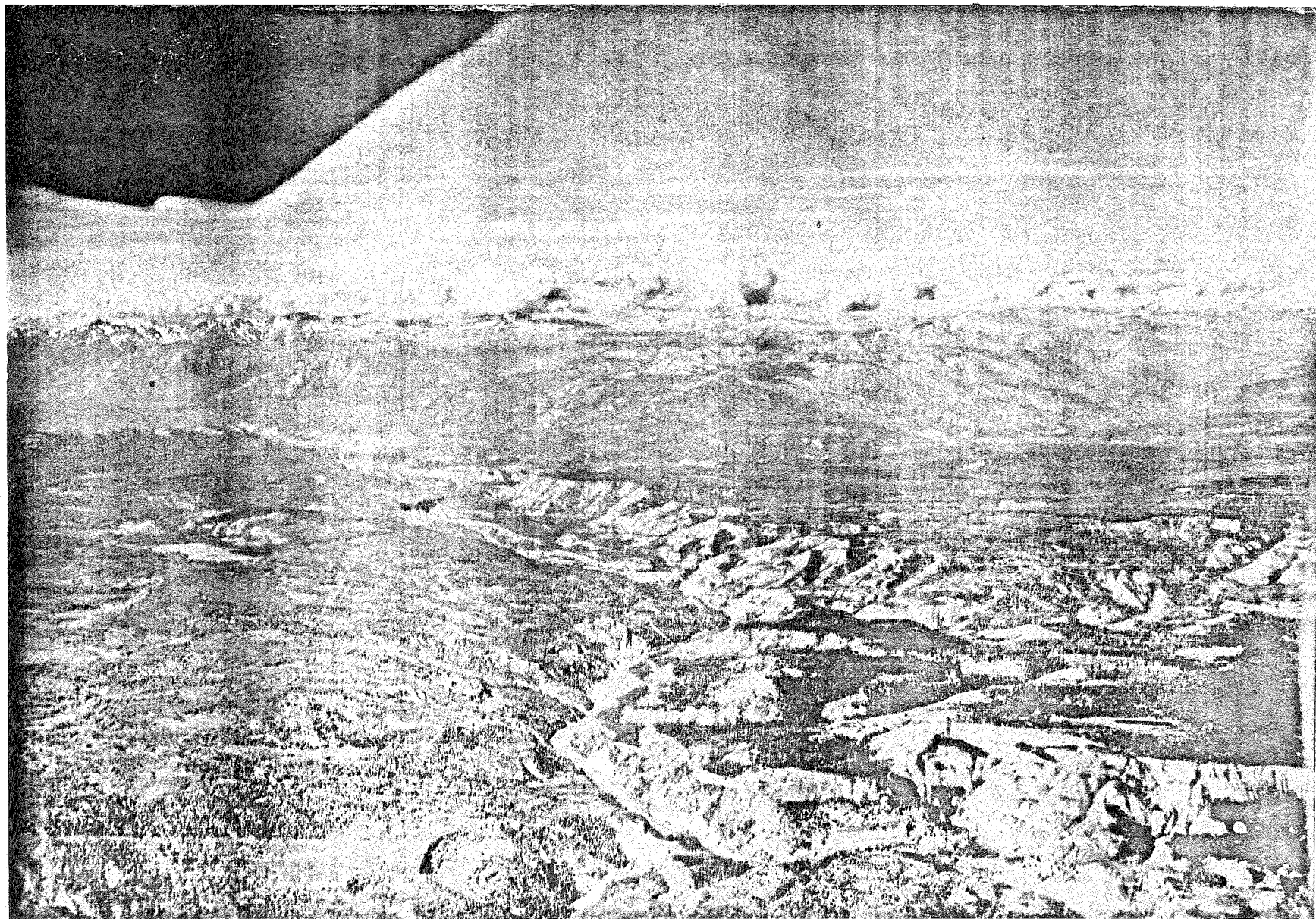


Looking down Klappan River
Valley from above McEwen
Creek.

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"A" Route

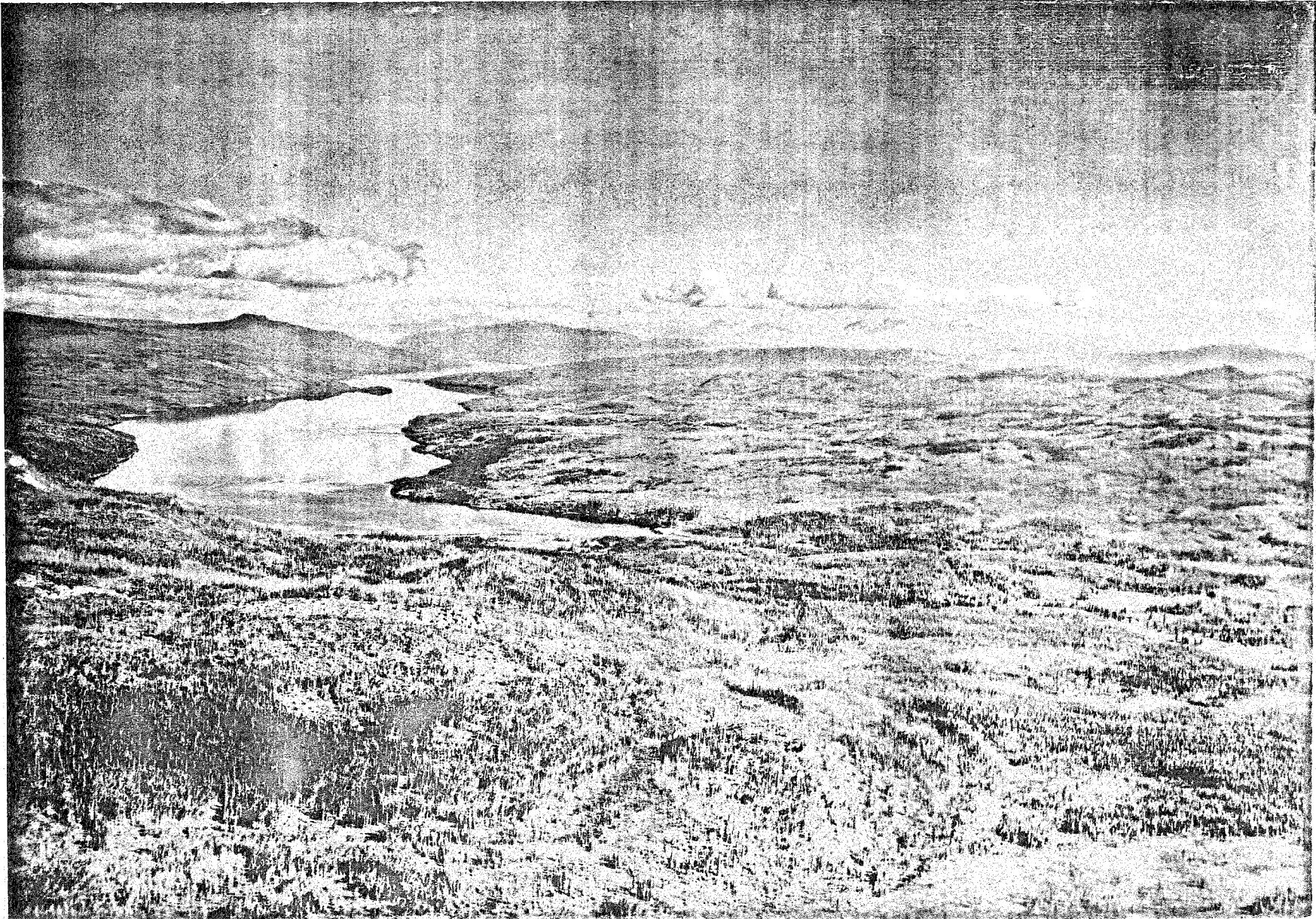
Junction of the
Stikine, Tahltan
and Tuya Rivers.



