

ADDRESS REPLY TO
ALASKA ROAD COMMISSION

UNITED STATES
DEPARTMENT OF THE INTERIOR
ALASKA ROAD COMMISSION
JUNEAU, ALASKA

October 16, 1940

Mr. Ike P. Taylor, Chief Engineer
Alaska Road Commission
Juneau, Alaska

Dear Sir:

Following is a report of reconnaissance of the route from the Richardson Highway to Palmer:

1 - Purpose of Trip: To secure a first-hand knowledge of the general conditions along the route in contemplation of a detailed survey for a proposed road to connect the Anchorage and Fairbanks road systems.

2 - Method of Procedure: First, with R. J. Shepard and Ben Woods by chartered plane, flew from Gakona airfield to Anchorage and return in one day ($4\frac{3}{4}$ hours in the air), taking in two different sections of country most of the way; two, with Ben Woods on foot September 5 to 17 inclusive, taking notes enroute.

3 - Passable Routes Considered:

(a) From Copper Center in practically a direct line to outlet of Tazlina Lake approximately following the old railroad survey, thence along Tazlina Lake for 6 miles, across Mendeltna Creek, up Mendeltna Creek for 6 miles, thence west by southwest, to Tahmeta Pass, thence more or less following the Nelchina Trail to Chickaloon, thence following the abandoned railroad grade, except where washed out, to a point 4 miles east of Sutton, thence over a route from 2 to 3 miles north of the Alaska Railroad Branch passing within 1 mile of Eska and thru Jonesville and Premier to connect with the Falk Road and/or the end of the Moose Creek Road.

(b) From a point on the Richardson Highway between Mile 111 and Dry Creek approximately due west to the Tolsona, thence west southwest along foothills (with alternate route along Tazlina Lake), to connect with "(a)" where it leaves Mendeltna Creek Valley and from there the same as "(a)".

4 - Route followed on Foot Reconnaissance (see map): The winter trail from the signpost at Mile 111 on the Richardson Highway, southwest and northwest to Moose Creek, about due west to Mile $8\text{-}\frac{3}{8}$ thence, leaving trail, south $\frac{5}{8}$ mile to rim of Tazlina River, thence $11\frac{1}{4}$ miles up Tazlina River bottom, thence west northwest $1\text{-}\frac{1}{8}$ miles to Tolsona Creek bottom thence west northwest to Creek flowing into Tazlina Lake, southwest 5 miles to point on Tazlina Lake $1\frac{1}{2}$ miles west of outlet of Tazlina Lake along edge of lake to Mendeltna Creek, up left limit of Mendeltna for $2\frac{1}{4}$ miles, west northwest for 1 mile to rim of Nelchina River up Nelchina River bottom $\frac{1}{2}$ mile then along railroad survey, $\frac{1}{2}$ to 2 miles north of river rim, for approximately 13 miles, thence west southwest 5 miles crossing "Pass Creek" 2 miles from

its mouth, up right limit of Pass Creek 7 miles and along line from $\frac{1}{2}$ to $1\frac{1}{2}$ miles south of it, thence southwest in direction of Leila Lake for 3 miles, thence passing left of Leila Lake to the first A.R.C. shelter cabin on the Matanuska watershed about $2\frac{1}{2}$ miles southwest of Leila Lake. From this cabin we followed the Nelchina Trail (see map) to Chickaloon (total distance from Highway 116 $\frac{3}{4}$) and from Chickaloon the old railroad grade except for $4\frac{1}{2}$ miles washed out to Sutton taking the train to Anchorage.

5 - Description of route followed with reasons for or against proposed location-along route:

Mile 0 (r.h.) to Mile 1 - Rim Moose Creek.

Runs southwest--good ground.

Mile 1 to Mile $2\frac{3}{4}$, along rim and into bottom Moose Creek.
Good ground except for 500 feet--direction northwest.

The trail turns at right angles after hitting the rim of Moose Creek and, tho satisfactory ground conditions were found over this $2\frac{3}{4}$ miles, much unnecessary distance is made.

Line should begin at some point between the sign on the highway and Dry Creek, hitting Moose Creek at the trail crossing or north of the trail crossing.

A couple hundred feet north of the trail crossing is a draw with gravel benches coming into Moose Creek on left limit and which it might be expedient to follow down.

There is good gravel in Moose Creek bottom; 36-foot span required.

Mile $2\frac{3}{4}$ to 2-7/8 (foot of hill, right limit Moose Creek)
Good ground, partly gravel on surface.

Mile 2-7/8-Mile 3 (rim on right limit)
Soft ground on shady slope.

Mile 3-Mile 4-1/8 (edge of swamp)
Good gravel benches, with gravel showing on surface in places. This strip of good ground, as seen from the air, runs south southwest for several miles and would be crossed from most any point north of where we crossed it.

Mile 4-1/8 to 5-1/8 (end of swampy ground)
This mile follows along edge of and in swampy strip running northeast and southwest. Apparently unavoidable tho might be slightly higher to the south.

Proposed route would be at least 1 mile north of here in unknown country.

Mile 5-1/8 to 5-7/8 (beginning more swamp). This $\frac{3}{4}$ mile goes up over and along flat ridge with gravel exposed in places--timber up to 14 inches--trail is crooked, changing direction from southwest to northwest.

Mile 5-7/8 to $6\frac{3}{4}$ (on shore small lake). This $\frac{7}{8}$ mile is fair winter trail, follows along swamp for 1/8 mile then crosses 2 lakes but timbered ground back from lake is good. Spot of old moraines exposes wash up to 8" on lake shore.

Mile $6\frac{3}{4}$ to $8\frac{1}{2}$ (point on winter trail where we abandoned horses and turned left to river bank). This $1\frac{1}{2}$ miles is all swampy ground with scattering scrub spruce, deep moss and open, grassy swamps. Bad ground.

Mile $8\frac{1}{2}$ to 8-3/8 (river rim). Tho we walked 5/8 of a mile from trail to river rim the estimated distance west was 1/8 of a mile. Ground was bad.

Mile 8-3/8 to 19-5/8 (point where left river). We struck the river at one of the very few points where there had been no recent movement of the clay banks. The banks were overgrown with poplar, spruce and willows as are all the lower benches of the river which have not been disturbed.

In traveling this $11\frac{1}{2}$ miles, we walked the benches, the beach and the edge of clay banks. There are many sections where good, heavily timbered gravel benches were followed, but some of these benches were covered with wet clay and small spreading streams colored with clay, all coming from clay bank from 500 to 3000 feet back. In the $11\frac{1}{2}$ miles we followed on the very edge of 4 clay banks totaling over $1\frac{1}{2}$ miles in length which were cut from the waters edge to the rim, in elevation from 200 to 250 feet. The fifth clay bank was under cut so badly we were forced to climb to the rim.

These clay banks are all similar to the bank at Mile 77, Richardson Highway, and because of them no location in the river bottom can be considered.

The 200-foot bank was cut in three places by small creeks in the $11\frac{1}{2}$ miles.

Mile 19-5/8 to 20-3/8 (left limit rim Tolsona Creek). This $\frac{3}{4}$ mile was all bad, from the rim of the Tazlina to the rim of the Tolsona; humps, hollows, scrub spruce, deep moss, small ponds.

Mile 20- $\frac{3}{8}$ to 20 $\frac{3}{4}$ (Tolsona Creek bottom). The clay banks of the Tolsona, which stream we struck approximately $1\frac{1}{2}$ miles from its mouth, are 150 feet high and are sliding as were the Tazlina banks. The $\frac{3}{8}$ mile indicated here was down the sloping bank (up to 45°), working up stream. The lower bench of the Tolsona is gravel.

Tolsona Creek at this point would require a 100' span.

Mile 20 $\frac{3}{4}$ to 22 (begins good ground). After climbing the 150-foot bank on the right limit we traveled west by northwest (away from Tazlina River) in an attempt to locate better ground. None of this $1\frac{1}{4}$ miles was really bad, having been burned over, but before reaching Mile 22 we found higher ground with occasional spots of gravel. Passed left of lake $\frac{1}{2}$ mile diameter.

Mile 22 to 23 $\frac{1}{2}$ (on winter trail). General direction followed was west and west southwest, thru timber, burned and green spots intermittently. Gravel moraine at Mile 23- $\frac{1}{8}$. Of the $1\frac{1}{2}$ miles, more than half was good ground. passed small lake on the right.

Mile 23 $\frac{1}{2}$ to 26 $\frac{1}{4}$ (No. 4 cabin on winter trail). This section is in lake country with lakes separated by flat ridges and occasional narrow streaks of swamp. West end of section in timber up to 24". fifty per cent of this 2 $\frac{3}{4}$ miles is good. This section followed winter trail.

Mile 26 $\frac{1}{4}$ to 29 $\frac{1}{4}$ (right limit small creek flowing into Tazlina Lake). The winter trail from 26 $\frac{1}{4}$ turns left to swamp leaving the big timber and hills which are on the right. We were unable to follow the trail because of this, nor did we see the trail again until reaching Tazlina Lake. This 3 mile section, with high good ground plainly visible within $\frac{1}{2}$ to 1 mile on the right, was 75% very bad, swampy ground, mostly timbered. Passed two small lakes and one lake a mile long.