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Highway Commission.

'A' Route

Over Tanzilla River six
miles south Dease Lake
looking towards head of
lake.



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Highway Commission.

the Sustut River it cuts across to the east side of the Skeena River, following it up to the Skeena-Little Klappan Divide - Elevation 4,400 feet. The route then follows down the east side of the Little Klappan River to the vicinity of Ealue Lake. It then skirts Eddontennajon Lake and proceeds in a northwesterly direction to a bridge site over the Stikine River east of the confluence of the Tahltan River where a junction with the existing Dease Lake route is made.

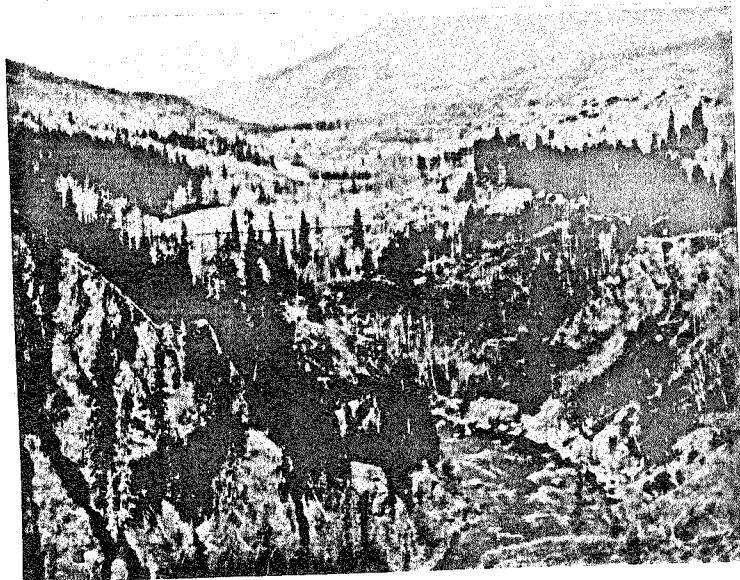
From this point the route goes to Nakina by either the Tuya River valley and Prairie and Disella Lakes or by the Tahltan, Hackett and Koshin River watersheds passing through Nahlin. Estimates of cost have been based on the first named route, and location surveys will determine which is the better. From Nakina the Bell and Dixie Lakes route is followed to O'Donnell River connecting with the existing road to Atlin. From Atlin the route follows the east side of Atlin Lake and the west side of Little Atlin Lake via Tagish to Carcross and on to Whitehorse. From Whitehorse the route leads through Carmacks crossing the Yukon River at Five Finger Rapids and thence on to Dawson and the Alaska boundary.

Reconnaissance surveys indicate numerous local alternatives on this route, the comparative value of which can only be determined when location surveys are made.

In the very approximate estimates of cost given for the "Central A" route in the 1940 preliminary report the distance from Fort St. James to the Yukon boundary, on approximately the same route as described, was estimated by scale at 690 miles with a rough estimated cost of \$13,200,000.

Based on information later obtained in the field, the mileage from Fort St. James to the Yukon Boundary is placed at 736 and the estimated cost at \$12,170,000.

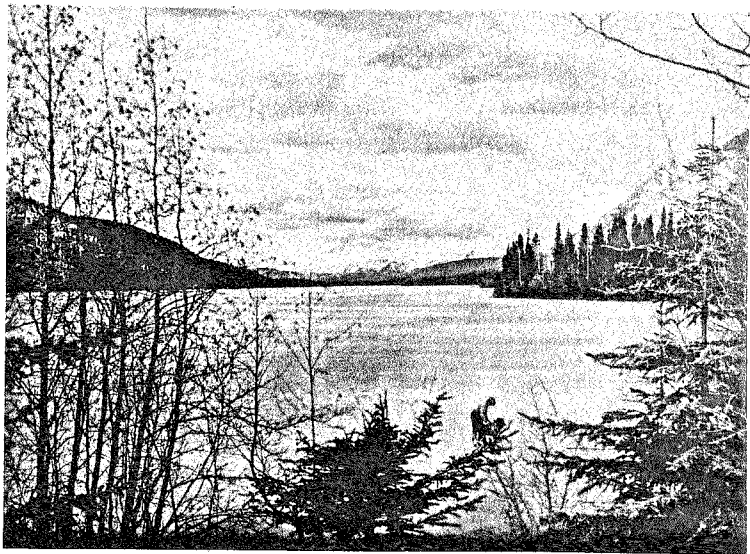
It will be noted that while the distance determined from the reconnaissance surveys is greater than the original rough estimate, the estimated cost is substantially less.



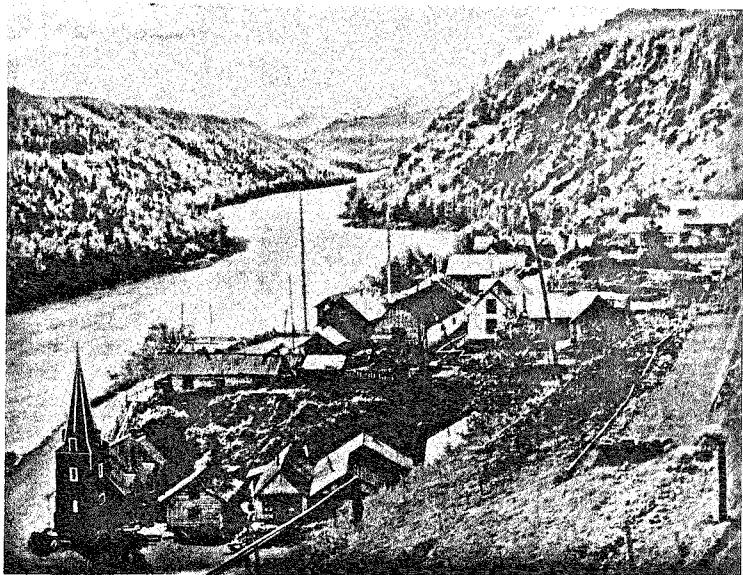
Tahltan Valley - M.470.
(St. James).



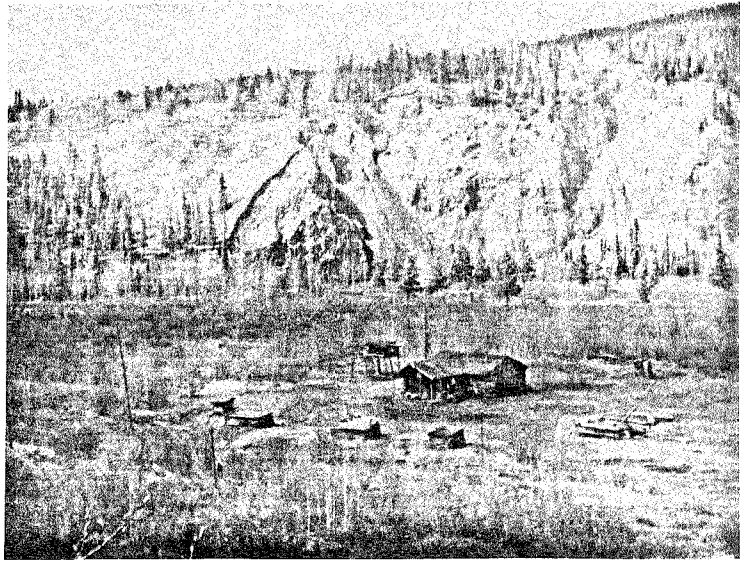
Lake near Summit MacDonal'd's
Portage - M.527 (from Fort
St. James) Elevation 3200.