Mile 29 $\frac{1}{4}$ to 34 $\frac{1}{2}$ (point on shore Tazlina Lake, $1\frac{1}{2}$ miles west of outlet). General direction was southwest with idea of reaching Tazlina Lake. Passed thru dead and green spruce, one lake, across two small creeks, narrow swampy drains, one spot of gravel on surface $\frac{1}{8}$ mile long at 30 $\frac{3}{4}$. Ground falling away to Tazlina Lake. Streaks of old burns grown to thick willows 1" to 4" diameter. Four of the 5 $\frac{1}{4}$ miles, good ground.

Mile 34 $\frac{1}{2}$ to 41 (point, 1 mile west of Mendeltna Creek, 2 $\frac{1}{4}$ miles from its mouth on winter trail). This entire distance we followed a good trail, $4\frac{1}{4}$ miles being along

the lake shore about 100 feet from waters edge where we crossed and recrossed the old railroad survey many times, and $2\frac{1}{4}$ miles up right limit of Mendeltna Creek. The railroad survey leaves the lake shore approximately 1 mile before reaching the mouth of Mendeltna and crosses the stream higher up. Of this $6\frac{1}{2}$ miles at least $5\frac{1}{2}$ miles are good hard ground with gravel on or very near the surface.

We waded the Mendeltna 350 feet from where it empties into the lake. A 150-foot span would be required at this point, but no doubt a narrower crossing could be found upstream where natural location of road would be. Mendeltna has 12-foot good washed gravel banks here; the stream was 75 feet wide. A 500 to 800-foot fill would be required on the right limit of Mendeltna Creek.

Altho probably 10 miles of easy construction would be secured by leaving the general direction at Cache Creek and running south, southwest to Tazlina Lake, along the lake shore and thence north, northwest up Mendeltna Creek 6 miles, this is not recommended for the reason that it would lengthen the route $4\frac{1}{2}$ miles and because it is believed that as a whole fair ground can be secured most of the way by continuing the general westerly direction to the point 6 miles up Mendeltna Creek. Tho the map shows that such a line would pass thru a lake country it is known the lakes are deep set and the general slope of the country is 3 per cent, assuring good drainage.

Mile 41 to Mile $48\frac{1}{2}$ (Cache Creek). Route followed in this $7\frac{1}{2}$ miles was up the Mendeltna Valley $\frac{1}{8}$ mile, then west $\frac{3}{4}$ mile to rim of main Nelchina River, $\frac{1}{2}$ mile up bars of Nelchina River, then climbed 100 feet clay bank out of river bottom, $\frac{3}{8}$ mile north to old railroad pack trail, along pack trail, which is located from 0 to $\frac{3}{4}$ mile from rim of Nelchina, for $2\frac{1}{4}$ miles where at Mile $45\frac{1}{4}$ we hit railroad stakes again which we followed for $3\frac{1}{4}$ miles to Mile $48\frac{1}{2}$.

Of this $7\frac{1}{2}$ miles, $1\frac{1}{2}$ is considered good and $6\frac{1}{2}$ bad ground. It is all in scrub green and burned spruce except for short spots heavy timber on the rim of the Nelchina.

Tho there were some good spots of ground along the rim of the Nelchina, due to a couple of deep guts, the rim cannot be followed with a location. After striking the railroad stakes the ground became worse, with about a 2-mile stretch of hump and hollow country where the humps were as much as 5 feet above the

hollows, showing that the ground had thawed to such an extent that the moss had actually slipped off the humps and into the hollows. The exposed earth was clay.

The road location should be north of the railroad location from 1 to 2 miles. No gravel seen in this section except on the bars of the Nelchina and in one deep cut gut at Mile 45-1/8.

The creek at 48 $\frac{1}{2}$ requires a 30-foot span.

Mile 48 $\frac{1}{2}$ to 54-5/8 (right limit of Little Nelchina). Followed railroad stakes entire distance, 6-3/8 miles. Of the total, 5-3/8 is bad ground and 1 mile good.

This country is similar to previous 7 $\frac{1}{2}$ miles, but probably as a whole a little better ground. There are humps, hollows, niggerheads, swamps and many small swampy creeks coming from hillside. The fault with this section is that it follows from 0 to $\frac{1}{4}$ mile from the foot of a slope where good ground is available. It is estimated that a road could be located in good material for at least 5 $\frac{1}{2}$ miles of this 6-3/8 miles, within 1 mile to the right of the railroad location except for the section 1 mile east of Little Nelchina. Such a location would provide gravel within $\frac{1}{2}$ miles of any point.

The railroad has a good crossing on the Little Nelchina but to get a good road location before reaching stream the crossing would be approximately 2 miles up stream. The railroad crossing takes the stream in two benches running up stream along the first bench and jumping the stream from the lower 25-foot bench. Good gravel in the lower bench. Were the stream crossed here with a road a 100-foot span with 18-foot approaches each end would take care of it. Piling available for falsework.

Mile 54-5/8 to 56-3/8 (point where we left railroad survey). Of this 1 $\frac{3}{4}$ miles, the first $\frac{1}{4}$ mile is good, the balance bad, consisting of humps, hollows, swamps and drains, scrub spruce. Road location would be 2 miles north on higher ground.

Mile 56-3/8 to 60-3/8 (crossing of "Pass" Creek). At Mile 56-3/8 we left the railroad stakes to head for a cabin on "Pass Creek", which incidentally we never found. The railroad location turns right at 56-3/8 in order to skirt the head of the small creek shown on the map between the Little Nelchina and "Pass Creek".

At Mile 56-3/8 the ground becomes broken with very low hills, old glacier moraines, small lakes and spots of swampy ground between.

The general direction followed from 56-3/8 was toward the pass which could be seen from that point.

Of the 4 miles, 2 $\frac{1}{2}$ is good ground, 1 $\frac{1}{2}$ is bad. Moraines with exposed gravel seen in two places.

Crossed one creek which shows evidences of heavy glaciation--22-foot span required.

Some of this area has been burned over; down timber up to 14".

Hit "Pass Creek" about 1 $\frac{1}{2}$ miles from its mouth; thick green spruce up to 24". 60-foot span required here, if road at this location.

Mile 60-3/8 to 66 $\frac{1}{4}$ (point $\frac{1}{4}$ mile from "Pass" Creek on right limit). Character of country changes again after crossing "Pass" Creek at Mile 60-3/8. After following a comparatively flat burn for a mile thru fairly good ground, we started climbing the nose of the flat ridge.

The next mile was good hard ground, rocky in spots, which took us to flatter ground.

From this point we worked back and forth, from the top of the flat ground to points down the slope toward "Pass" Creek. It was found that the flat ground, tho it had occasional hard spots, was generally bad because of water holes up to 10 feet in diameter. The slope was better, but covered with very deep moss.

Of this 5-7/8 miles, 2-7/8 miles are considered good, 3 miles bad.

The last 3/8 mile of this section we purposely walked down the slope of the hill toward "Pass" Creek to see what the bottom was like. We found the creek bottom full of beaver dams and the flat side slope adjacent to the creek covered with moss 3 feet deep on ground that was undoubtedly frozen. In addition the slope was cut with occasional small guts. Across "Pass" Creek $\frac{1}{2}$ mile from this point we could see good ground and hills covered with poplar and willows rising gradually from the creek bed. The railroad location in this section is on the left limit of Pass Creek and evidently in good ground.

We were now so far advanced toward the Pass that it was too late to cross the creek and take advantage of this good ground.

Mile $66\frac{1}{4}$ to Mile $68\frac{1}{4}$ (on shore $\frac{1}{2}$ mile "half moon" lake). We left the low slopes of Pass Creek drainage and climbed back up the moss covered slope to the flat summit.

Of this 2 miles, $1\frac{3}{4}$ considered bad on account of deep moss, sump holes, swampy ground.

A total of $\frac{1}{4}$ mile of good ground broken into many sections is about all there is. Two miles covered with scattered stunted spruce with butts up to 12".

Mile $68\frac{1}{4}$ to $71\frac{1}{2}$ (A. R. C. shelter cabin). From $68\frac{1}{4}$, looking west, it appeared that the drainage from the lake went to the Matanuska River. If it does, it reaches there by way of Squaw Creek through Leila Lake. Contrary to the map the drainage does not drain southwest out of Leila Lake to the headwaters of the Matanuska but flows northeast into the lake and probably flows north out of Leila Lake to Squaw Creek.

Of the $3\frac{1}{4}$ miles, $7/8$ is good; $2-3/8$ bad.

Went around left side of Leila Lake and after crossing drain to the lake hit flat slope of hill and winter trail from Matanuska drainage. This slope is heavily timbered and wet but there is higher and drier ground farther up the hill. This point is the slope of Sheep Mountain. After traveling the winter trail for $7/8$ of a mile, we struck the Nelchina miners foot trail coming in on the right and another $1/8$ mile took us to the first A.R.C. shelter cabin on the Matanuska watershed.