Ealue Lake - April 22/41.



Telegraph Creek (Town).



Nahlin Telegraph Station - May 13/41.

An important feature of the "Central A" route, above described, is the depth of snow on the higher passes that must be traversed on the section between Fort St. James and the Dease Lake trail. The highest elevation that will be reached is apparently 4,475 feet and which is in the vicinity of Indian Creek, a tributary of Spatsizi River. Between the Dease Lake trail and the Yukon boundary the highest elevation that will be reached is apparently 3,500 feet.

As the depth of snowfall at these elevations in the Spring will be the main feature in determining the length of season that will be afforded on the "Central A" route, actual snow measurements were made in the months of March and April, 1941, at all governing elevation points. The information has been obtained and is included in the appendix.

The "Central A" route is naturally divided into three sections:

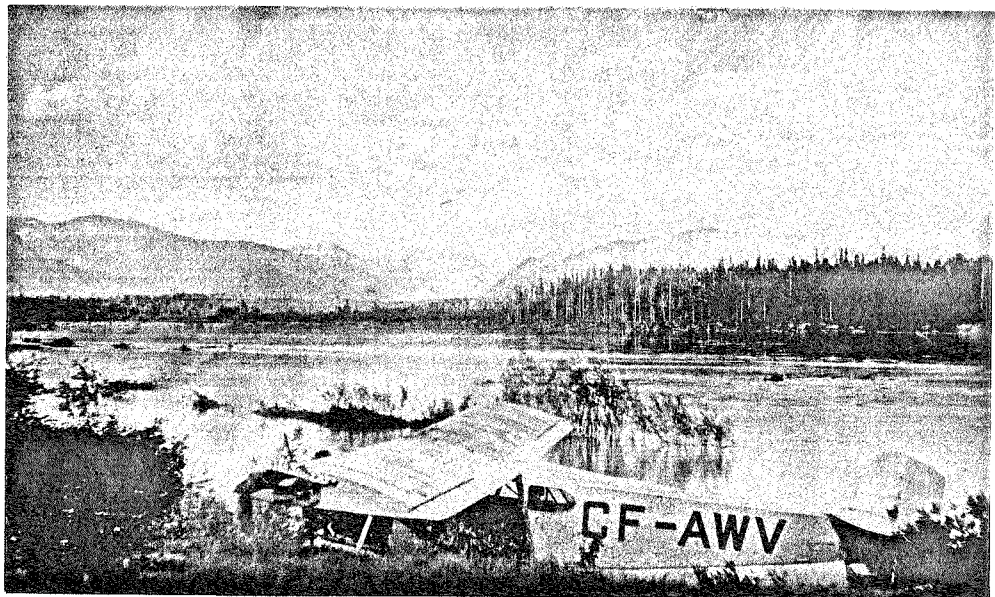
- (1) From Fort St. James to the Dease Lake trail;
- (2) From the Dease Lake trail to the Yukon boundary;
- (3) From the Yukon boundary through the Yukon territory to Dawson and the Alaska boundary.

On each of these sections location surveys are essential before the best of alternative locations available can be determined.

As compared with the "B" route, dealt with later on, construction costs per mile are estimated to be greater but are by no means excessive. Maintenance costs per mile, while estimated to be greater than similar costs on the "B" route, are also within reason.

"B" ROUTE

From the Prince George district north this general route follows an extension of what is known as "The Rocky Mountain Trench." This physical feature lies immediately to the west of the Rocky Mountain Range, and in Canada extends from the International Boundary northwesterly to at least the vicinity of Prince George. From this point an extension of the



Junction of Finlay and Parsnip Rivers.

"B" Route

Finlay River and Fort
Graham - fifty miles
north of Finlay Forks.

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trench with similar physical features extends well above latitude 59° north, and in fact into the Yukon Territory. From the highway or railway location standpoint it is a feature with great advantages, and deserves the most careful consideration.

Little authentic information was originally available to the Commission on the "B" route, and as a result main field investigations of the 1939 season consisted of reconnaissance work along it. (See Field Work Items Nos. 1, 2, 4, 6 and 9.) Sufficient information was obtained to give an approximate estimated cost from Prince George, or from Fort St. James, via Finlay Forks and Sifton Pass to the Yukon Boundary, and from that point to Pelly Farm in the Yukon Territory.

Information obtained showed that this route was feasible in every respect. Climatic conditions were favourable as compared with other routes. Precipitation is low, both in summer and winter; construction is comparatively easy, and a remarkably straight location is possible practically throughout the whole route north from the Finlay Forks area to Pelly Farm, Y.T. A main item of cost on this route is of course its remoteness from railhead, or from any point where supplies could be conveniently obtained. Transportation of supplies, equipment and construction personnel would add to actual construction costs. However, in this respect some of the rivers followed by the route are navigable for river boats, and information that would be obtained during location surveys would undoubtedly reveal those waterway sections where water transportation could be utilized to advantage. #

Aiken Lake Route:

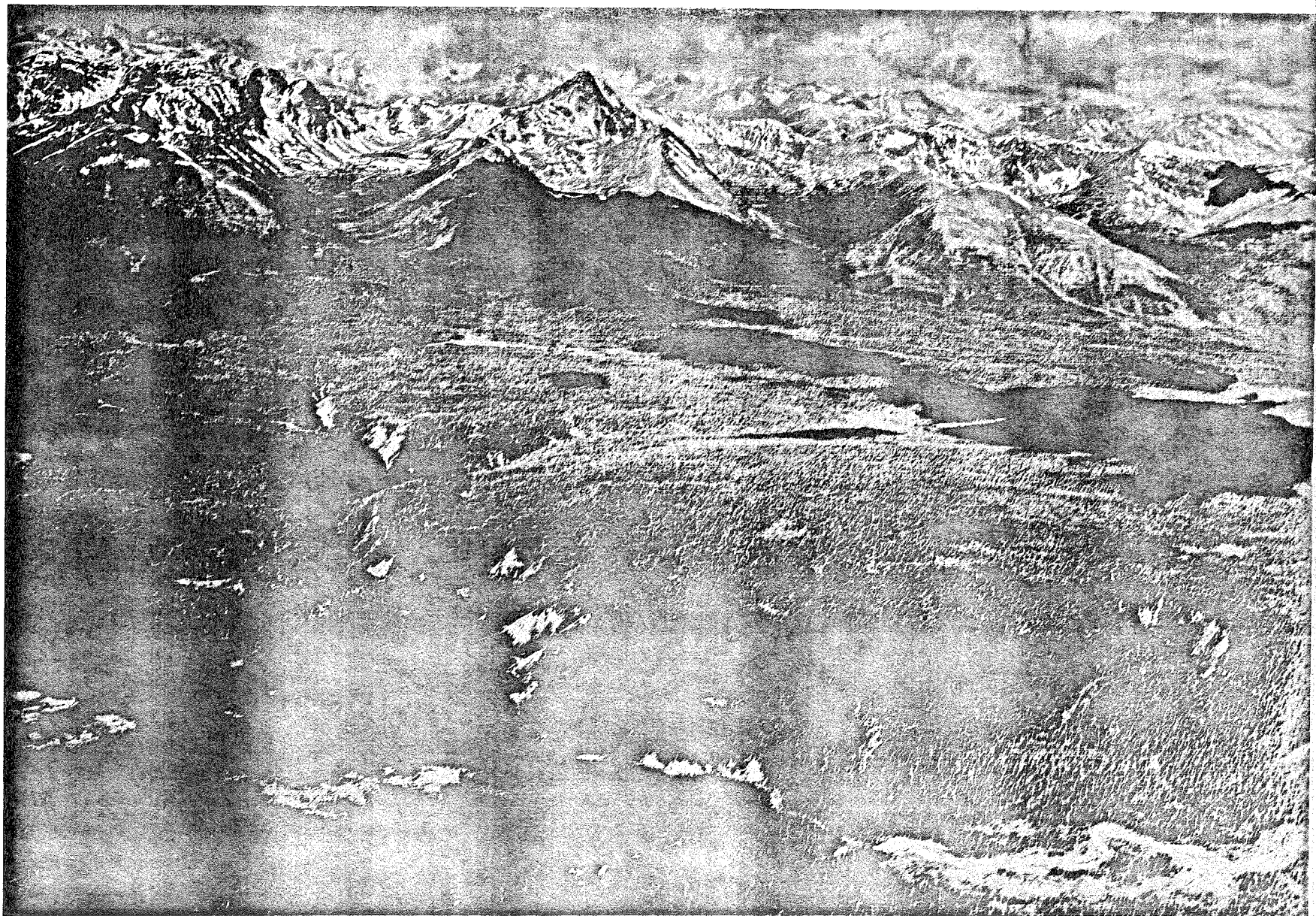
Reference will be made here to an alternative location, referred to as the Aiken Lake route, that would go northerly from