Road location should be about 4 miles north of Leila Lake, because of higher ground.

Gravel available farther up hill at various points in Mile $70\frac{1}{2}$ - $71\frac{1}{2}$.

Mile $71\frac{1}{2}$ to 84 (Caribou Creek via trail). This $12\frac{1}{2}$ miles is all along the sunny slopes of Sheep Mountain. Most of the distance has been burned over, leaving only buckbush, willows or small poplars.

Gravel or slide rock for surfacing can be secured at any point on the road within a mile haul.

Slopes vary from 10° to 45° .

All material is either gravel or slide rock or a mixture of one or the other with a clay-like soil.

The location would follow the general route of the trail, tho never on it for any distance . One cannot go lower on account of the creeks developing into deep cuts nor higher on account of running into spots of solid rock.

Country is a series of rock and gravel wash fans from mountain making ideal road material.

At least 5 miles (the 5 easiest miles) could be constructed for \$5,000 per mile, being all straight, sidehill dozer work.

Crossed 8 small creeks requiring bridges from 12 to 30 feet. In addition to which there is:

Goat Gulch (or Jackass Creek). The railroad survey crosses this creek on a 250-foot deck truss, 170 feet above the creek. The trail employs a 10 to 25 per cent grade into and out of it. This gulch is so steep and narrow that it is entirely impracticable to drop into it and climb out with a road location. The suggestion is to cross it higher up, install a long, large culvert and fill it; either this or a steel trestle.

Also--Caribou Creek. Except for its last $1\frac{1}{4}$ miles before emptying to the Matanuska River this stream is in a canyon. The trail crossing is at a ford one mile below the mouth of the canyon where a tram is located for use in high water. There is no trail cut out either to or from the tram.

The stream valley at the ford is a half mile wide and a 150-foot span bridge here without approaches would handle the water; however, at least 1500 feet of heavy dike would be required. Furthermore, it is doubtful if, on account of grades, a location could reach or get away from a bridge at this point. The logical crossing is at or near the tram at the mouth of the canyon where no dikes would be required and where sufficient distance is allowed to develop grade. It is quite likely that some rock work will be encountered on the grades getting to this crossing. This crossing was not actually seen but, in comparison with the length of the tram is estimated at 225 feet.

As shown on the map, an alternate crossing two miles

above the one recommended should be investigated. It is believed however that this will prove impracticable on account of rock work and the deep cut of the creek.

Mile 84 to Mile 94 (Hicks Creek). Reference is made to Map XI a of House Document 610, 64th Congress, showing railroad location.

Tho our reconnaissance naturally followed the trail in this section, a road location would parallel the railroad location except as follows:

(a) The railroad crosses Caribou Creek 395 feet above the creek bed on a 910-foot bridge, enabling it to keep back against the foot of the high hills. A road location would cross Caribou Creek at an elevation sufficient only to allow safe clearance and would turn downstream, crossing the saddle shown on map somewhere in the vicinity of the trail, from where it would head back northwest toward the railroad location.

(b) The railroad location in order to get into Pinochle Creek (locally Mud Creek) on account of grades is obliged to do considerable winding. Tho the road location would follow the general railroad route in this vicinity, the distance with an allowable 7 per cent grade would be considerably reduced .

Most of this 10 miles is bulldozer work in slide rock or gravel.

Some rock will be encountered getting out of Caribou Creek and about 500 feet near the mouth of Pinochle Creek.

Hicks Creek roars out of a canyon, and, like Caribou Creek, is generally forded tho there is a tram at the mouth of the canyon. The tram, however, is out of commission on account of inundation of one tower. The stream can be crossed either at the canyon mouth or at any point within $\frac{3}{8}$ mile below the canyon, a 100-foot span with 18-foot approach each end will suffice. Dikes required if lower crossing accepted; it would shorten distance. Some difficulty will be experienced in securing foundations as piles cannot be driven on account of heavy wash.

Mile 94 to Mile 117 (Chickaloon Crossing). Reference is made to U. S. Geological Survey map 602A, 1931, upon which has been dotted two alternate routes; most of the upper one follows the trail which was our route of travel while the lower one was spotted from the air.

Upper Route. It will be noted that after crossing Hicks Creek, the trail climbs about 450 feet in $\frac{3}{8}$ of a mile. From observation on the ground, it is believed that a location up Hicks Creek from any crossing of that stream between the canyon mouth and Matanuska River, is out of the picture on account of the precipitous walls of Hicks Creek Canyon. If it could be done, it would be the logical route to follow out of Hicks Creek.

The alternative is to start climbing downstream shortly after crossing Hicks Creek and from there up the left limit of Pack Saddle Gulch, catching the trail a mile or less beyond that stream. This route has not been seen; the location in this vicinity may result in a choice of two evils. At any rate rock work will be encountered.

Once the trail on Anthracite Ridge was reached (at an estimated distance of $1\frac{1}{2}$ miles from Hicks Creek crossing), a road location is fairly simple to Boulder Creek, a distance of 10 miles.

The country is rolling and general location of trail is just above the many narrow canyons formed by the creeks. The trail climbs to a maximum elevation of 2900 feet.

In the 10 miles to Boulder Creek, 12 creek crossings requiring 16 to 22 spans are encountered. A road location would not follow the pack trail but would be close to it all the way. Material consists of clay and slide rock, with sand and sandstone formation in places. A surprising amount of heavy spruce and cottonwood timber up to 24" was evident.

Gravel or slide rock for surfacing can be secured with a maximum haul of 1 mile.

On getting into Boulder Creek there are two trails, one runs northwest to the timbered flat of Boulder Creek, the other cuts across the point as shown on the map. This cutoff would make poor road location. It is on the shady side of a hill, is wet and shows evidence of sliding. Once the valley floor is reached there is a half mile of good gravel bottom.

At the end of this $\frac{1}{2}$ mile the trail climbs to the benches above Boulder Creek and keeps up for 4 or 5 miles, while the creek is forming a deep canyon below. In this distance there is at least a mile of soft ground covered with moss 2 to 3 feet deep. As good drainage could be provided, this site would make a

all right after stripping. Most of this distance has no timber. There are 5 creek crossings requiring 12 to 22-foot spans.

In getting to a lower elevation at the end of this stretch, the trail has been graded out of sloughings of a precipitous hard formation running at right angles to Boulder Creek on a grade up to 15 or 20 per cent and it is doubtful if a 7 per cent grade on a road location could be used here, at least not without encountering some rock work.

From this point to Chickaloon it is about 5 miles, the trail for a mile being on the brink of Boulder Canyon which is 600 feet deep. The timber is thick, heavy spruce and birch all the way to Chickaloon.

On account of grades it is doubtful if the trail at the 5-mile point from Chickaloon can be reached on a maximum 7%, as there are places where it would necessarily be less. The trail climbs 1,650 feet from the mouth of the Chickaloon River to the precipitous backbone mentioned in second paragraph above, of which 1,450 feet is made in $3\frac{1}{2}$ miles.

It is impossible to ford the Chickaloon River at any stage and since Chickaloon is on the right limit of the river without a tram crossing, in getting into the place from the east, the trail climbs the 200-foot ridge extending out into the bend of the river (see map), follows along the left rim of the river where one can look down on Chickaloon on the other side, and finally drops off the ridge at the upper railroad bridge. One then walks a mile up the railroad grade to Chickaloon, all of which is very exasperating to a tired musher.

A road location, headed for the railroad grade, on this upper route would not climb over the ridge but would come down the left limit of the Chickaloon River at an average elevation of 10 feet above high water, tying into the railroad grade at a point just below the upper railroad bridge. In doing this, $\frac{1}{4}$ mile of rock work would have to be taken, but not all solid rock. From there it is about $\frac{5}{8}$ of a mile to the lower railroad bridge which would be used as a road crossing.

This bridge is a 120-foot span with a short approach on one end. The span rests on concrete piers set on solid rock.

This marks the end of this section, which it is

to be noted is 23 miles from Hicks Creek tho it is less than 16 miles between the two points in a straight line.

Attention is drawn to a 6-mile alternate to part of this section which cuts off the right-angled bend into Boulder Creek. This merely a line drawn in to fit the contours. Whether or not it would be feasible would have to be decided by reconnaissance; it certainly should be investigated if this upper route is chosen.

Lower Route (see Map 602A).

From Hicks Creek to Winding Creek, about 4 miles, this route would be identical with the Upper Route.

From Winding Creek to Purinton Creek, the direction is due west along the slope of Anthracite Ridge. The next seven miles would follow what is evidently an ancient channel of the Matanuska River. This section was viewed from the air in contemplation of road construction and is believed to be feasible in spite of the fact that it is located in places at the foot of 500-foot cliffs.

The last $3\frac{1}{2}$ miles are down the ridge toward the mouth of the Chickaloon River.

On this route undoubtedly Cascade Creek and especially Purinton Creek will be cut deeper than on the Upper Route, but if the balance of the route is found practicable this would be no objection.