#It might be mentioned in connection with "B" route that whether the highway is projected northerly from Prince George or from Fort St. James, direct and easy connection is afforded to points west, including Hazelton, by means of existing highways.

B Route

Sifton Pass elevation
3273 ft. on the Fox
Kechika River Divide.

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the Manson Creek district, and would lie between "B" and "A" routes. Beginning west of the "B" route at the end of the mining road from Fort St. James this location would follow the western slopes of the Finlay River Drainage Basin to Aiken Lake. From this point it would follow near the height of land to Thutade Lake. From there it would proceed northerly to the Stikine River by either Caribou Hide or the headwaters of the Spatsizi River or the Little Klappan River.

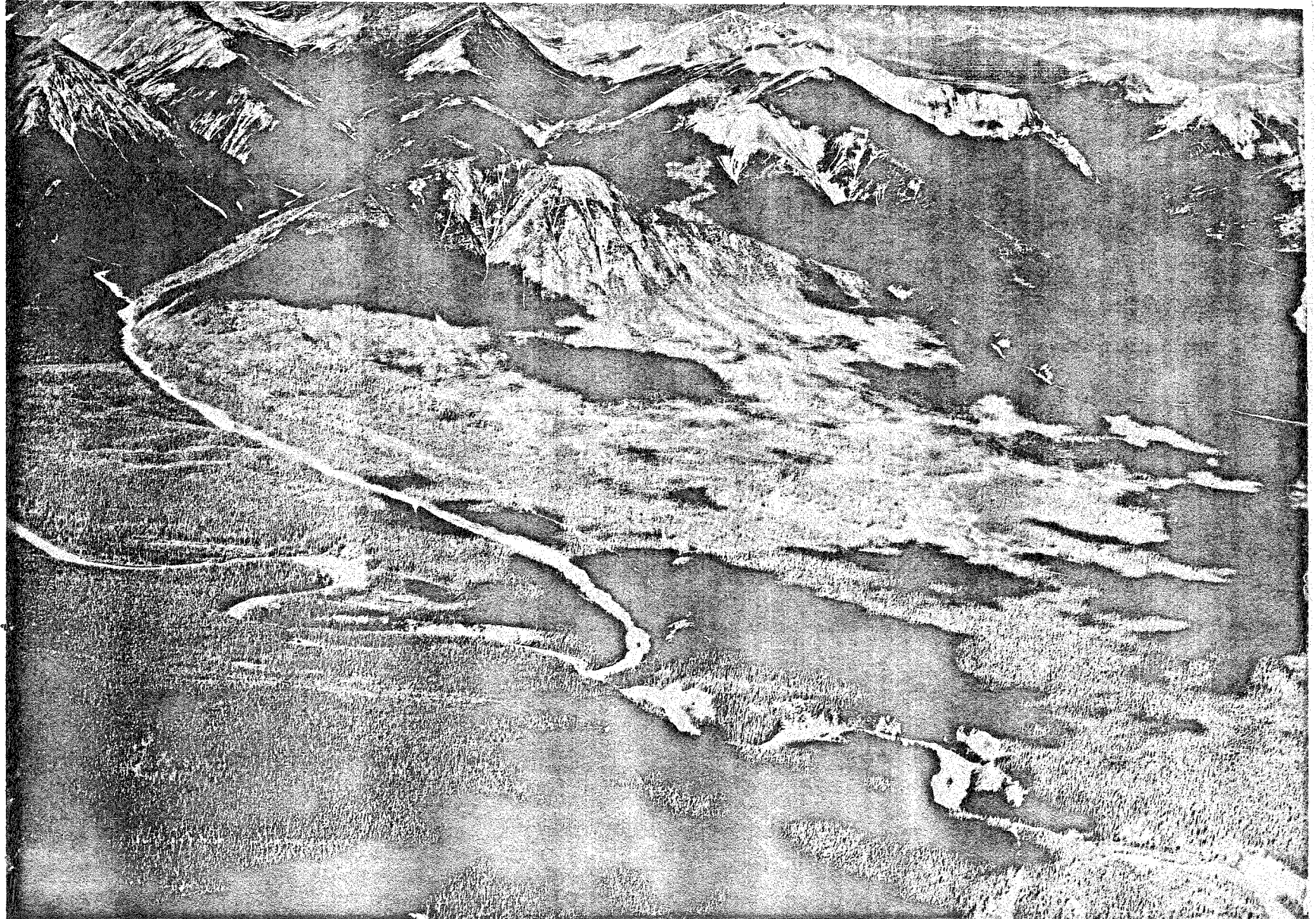
While this location follows fairly high ground with a maximum elevation of perhaps 4,050 feet, it merited careful consideration because of the possibilities offered for mineral development. The southern part traverses the Cassiar-Omineca Batholith, while the northern section follows it very closely. This mineral zone is regarded as most promising.

At the present time there is a first-class mining road from Fort St. James via Gaffney Creek to Manson Creek and from the latter point a passable road 12 feet wide via Germansen Landing to Aiken Lake. The distance from Fort St. James to Aiken Lake via this road is estimated at 258 miles. Bridges are needed over the Omineca River and Big Creek and over Mesilinka River. The existing road would afford very useful construction facilities.

The Aiken Lake route could connect beyond Aiken Lake with either the "Central A" route or the "B" route, although the connection in each case would involve fairly high curvature and thus increased mileage.

It is the opinion of the Commission, after considering all factors, that this route does not possess the location advantages required by an international highway from the standpoint of grade and alignment and that it is properly a local highway serving mining areas, and which can be connected to the main international route either at Fort St. James, or by lateral connection running to the "B" route to the east, or to the "A" route to the west.

"B" Route



Junction of Kechika River
and large stream in from
west from point half mile
north on east side of valley.

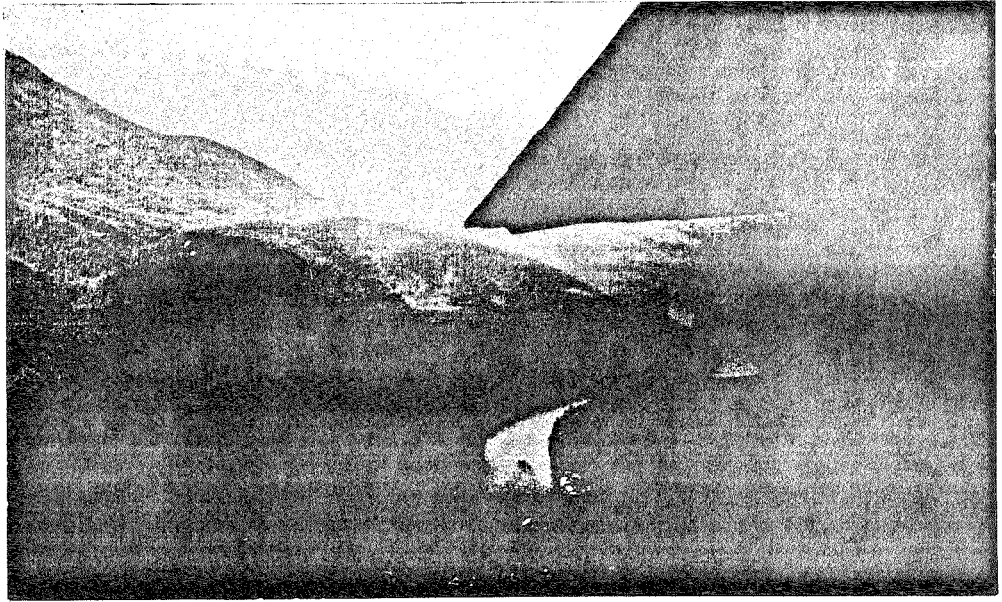
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Referring again to the "B" route proper, its lower section offers two alternatives -- one starting from the vicinity of Prince George and reaching Finlay Forks via Summit Lake and the Parsnip River, and the other starting from Fort St. James and following the route of the newly-constructed mining road to Gaffney Creek and leaving the existing road at that point to follow Manson Creek to the vicinity of Finlay Forks. From the latter point the main route would follow the Finlay River, the Fox River, the Kechika River and the Liard River to Liard Post or vicinity. The Liard and Frances River valleys would then be followed to Frances and Finlayson Lakes, and the Pelly River valley to Pelly Farm in the Yukon. One or two local alternatives merited further consideration, one of these being a traverse in a generally direct line from the confluence of the Kechika and Turnagain Rivers to the vicinity of Lower Post. Reconnaissance showed this to be quite feasible.

MANSON CREEK ROUTE

As previously mentioned this route is an alternative of the lower section of route "B" and would involve leaving the existing highway system at Fort St. James and following the new mining road to a point near the junction of Manson and Gaffney Creeks and then proceeding northeasterly to Finlay Forks. Its main advantage is the fact that a good secondary road is available for some three-quarters of the distance between Fort St. James and Finlay Forks and which would afford first-class construction facilities for bringing the existing road up to the international standard and for building the Gaffney Creek-Finlay Forks section.

On the other hand it is not as direct a location for the "B" route as that from Prince George to Finlay Forks via McLeod Lake and the Parsnip River. The latter is obviously the proper route for an international highway. The Manson Creek route is a road of a secondary type for servicing mining



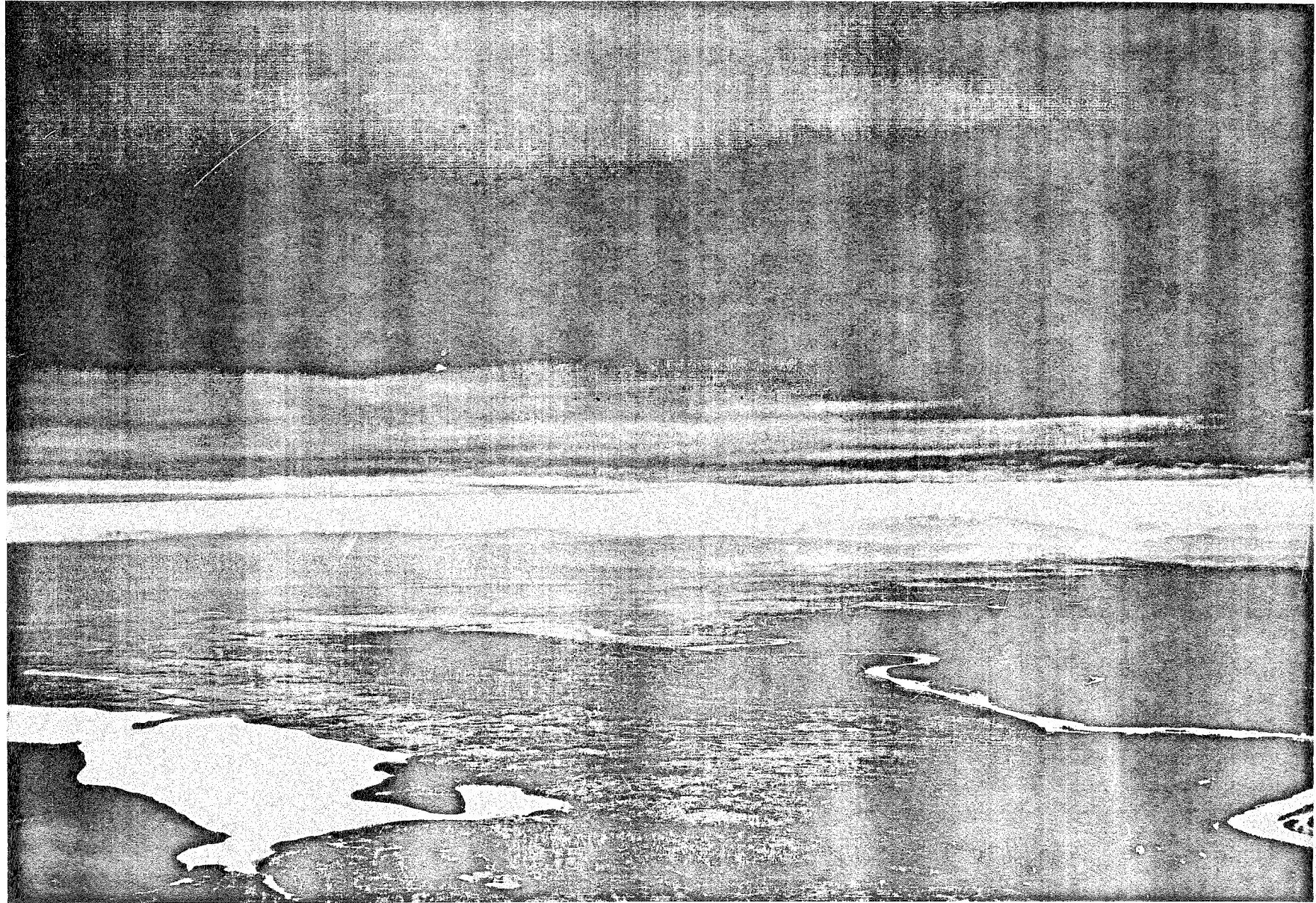
Bed Rock Bar on Liard River from south.



Indian children at Liard Post.