It is possible some solid rock would have to be taken in getting off the high bench starting at a point 1 mile east of Chickaloon River. In this connection, as remembered the lower railroad bridge could not be used on this road location as a crossing from the left to the right limit because the left limit end of the bridge is so close to the bluff that there is no room for the turn. However, it is believed a crossing of not to exceed 150 feet can be secured below the railroad bridge--the railroad survey report from the east shows a 100-foot crossing.

This lower route should be given first consideration for the reason it would be at least 3 miles shorter, its high point would be 400 feet below the high point of the upper route and there would be much less 7% maximum grade.

Mile 117 to $131\frac{1}{2}$ (point on railroad grade (Mile 21.5) where road location would leave railroad roadbed.) This section follows the old Alaska Railroad grade from which the rails have been removed, except where the grade is washed out.

As shown on Map 602A there are four places where the grade has been washed out, the total washouts requiring about $4\frac{3}{4}$ miles new location.

These $4\frac{3}{4}$ miles are in two sections, about equally divided for distance. The sidehill to get up to the old tote road above these washouts can be easily negotiated. The location of the tote road is generally good and at least two miles of it could be used and has a definite value. One of the other two washouts would require protection from the Matanuska River for 150 feet while the other can be avoided by dozing into the hillside, as it is not in such a precarious location.

The remaining $9\frac{3}{4}$ miles of old railroad bed could be used as is for a road and could easily and cheaply be put into shape as a first-class road.

The railroad bridge over King's River consists of 200 feet of approach trestle and three 60-foot spans, all wood. The 100 feet of approach trestle on the west end is washed out, otherwise the bridge could be used as is after planking. Any new bridge constructed for a road now or later, would be above the railroad bridge and with about 400 feet of dike could be crossed with one 150-foot span. All other railroad bridges on this section are satisfactory.

Mile $131\frac{1}{2}$ to $145\frac{1}{2}$ (end existing Moose Creek Road). The reconnaissance followed on down the railroad grade to Sutton where we took the train to Anchorage.

Our attention was called to Granite Creek; this stream is small compared with King, Chickaloon and Caribou but it heads far back in the mountains, is on a steep grade and the lower $1\frac{1}{2}$ miles are building up a fan, causing it to shift back and forth. It appears that this stream is apt to be a constant source of trouble unless crossed where it is naturally confined just below the canyon $1\frac{3}{4}$ miles upstream from the railroad bridge consisting of three 60-foot spans and 200 feet of approach.

Except for making use of the abandoned railroad grade, there is no particular reason for going into Sutton

anyhow.

See Map 602A upon which a projection has been laid, taking off the railroad grade about $1\frac{3}{4}$ miles east of Granite Creek making for Granite Creek canyon mouth as a control point, thence west to the forks of the Jonesville and Eska branch railroads, thence west southwest to Premier and from there to the end of the existing Moose Creek Road. Nothing is known of the actual conditions along the route of this projection.

The road is placed on this location with the view of giving an everyday outlet to people at Eska, Jonesville and Premier and to serve land not served by the railroad. There apparently is no object in following the railroad thru Moose Creek to connect with the road.

The estimate of 80-foot spans for Granite, Eska and Moose Creeks is merely a guess.

Attention is drawn to the fact that if the proposed road is also connected with the end of the Falk road, requiring an additional $4\frac{3}{4}$ miles, the direct coal haul to the mining district of Willow Creek would be reduced by 10 miles as against hauling via the Moose Creek Road. This, too, would open new land. Should this piece also be built the total mileage of the proposed construction is 150.

Review of Proposed Location:

Working east from existing roads, the matter of approximate location to connect with the railroad grade beyond Sutton is something which can be decided without survey, as from a cost standpoint there probably would be little difference within the limited north and south distance of 2 to 3 miles.

From the old railroad grade to the mouth of the Chickaloon River, the location seems pretty well fixed by the existing construction of 10 miles which could be turned into a good road for not to exceed \$1500 a mile and by the 5 miles of comparatively easy construction to avoid that part of the old railroad grade which has been washed out.

From Chickaloon to a point approximately 6 miles up the right limit of Mendeltna Creek, the location, aside from control points which are now fixed as a result of airplane and foot reconnaissances, would be determined by the location engineer from a standpoint of economy within the controlling factors of grades and alignment given him.

From the above mentioned point on Mendeltna Creek to the Richardson Highway two routes are available. Parts of the one to the north of the Tazlina River have been seen either by plane or on foot. The one to south is now being on has recently been investigated on foot.

It appears offhand that, without further investigation, the route north of the Tazlina River should be adopted, for the following reasons:

(1) It is probably more important to connect Anchorage with Fairbanks in the shortest distance than it is to connect Anchorage with Valdez in the shortest possible distance. A comparison of these distances is as follows:

	Distance to Fairbanks:		Distance to Valdez	
	North Route	South Route	North Route	South Route
Moose Creek Road to Highway	145	151	145	151
Highway to Fairbanks	256	269	115	102
	401	420	260	253

In other words the north route would be 19 miles shorter to Fairbanks than the south route, while at the same time it would be only 7 miles farther to Valdez.

(2) Because the southern location would be on shady side, it is quite likely that more frost would be encountered. See Alaskan Engineering Report, Document 610, Part 2, Page 42.

(3) Even tho it proved that better ground conditions were found on the southern location the distance is 6 miles longer and involves the construction of a bridge over the Tazlina River. These two items are estimated at \$75,000 which sum would take care of considerable bad ground on the northern route, to say nothing of the perpetual maintenance cost of the additional 6 miles of road.

(4) The location recommended, after seeing parts of this section from the air and on foot, coincides with the projected location by Donald MacDonald (1936) who should know something of the country as a member of the Alaska Railroad party which made the location in this area. It is also agreed that his projected location to Sheep Mountain and along Sheep Mountain on the left side to Hicks Creek is satisfactory.

(5) From much questioning of individuals both in Anchorage and Copper Center and vicinity one man was found who claimed to have taken a pack horse thru from Nelchina diggings to Dry Creek on the approximate route recommended in 1914. He claims he did not get his feet wet, indicating there may be a flat ridge or series of flat ridges.

Rough Estimate of Cost of Construction of a 20' Graveled Road:

Section 1 - Richardson Highway to Mendeltna River (Northern Route)

(Section 1 - Richardson Highway to Mendeltna River (Northern Route))

Miles 0 to 5.....	5 @ \$7,000	\$35,000
5 to 15	10 @ 12,000	120,000
15 to 20	5 @ 10,000	50,000
20 to 41	21 @ 9,000	<u>189,000</u>
		394,000

Tolsona Creek Bridge - one 60' span
 Mendeltna Creek Bridge - one 100' " . 36' approach

196' @ \$100	<u>19,600</u>	\$413,600
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Section 2 - Mendeltna Creek to Sheep Mountain

Miles ⁴² 41 to 47	6 @ \$10,000	60,000
47 to ⁵⁵ 56	9 @ 8,000	72,000
56 to 63	7 @ 10,000	70,000
63 to 68	5 @ 9,000	45,000
68 to 69	1 @ 12,000	12,000
69 to 72	3 @ 8,000	<u>24,000</u>
		283,000

Cache Creek Bridge - one 36' beam span
 Little Nelchina Bridge - one 100' span with 18' approaches

172' @ \$100	<u>17,200</u>	300,200
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Section 3 - Sheep Mountain to Chickaloon

Miles 72 to 77	5 @ \$5,000	25,000
77 to 80	3 @ 8,000	24,000
80 to 81	1	20,000
81 to 83	2 @ 10,000	20,000
83 to 85	2 @ 20,000	40,000
85 to 93	8 @ 9,000	72,000
93 to 98	5 @ 15,000	75,000
98 to 115	17 @ 9,000	163,000
115 to 117	2 @ 15,000	<u>30,000</u>
		469,000

Caribou Creek Bridge one 225' span
 Hicks Creek Bridge one 100' span with two 18' approaches
 Packsaddle Creek Bridge one 60' span
 Winding Creek Bridge one 36' span
 Cascade Creek Bridge one 60' span
 Purinton Creek Bridge one 80' span
 Chickaloon River Bridge one 150' span

747' @ \$100	<u>74,700</u>	543,700
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Section 4 - Chickaloon to Mile 131 (leaves railroad grade)

Mile 118			\$2,000	
Miles 118 to 121	3 @ \$1,000		3,000	
121 to 123 $\frac{1}{2}$	2 $\frac{1}{2}$ @ 8,000		20,000	
123 $\frac{1}{2}$ to 125	1 $\frac{1}{2}$ @ 2,000		3,000	
125 to 126			1,000	
126 to 128 $\frac{1}{2}$	2 $\frac{1}{2}$ @ 8,000		20,000	
128 $\frac{1}{2}$ to 131	2 $\frac{1}{2}$ @ 1,000		2,500	
				51,500

Kings River Bridge

Add 100' span to existing bridge				
100' @ \$100	\$10,000			
Plank and repair existing bridge	1,000	<u>11,000</u>		\$62,500

Section 5 - Mile 131 to Moose Creek Road, 145

14 miles @ \$7,000			98,000	
Granite, Eska and Moose Creek Bridges				
One 80' span each, 240'		<u>24,000</u>		<u>122,000</u>
Total cost construction			\$1,442,000	
Surveys and contingencies, 10%				<u>144,000</u>
				\$1,586,000

This estimate allows \$9,830 per mile of road alone, and \$110 a foot for steel bridges. Timber for false work is at or nearby all bridge sites. Longest gravel haul east of Sheep Mountain is 6 miles, west of Sheep Mountain, $\frac{1}{2}$ miles.