"B" Route

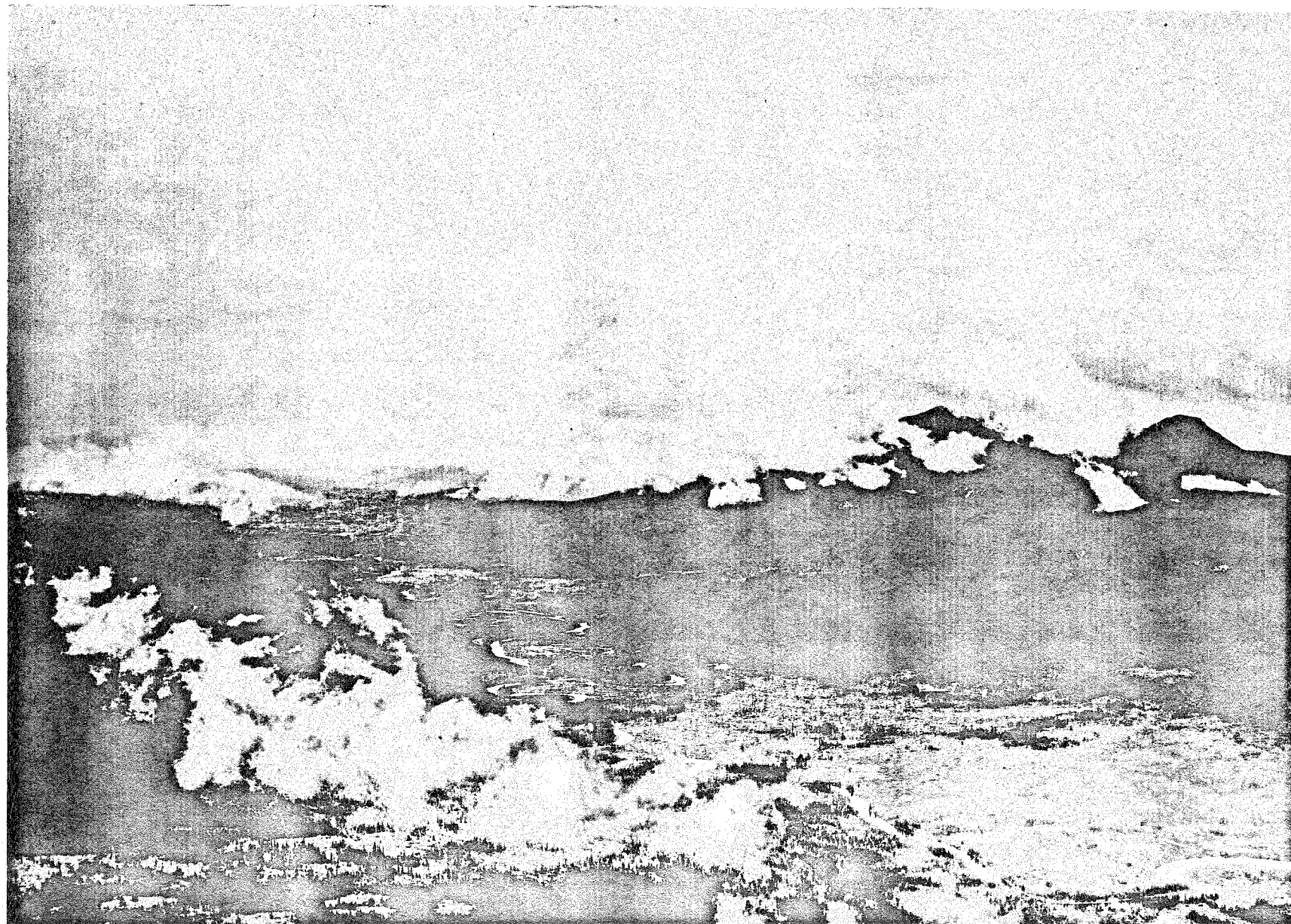
Liard River and Watson
Lake looking south.



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"B" Route

Looking southeast down Fin-
layson River from 16 miles
above Frances Lake.



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areas and has been well located and built with this end in view. Its maximum elevation is approximately 3,600 feet, as compared with 2,315 feet on the Parsnip River route.

The Commission consequently prefer the McLeod Lake and Parsnip River route between Prince George and Finlay Forks.

Since, if the "B" route were followed directly into Yukon Territory and down the Pelly River to Pelly Crossing or Pelly Farm in the Yukon Territory, the towns of Atlin and Whitehorse, with their adjacent mining districts, would have no direct connection with the main highway, investigations were made as to the possibility of a route running westerly from the vicinity of the Kechika or Turnagain Rivers to Atlin and thence northerly to Whitehorse.

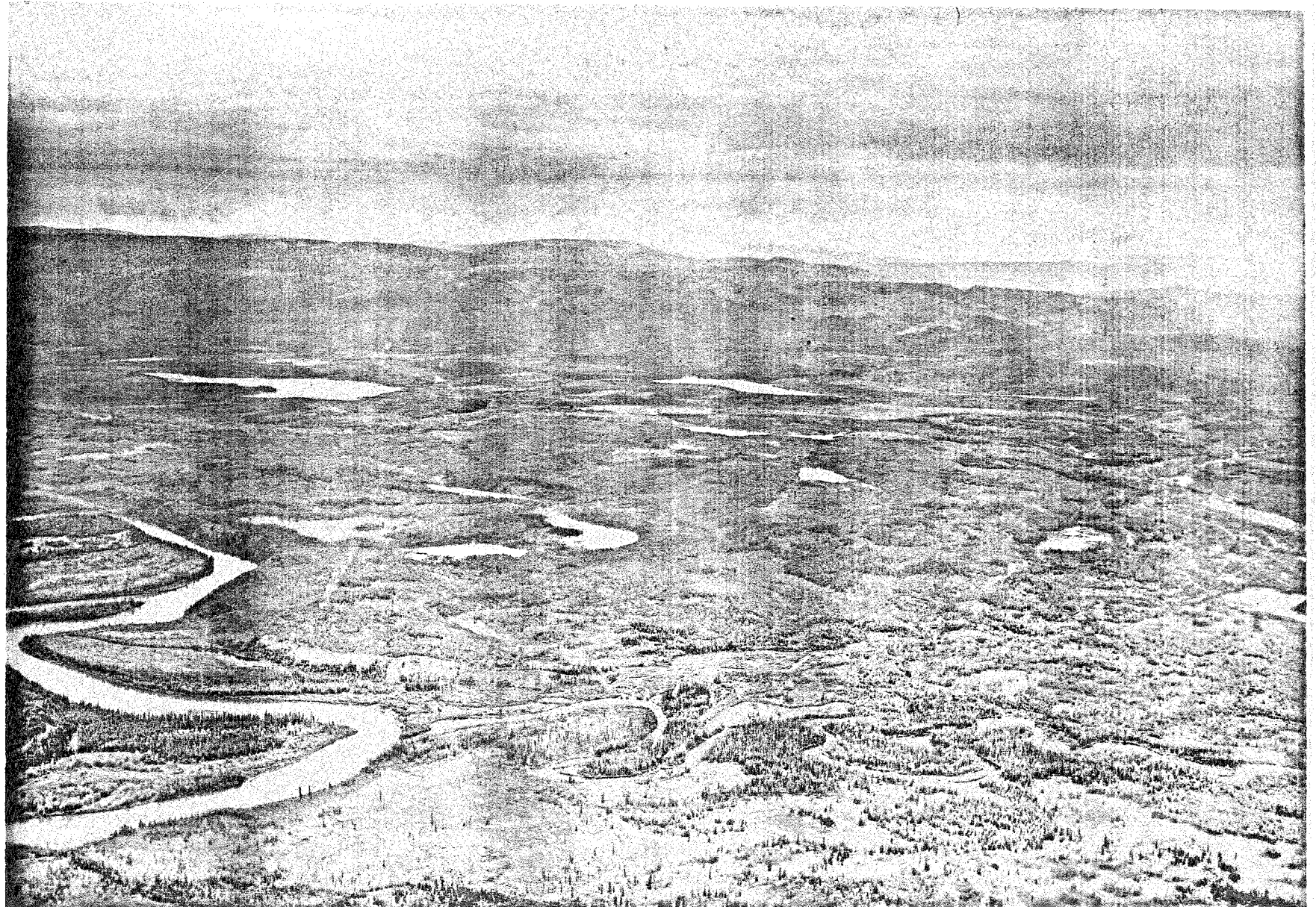
A good deal of reconnaissance work was consequently undertaken in endeavouring to find a practical location on this route. Aerial and ground reconnaissance surveys were both made but the search for a satisfactory route was unsuccessful. Much of the country to be traversed would have an average maximum elevation of 4,500 feet; the character of the ground was unsuitable for construction, and heavy snowfall and a restricted season could be expected.