NOTE: It is believed the above estimate is ample to do the job providing three full seasons are allowed for completion. If only two years are allowed, add 15%.

Method of Procedure if Funds become Available:

Surveys:

- Crew #1 - To start at end Moose Creek Road .
- Crew #2 - To start at Mile 131 and work west to Eska only.
- Crew #3 - As a start to definitely locate the necessary changes on the railroad section.
- Crew #4 - To start west from the Richardson Highway.

As soon as necessary location was made from Moose Creek Road to

Chickaloon, Crew #3 would move to Chickaloon River, Crew #2 to Hicks Creek and Crew #1 would be disbanded.

Crew #3 would work toward Hicks Creek.

Crew #2 would make the definite location from Packsaddle Creek, across Hicks Creek, and to and across Caribou Creek.

Moves from then on would depend upon which crew finished first.

Construction:

Anchorage end:

Camp #1 - End of Moose Creek Road--works east.

Camp #2 - Mile 131, works west.

Camp #3 - Kings River, works east to $128\frac{1}{2}$ then west to 131, before moving.

Camp #4 - Mile $123\frac{1}{2}$ works east to 117, then west to $128\frac{1}{2}$ before moving.

Camp #5 - Mile 117 (camp left limit Chickaloon River) works east, first doing necessary sidehill work in first 2 miles to allow Camp #6 to get thru.

Camp #6 - Mile 110, works 2 miles west, then east.

It is believed that at least two more camps could be moved in by tractor to points as far as Packsaddle Creek.

Camps #1, #2 and #3 could be set up simultaneously. Within 10 days time sufficient necessary work could be done to permit setting up Camps #4 and #5. Another 10 days should permit Crews 6, 7 and 8 to get thru.

Richardson Highway End:

Crew #1 - Works west from Highway.

Crew #2 - Starts at Mile 5, which point is about as far as could get with a camp to be supplied by tractor, and works west.

It would not be practicable to work more than two crews on this end, unless money was available before February 1, 1941, to permit of heavy winter freighting of fuel, supplies and equipment; in which case, any desired number of camps could be put out, securing their perishables in summer months by pontoon planes landing on lakes.

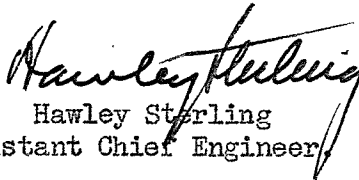
In any event winter freighting would be done--on both ends--in

IPT - #20

10-16-40

the winter of 1941-42 in order to complete the road in fall 1942.

Yours very truly,


Hawley Sterling
Assistant Chief Engineer

List of Reference Maps:

- a - Attached to this report—"Reconnaissance Map of Nelchina-Susitna Region"—Bulletin No. 668, Plate 1.
- b - "Lower Matanuska Valley", Alaska 602A, edition 1931.
- c - "Chitina-Matanuska Line" Map XI A House Document 610, 64th Congress.
- d - Blue print "Proposed Highway--Connecting Anchorage Roads and Richardson Highway" by Donald MacDonald, 1936.

CC (less maps) Edmunds, Shepard

HS:IW

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1948 Survey 202

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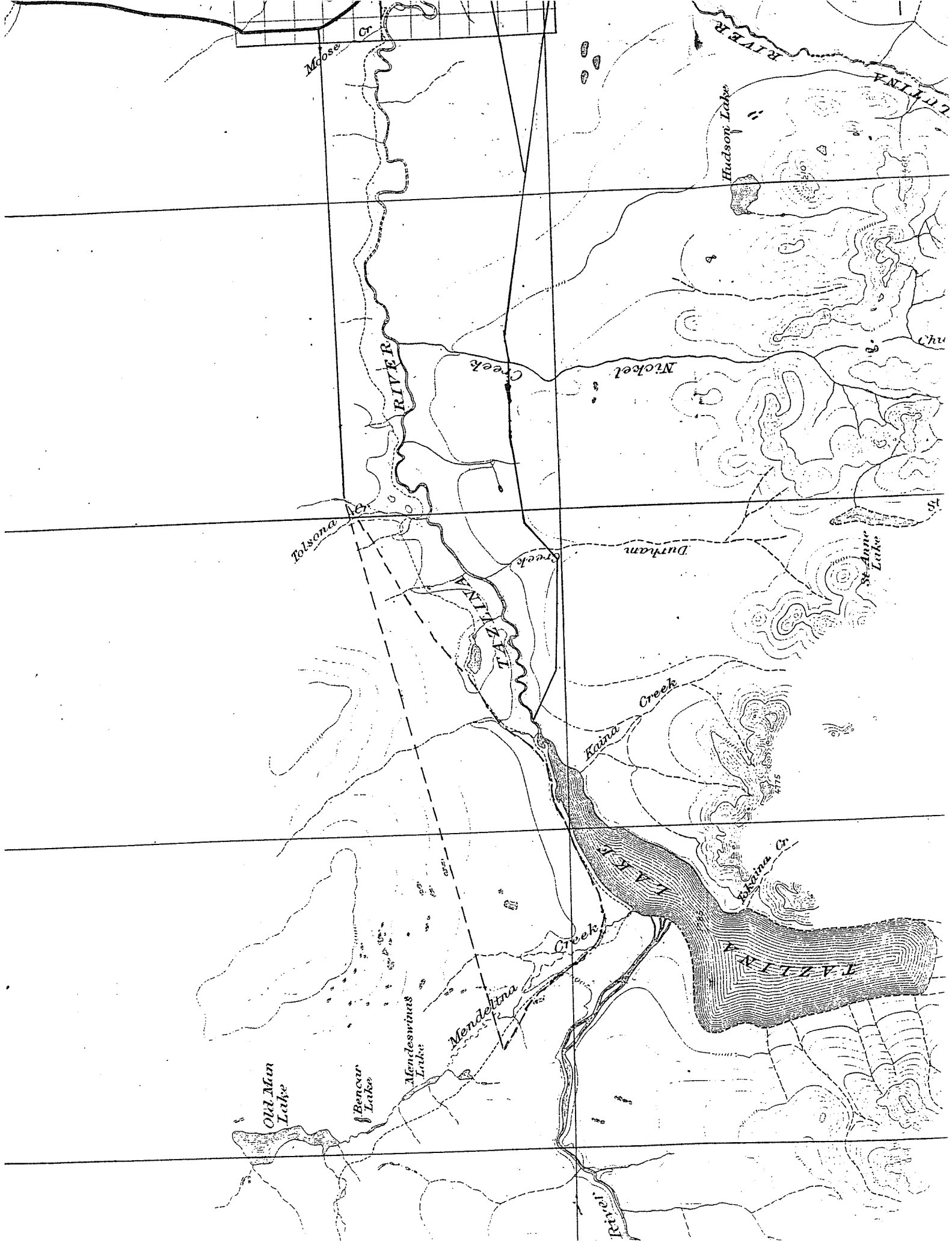
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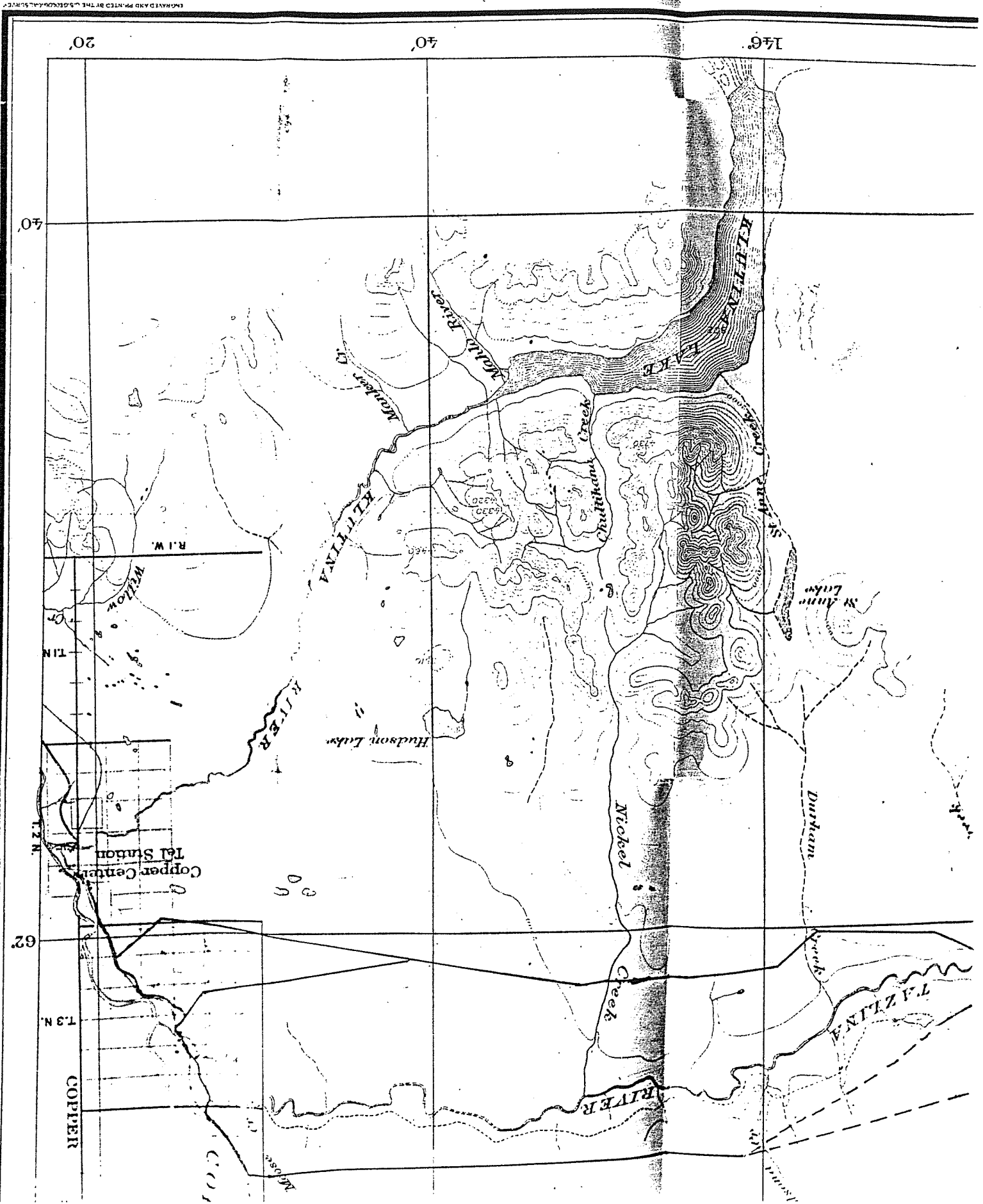
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ADDRESS REPLY TO
ALASKA ROAD COMMISSION