While a route up the Turnagain River, or up the Dease River to Dease Lake, was feasible, both these were circuitous and increased the mileage to a far greater extent than justified by the advantages offered.

The Commission consequently finds that the "B" route, if adopted, must follow the natural valleys extending from Lower Post along the Liard and Frances Rivers and that no diversion of this route to Atlin is feasible. The Dease Lake District can, however, be connected with it either by a highway down the Dease River or by a highway down the Turnagain River from the south end of Dease Lake. At the present time there is a tractor road from Dease Lake to Boulder Creek on this route.

In so far as Atlin is concerned the adoption of the

B' Route

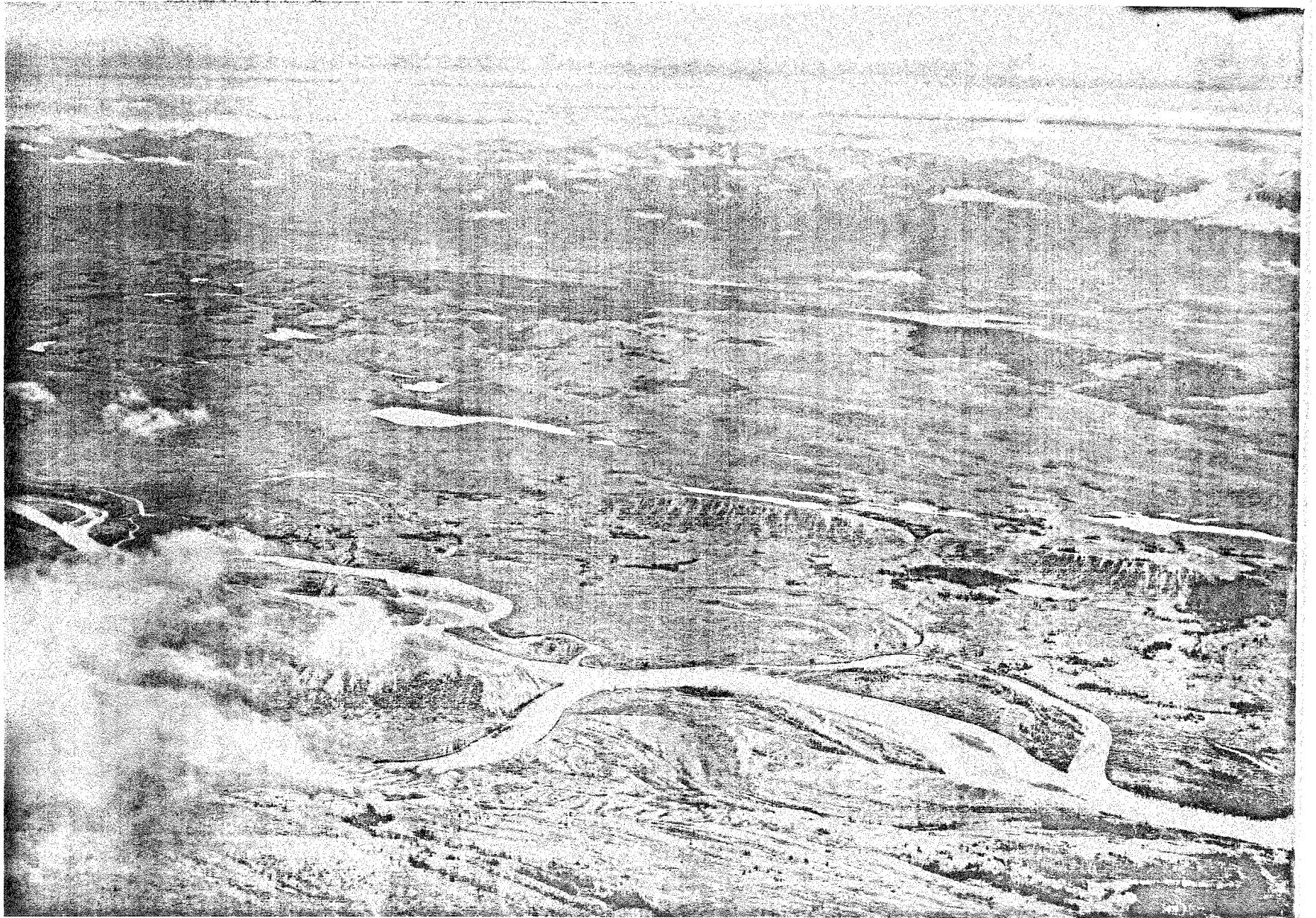


Junction of Campbell and Big
Campbell Creeks with Pelly
River from a point 2 miles
west (at Pelly Forks).

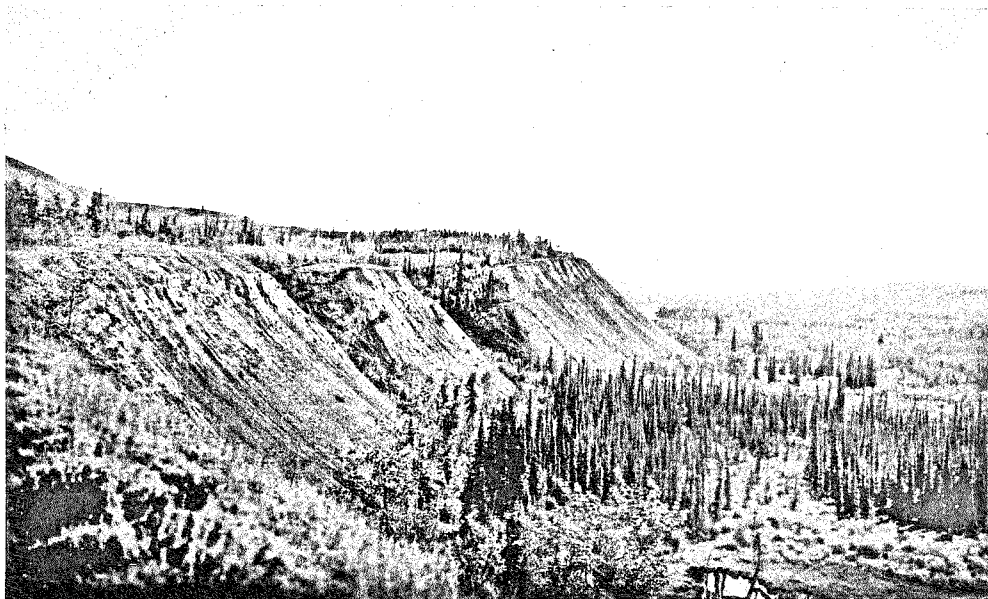
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"B" Route

Ross River Settlement from
northwest. Ross River to
left.



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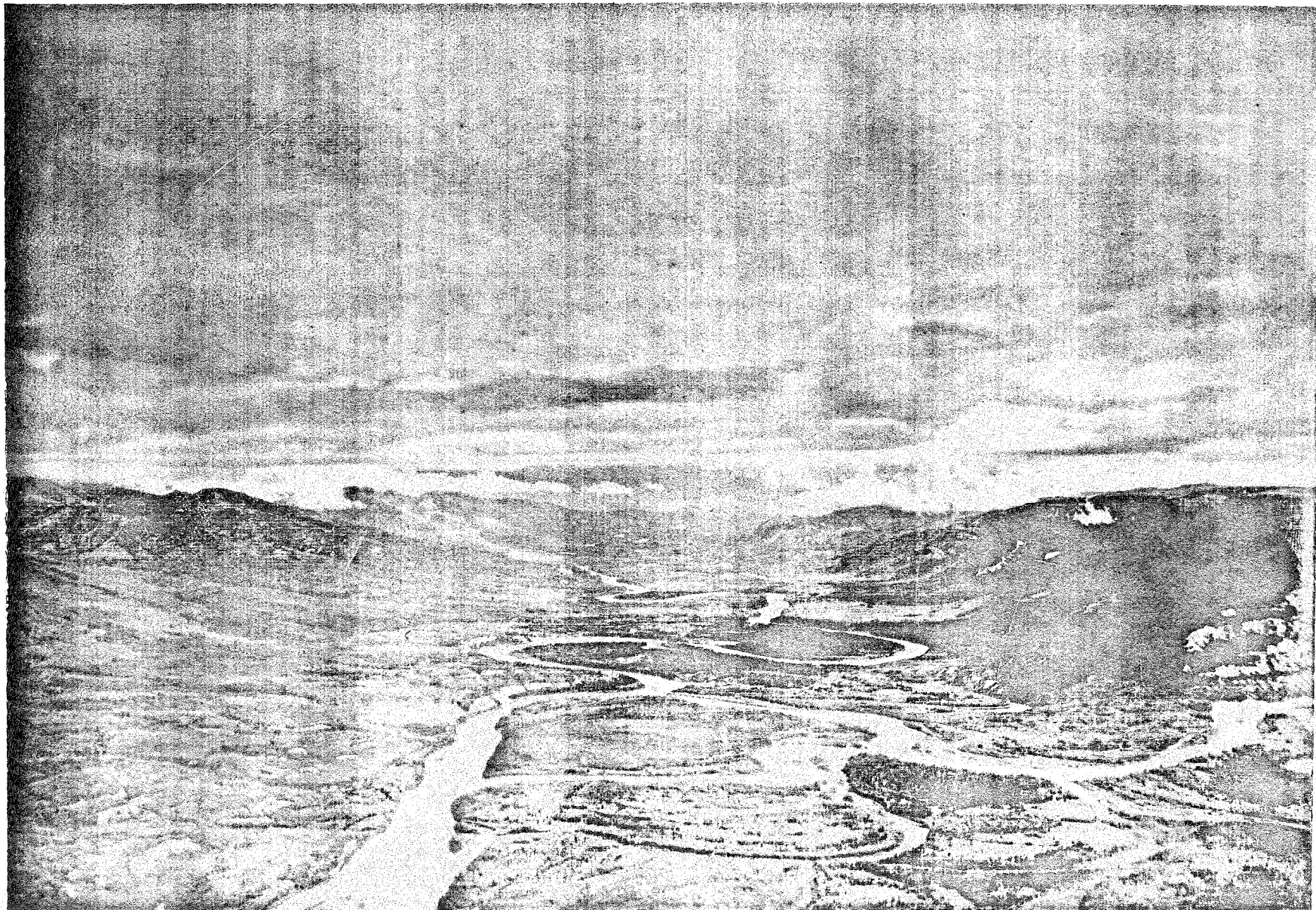
Pelly River Valley at Mile 3, north from
Ross River.



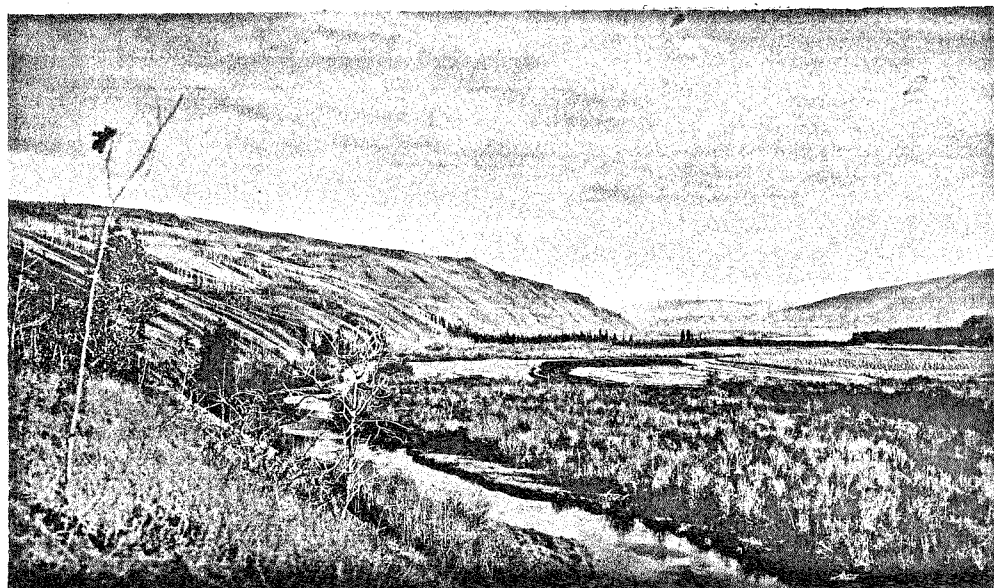
Mile 86 looking to Mile 75.

3" Route

Junction of Pelly and Macmillan Rivers from point 2 miles below (west).
Note: View looks up Macmillan River Valley. Macmillan joins Pelly River where latter makes sharp turn from north to west.



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Pelly Farm looking up stream
(198 miles north of Ross River)

"B" route would not improve its present situation in regard to connection with the outside world. It could be linked with "B" route, however, by the construction of a local highway from Atlin via Dease Lake. A local highway north from Atlin to Carcross would afford connection with the White Pass and Yukon Railway, and eventually there would be the possibility of a highway from Carcross to Whitehorse and on^{to} the "B" route. If the "Central A" route were adopted, the Atlin and Dease Lake areas would be directly served by it.

Since the "B" route will thus follow the location already described the responsibility of the Commission resolves itself into a comparison of the advantages and disadvantages of the "Central A" route and the "B" route.

A factor in the consideration of the former route is the preference expressed by the United States Alaska Highway Commission for a route through the Yukon via the Kluane Lake and River districts, since this affords a very favourable connection, from the Alaska standpoint, for the road between Fairbanks and the Yukon boundary.

The Kluane Lake route through Yukon Territory starts from Whitehorse and after traversing the Kluane River basin crosses the Donjek and White Rivers and reaches the Alaska boundary in the vicinity of Mirror Lake. From this point the United States Commission state that a very favourable road connection is possible via the Tanana River to the Richardson Highway and thence to Fairbanks.

The summary of mileages and estimates of cost of the "Central A" and "B" routes given herewith thus includes two estimates for the former route, one on the basis of the highway going through Dawson to the Alaska boundary, and the other on the basis of the route via Kluane Lake which does not touch Dawson.

The estimates of cost are based on the standards decided upon by the Commission, namely, a road grade 24 feet wide with a gravel surface 20 feet wide. (See Appendix).