UNITED STATES
DEPARTMENT OF THE INTERIOR
ALASKA ROAD COMMISSION
JUNEAU, ALASKA

Valdez, Alaska
December 3, 1940



Mr. Ike P. Taylor
Chief Engineer, A.R.C.
Juneau, Alaska

Dear Sir:

As previously reported, between September 26th and September 30th, Ben Woods made a walking reconnaissance on the South side of the Tazlina River between the Richardson Highway and Tazlina Lake. His report of this reconnaissance is enclosed herewith. Between October 10th and October 27th Woods made a preliminary survey from Mile 115.8 on the Richardson Highway to Tolsona Creek. The course followed was due West. Under separate cover a plat showing ground conditions along this route is being submitted, also attached herewith is a U. S. Geological Map of this region on which is shown the alternate routes as far as Mendeltna Creek as proposed by Assistant Chief Engineer Hawley Sterling. From the information obtained by Woods on the preliminary survey between the Richardson Highway and Tolsona Creek an estimate of construction costs for each mile was made. A summary of these costs by features follows:

Clearing, 132 Acres @ \$117.42.....	\$15,500.00
Stripping, 144 Acres @ \$46.00.....	6,620.00
Grading and Ditching, 16 Miles @ \$1719 per mile...	27,500.00
Graveling, 61,500 cu. yds. @ \$1.01 per yard.....	62,125.00
Metal Culverts, 2,000 lin. ft. @ \$3.00 per foot...	6,000.00
Trestle Bridges, Wood, 24 lin. ft. @ \$15.00.....	360.00
Steel Spans, 60 lin. ft. @ \$60.00.....	3,600.00
Total Cost Construction.....	\$121,705.00
Surveys and contingencies, 10%.....	12,170.00
Total.....	\$133,875.00

Average cost per mile \$8,367.19

Description of Route

From the highway to Mile 1.2 ground conditions are similar to those traversed by the highway between Mile 114 and Dry Creek. At Mile 1.2 the line offsets to avoid the end of a ridge. Final location should be from the second angle point to the starting point.

Mr. Ike P. Taylor

Page 2

A location crossing the Moose Creek Flats farther to the North is not desirable as several ridges running North and South terminate just North of the present line. The ground from Mile 1.2 to Mile 3 is very favorable for road construction, the growth is mostly poplar and aspen. The surface soil is a fine silt under which gravel is found at varying depths. The surface is slightly undulating but cut and fill work will be easy on account of the lightness and porosity of the soil. A slight revision of the location will be necessary at the Moose Creek Crossing. The change should be a few hundred feet to the North and should continue parallel to the present location until the small lakes are passed at about Mile $3\frac{1}{2}$. From Mile 3 to Mile 6 ground conditions probably average better than between Mile 114, on the Richardson Highway, and Dry Creek. Mile 6 to 7 appears to be entirely underlaid with gravel. From Mile $3\frac{1}{2}$ to Mile 7 there appears to be no advantage in changing the location either to the North or South. The surface of the ground is quite uniform. It raises gradually from Moose Creek West and for a few hundred feet near Mile 3 there is an adverse grade of from 3 to 4 percent. Between Mile 7 and Mile 8 the ground is entirely without timber. The surface is covered with a thick growth of grass, very small brush, some moss and a few niggerheads. The ground is nearly level but drains both to the South and North. Where crossed by the location there was scarcely any visible water while to the South and Southwest the amount of water increased and the ground became very swampy. As near as one could tell with the eye the present location across this swamp is about as good as could be obtained. It is not recommended that this ground be stripped but that side ditches be put in for drainage purposes and the whole mile graveled on top of the sod. An unlimited amount of good gravel can be obtained near Mile 7. From Mile 8 to Mile 13 the surface of the ground continues very uniform. It is frozen for the entire distance and the clay is overlaid with moss and varying depths of black muck. For the most part however, the black muck does not exceed one foot in depth. It is questionable for this section whether much advantage in ground conditions could be obtained by changing the line either to the North or South. At about Mile 12.9 a number of test holes were dug with the dozer. Four of these showed good gravel and six no gravel. Along this mile there were several indications of gravel. For purposes of estimating gravel costs it has been assumed in the accompanying estimates that gravel in sufficient quantities can be obtained in this vicinity although there was not sufficient prospecting done to prove this. However, it is believed that the indications were sufficiently favorable to warrant this assumption. If this is wrong however, gravel costs on the section between Mile 10 and Mile $14\frac{1}{2}$ will be considerably higher. From Mile 13 to Mile 16 ground conditions are similar to the previous 5 miles. A swing to the North will be necessary to avoid a lake in Mile 15. After this swing is made the line should then continue due West again to connect with a small draw leading to Tolsona Creek.

Methods Recommended for Construction

There appears to be no problems of construction on this 16 miles that are different from what we have already handled on other work. Average costs of grading should be much less than on ground like that between Gulkana and Sourdough or between Mile 6 and Mile 30 on Route 65A. One great advantage in handling this ground is that the surface is uniform and, to a much greater degree than on the sections above mentioned, the depth of muck on top of the clay is also uniform. While it is important that this ground should be stripped and graded on the frost this characteristic of uniformity will permit much more rapid construction than where the surface is cut with small gulches in which a deep accumulation of black muck is often found. Very little end haul work will be necessary over the entire 16 miles. Also the drainage problem will not be serious, in fact, very little water was found crossing the location and where it was found it was sometimes flowing North and sometimes South. If hand clearing and burning is necessary the costs for this feature of work will be high. Stripping costs, however, should be low if the work can be done during May, June and early part of July. Except for Moose Creek, bridge costs will be negligible. Gravel costs should average less than on either the highway or the Nabesna Road as the haul should be shorter. To obtain low construction costs it is important that work start early in the spring with sufficient equipment to handle the stripping and grading on the frost.

Comparison of Proposed Routes to Mendeltna Creek

While Woods' reconnaissance report on the South side of the Tazlina shows more favorable ground there I do not believe that the difference is sufficient to justify the construction of a bridge across the Tazlina River below the lake, particularly if a direct route can be followed from the Tolsona Crossing to the Mendeltna. On October 22nd I flew over the line from the highway to 13 Mile, where the crew was then working. We then continued on a course approximately due West for about 3 miles past Tolsona Creek then swung slightly to the South of West and headed directly for Tahnetta Pass. We continued on this course until opposite the lower end of Tazlina Lake and then turned South to the lake. From the lower end of the lake we took a course directly back to the proposed Tolsona Crossing. On this trip we flew very low and I was able to observe ground conditions fairly well. The area West of the proposed Tolsona Crossing is burned over for several miles. It is slightly undulating and I believe it is somewhat similar, though perhaps not quite so favorable, as the ground in the Kenny Lake region. From the lower end of Tazlina Lake to the proposed crossing on Tolsona Creek the ground for the most part is covered with green timber. Very little poplar or aspen was observed on this section. I believe that the Northern Route proposed by Sterling should be taken if at all feasible and for the first 10 miles after passing Tolsona Creek I am convinced there is little doubt but that it offers de-

cidely the best ground. The following is an estimate of construction costs by the mile on the preliminary location to Tolsona Creek.


Mile 1:	Clearing, 10 Acres @ \$100	\$1,000
	Stripping, 10 Acres @ \$40	400
	Grading and Ditching	1,500
	Graveling, Average Haul 1 mile, 3,000 yds. @ 80¢	2,400
	Metal Culverts, 100 ft. @ \$3.00	300
		<u>\$5,600</u>
Mile 2:	Clearing, 10 Acres @ \$100	\$1,000
	Stripping, 10 Acres @ \$40	400
	Grading and Ditching	1,500
	Graveling, Average Haul .3 mile, 2,000 yds. @ 60¢	1,200
	Metal Culverts, 100 ft. @ \$3.00	300
	Trestle Bridges, 12 ft. @ \$15.00	180
		<u>\$4,580</u>
Mile 3:	Clearing, 10 Acres @ \$150	\$1,500
	Stripping, 10 Acres @ \$40	400
	Grading and Ditching	1,500
	Graveling, Average Haul .4 mile, 2,500 yds. @ 60¢	1,500
	Metal Culverts, 100 ft. @ \$3.00	300
	Steel Span, 60 ft. @ \$60.00	3,600
		<u>\$8,800</u>
Mile 4:	Clearing, 10 Acres @ \$120	\$1,200
	Stripping, 10 Acres @ \$40	400
	Grading and Ditching	1,500
	Graveling, Average Haul 1 mile, 3,000 yds. @ 80¢	2,400
	Metal Culverts, 100 ft. @ \$3.00	300
		<u>\$5,800</u>
Mile 5:	Clearing, 10 Acres @ \$100	\$1,000
	Stripping, 10 Acres @ \$40	400
	Grading and Ditching	1,500
	Graveling, Average Haul 1.7 miles, 3,000 yds. @ \$1.30	3,900
	Metal Culverts, 100 ft. @ \$3.00	300
		<u>\$7,100</u>
Mile 6:	Clearing, 10 Acres @ \$100	\$1,000
	Stripping, 8 Acres @ \$40	320
	Grading and Ditching	1,500
	Graveling, Average Haul .7 mile, 4,000 yds. @ 70¢	2,800
	Metal Culverts, 100 ft. @ \$3.00	300
		<u>\$5,920</u>

Mile 7:	Clearing, 10 Acres @ \$240	\$2,400
	Stripping, 10 Acres @ \$50	500
	Grading and Ditching	1,500
	Graveling, Average Haul .3 mile, 2,500 yds. @ 60¢	1,500
	Metal Culverts, 100 ft. @ \$3.00	300
	Trestle Bridges, 12 ft. @ \$15.00	180
		<u>\$6,380</u>
Mile 8:	Clearing, none	
	Stripping, none	
	Ditching	\$1,000
	Graveling, Average Haul .6 mile, 6,000 yds. @ 80¢	4,800
	Metal Culverts, 100 ft. @ \$3.00	300
		<u>\$6,100</u>
Mile 9:	Clearing, 5 Acres @ \$100	\$ 500
	Stripping, 8 Acres @ \$50	400
	Grading and Ditching	2,000
	Graveling, Average Haul 1.6 mile, 5,000 yds. @ \$1.10	5,500
	Metal Culverts, 150 ft. @ \$3.00	450
		<u>\$8,850</u>
Mile 10:	Clearing, 6 Acres @ \$100	\$ 600
	Stripping, 8 Acres @ \$50	400
	Grading and Ditching	2,000
	Graveling, Average Haul 2.6 miles, 4,000 yds. @ \$1.50	6,000
	Metal Culverts, 150 ft. @ \$3.00	450
		<u>\$9,450</u>
Mile 11:	Clearing, 10 Acres @ \$100	\$1,000
	Stripping, 10 Acres @ \$50	500
	Grading and Ditching	2,000
	Graveling, Average Haul 2.5 miles, 4,000 yds. @ \$1.50	6,000
	Metal Culverts, 150 ft. @ \$3.00	450
		<u>\$9,950</u>
Mile 12:	Clearing, 8 Acres @ \$100	\$ 800
	Stripping, 10 Acres @ \$50	500
	Grading and Ditching	2,000
	Graveling, Average Haul 1.5 miles, 5,000 yds. @ \$1.10	5,500
	Metal Culverts, 150 ft. @ \$3.00	450
		<u>\$9,250</u>
Mile 13:	Clearing, 10 Acres @ \$120	\$1,200
	Stripping, 10 Acres @ \$50	500
	Grading and Ditching	2,000
	Graveling, Average Haul .5 mile, 4,000 yds. @ \$1.00	4,000
	Metal Culverts, 150 ft. @ \$3.00	450
		<u>\$8,150</u>

Mr. Ike P. Taylor

Page 6

Mile 14:	Clearing, 10 Acres @ \$100	\$1,000
	Stripping, 10 Acres @ \$50	500
	Grading and Ditching	2,000
	Graveling, Average Haul .6 mile, 4,500 yds. @ \$1.00	4,500
	Metal Culverts, 150 ft. @ \$3.00	<u>450</u>
		\$8,450
Mile 15:	Clearing, 6 Acres @ \$100	\$ 600
	Stripping, 10 Acres @ \$50	500
	Grading and Ditching	2,000
	Graveling, Average Haul 1.8 miles, 4,500 yds. @ \$1.25	5,625
	Metal Culverts, 150 ft. @ \$3.00	<u>450</u>
		\$9,175
Mile 16:	Clearing, 7 Acres @ \$100	\$ 700
	Stripping, 10 Acres @ \$50	500
	Grading and Ditching	2,000
	Graveling, Average Haul .8 mile, 4,500 yds @ \$1.00	4,500
	Metal Culverts, 150 ft. @ \$3.00	<u>450</u>
		\$8,150
	Total for 16 Miles	\$ 121,705.00
	Surveys and contingencies 10%	<u>12,170.00</u>
		\$ 133,875.00


R. J. Shepard,
Superintendent

RJS wpc

Encl. 1 Report
1 Map

UNITED STATES
DEPARTMENT OF THE INTERIOR

ALASKA ROAD COMMISSION
Valdez
~~INDIAN~~, ALASKA

November 12, 1940

Mr. R. J. Shepard
Superintendent, A. R. C.
Valdez, Alaska

Dear Sir:

The following is a report of a walking reconnaissance of the route from Mile 105 on the Richardson Highway to Tazlina Lake and return to the top of Tazlina hill at Mile 109.5.

Purpose of the Trip:

To secure a first-hand knowledge of the general ground conditions on the south side of Tazlina River to the mouth of Tazlina Lake.

Description of route followed:

Mile 0 to 1 1/8. Followed a southwest course for 1 1/8 miles, climbed two gravel benches of 50 and 60 feet. Most of area was burned over approximately 20 years ago, although crossed two small patches of spruce up to 16 inches in diameter. All good dry ground. Suitable gravel for road surfacing can be found.

Mile 1 1/8 to 1 7/8. Continued on a southwest course from the top of the bench on comparably flat ground for 3/4 mile and intersected with the old railroad survey line. Most of the ground has been burned over with small spruce now growing up. It is all good ground.

Mile 1 7/8 to 3 1/2. Followed the survey line 1 5/8 miles, course approximately north 80 degrees west. Ground has been burned over small spruce now growing. All good ground except across 500 feet of swamp.

Mile 3 1/2 to 5 1/8. Followed survey line 1 5/8 miles. All of the line is on a gradual ascending grade. Crossed a creek that would require a 4 foot culvert. Bottom of creek not more than 4 feet below the surrounding country. No sign of gravel in creek bottom. 3/4 of a mile of good ground, rest fair.

Mile 5 1/8 to 5 5/8. Followed survey line 1/2 mile over grassy swamp.

Mile 5 5/8 to 7 5/8. Continued on survey line 2 miles. Small spruce, Poplar and Willow growing. Ground is good. Dry clay; light moss on surface. 500 feet of grassy swamp.

Mile 7 5/8 to 8 5/8. Continued on survey line 1 mile, across two short swamps and a lake that is 200 feet across on line. Best to be 150 feet north of line at outlet of lake, where a 30 foot bridge would be required. There are two pot-holes past lake each about 50 feet across. There is a 5 foot clay bank around lake, and no sign of gravel. At mile 8 5/8 a creek is crossed requiring a 22 foot bridge.

Mile 8 5/8 to 9. Continued on line 3/8 mile which crossed a lake 150 feet across and 300 feet of swamp. Rest fair going.

Mile 9 to 10 1/4. Continued on survey line 3/4 mile over grassy swamp with very little water, and 1/2 mile of fair going over burned-over area. If the line were located 1/2 mile south at the swamp the distance across would only be about 1/4 mile, while north of the line it widens out rapidly.

Mile 10 1/4 to 12 1/2. Continued on line through small spruce 2 1/4 miles. The moss is deep. The line is on a gradual ascending grade, and there is water running down the line in several places. At mile 12 the first definite sign of good gravel was noted on the surface. It seemed to extend over a wide area.

Mile 12 1/2 to 16 1/8. Continued on line 2 miles over burned-over area. Frequent gravel showings. All good ground. The following 1 5/8 miles were through small spruce with fair going on a gradual ascending grade.

Mile 16 1/8 to 16 7/8. We lost the survey line at mile 16 1/8. As the grade at this point was about 3 per cent, I believe that from some point further back on the line there must have been a slight angle point to the right, which we did not find. From mile 16 1/8 to 16 7/8 which is Nickell creek we kept on a course which was about south 85 degrees west. From mile 16 1/8 we kept climbing on about a 3 per cent grade for not to exceed 1/8 mile. From there we started down on about a 2 per cent grade to Nickell creek. There is no draw to cross and a 30 foot bridge would be sufficient. No gravel can be seen in creek bottom. The ground is fair.

Mile 16 $\frac{7}{8}$ to 17 $\frac{7}{8}$. The ground is mostly swampy with a few scattered spruce.

Mile 17 $\frac{7}{8}$ to 19 $\frac{5}{8}$. Continued in nearly a due west course $1\frac{3}{4}$ miles, crossed an occasional small swamp, scattered spruce and parts burned over. Signs of good gravel on surface in a couple of places.

Mile 19 $\frac{5}{8}$ to 22 $\frac{5}{8}$. Followed a course which was about south 85 degrees west for 3 miles. $1\frac{1}{2}$ miles of swamp $1\frac{1}{2}$ miles of fair going. Looks like it is possible to miss most of the swamp by being $\frac{1}{4}$ mile south. At mile 22 $\frac{1}{2}$ a creek that flows out of a lake $1\frac{1}{2}$ miles long is crossed 400 feet below the outlet of the lake. A 22 foot bridge would be required. Rocks in bottom of creek.

Mile 22 $\frac{5}{8}$ to 24 $\frac{3}{8}$. Took a course that was about southwest along the west bank of the lake for $1\frac{3}{4}$ miles. All good going, some big timber up to 14 inches in diameter. Good gravel bank on lower end of lake.

Mile 24 $\frac{3}{8}$ to 26 $\frac{1}{4}$. Took about a due west course for $1\frac{7}{8}$ miles. None of the country has been burned over and there are spruce up to 16 inches in diameter. The moss is deeper than it has been. Crossed 3 or 4 small swamps.

Mile 26 $\frac{1}{4}$ to 28 $\frac{1}{8}$. Kept on about the same course around 3 or 4 small lakes, and through spruce up to 16 inches in diameter. Mostly fair ground around lakes and in timber. At mile 28 $\frac{1}{8}$ the trail is on a ridge, and the lake can be seen for the first time. Gravel on ridge.

Mile 28 $\frac{1}{8}$ to 30. Kept on about a northwest course to a point on the Tazlina river about one mile below the outlet of the lake. All down hill from mile 28 $\frac{1}{8}$ to river crossing. Small spruce and deep moss all the way down to the river. The water in the river was much higher than usual, and it was about 400 feet across at a suitable crossing.

We returned on the same route to Mile 10 $\frac{1}{4}$. At mile 10 $\frac{1}{4}$ we left our line and followed a trail that headed for the top of the Tazlina hill. The first $1\frac{1}{2}$ miles were over a grassy swamp. One creek was crossed that required a 30 foot bridge. From there to the top of Tazlina hill a distance of $6\frac{1}{2}$ miles, 5 miles good going, 1 mile fair going and $\frac{1}{2}$ mile swamp. Mostly Poplar and scattered spruce. Gravel can be seen on the surface in several places.

A route recommended for the south side would leave the highway near the top of the Tazlina hill and intersect with the Railroad survey line somewhere on the swamp between Mile 9 and 10 1/4, and from there would follow approximately the line traversed to the Tazlina river.

Summary of Ground Conditions on recommended route

3	Miles of good ground on gravel
6	Miles of dry ground in clay and light moss. Has been burned over.
7	Miles of fair ground in scattered spruce, clay under 6 inches to a foot of black dirt.
6 1/2	Miles of Poor going in deep moss scattered spruce.
5 1/4	Miles of swamp.
<u>27 3/4</u>	Total miles on recommended route

82 feet of wooden trestle bridges


Ben Woods
Transitman

C R O S S R E F E R E N C E

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Record Group Number 30

Record Group Title Bureau of Public Roads

Agency Dept. of Commerce

Major Subdivision (if any) Alaska Road Commission

Minor Subdivision (if any) Juneau, AK

Record Series Title & Date(s) Program Planning & Research Correspondence 1894(?)--1958

Box Number 1

Folder (Office File Code/Title) 620. Glenn Highway 1940 Survey

Location (in stacks) (row/unit/shelf): 10 / 05 / 09 / (2)

REFILING INFORMATION (Materials from the above box has been removed and refiled at the following new location:

Cabinet 23-20 Drawer 08 Folder Box 1

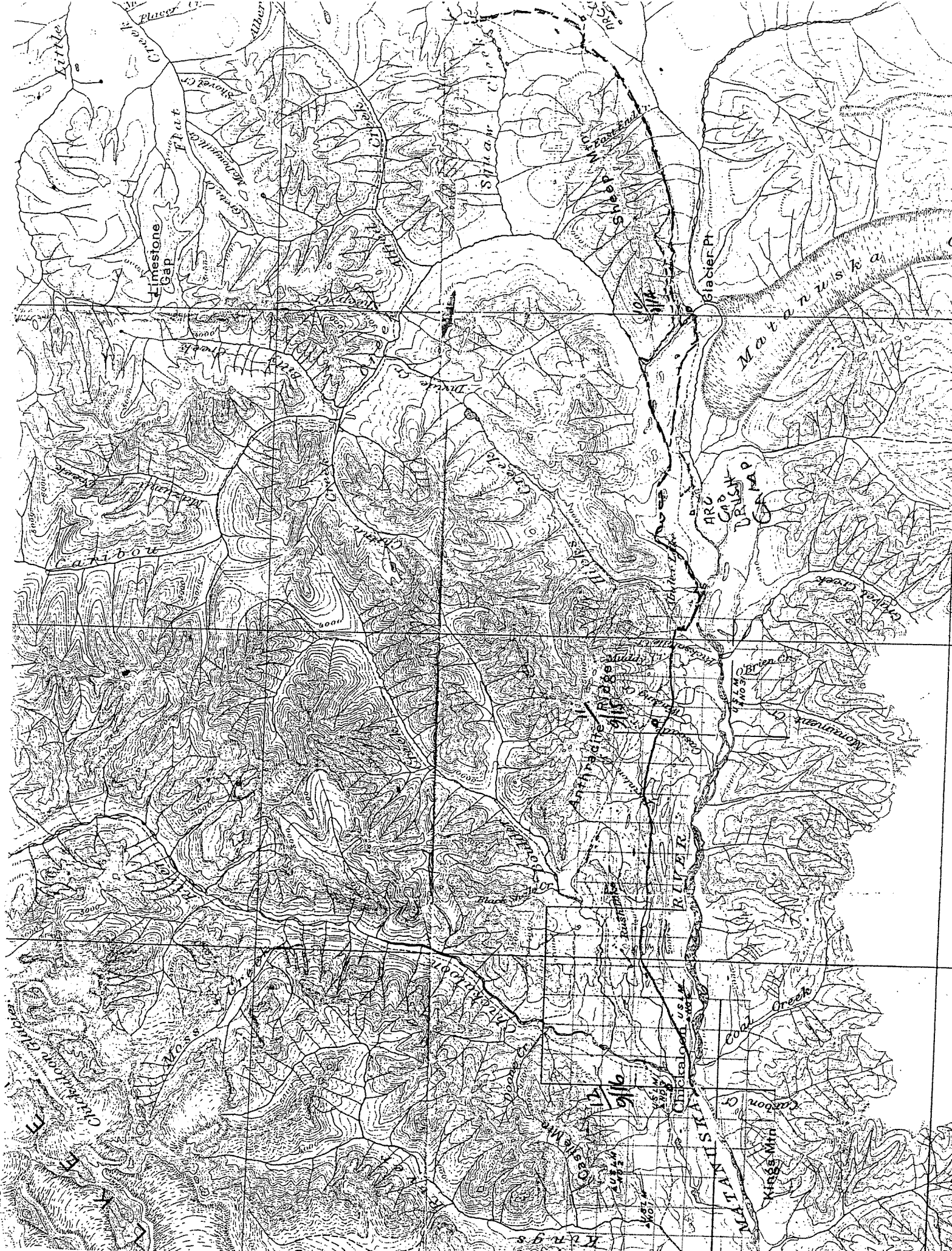
Location (in stacks) (row/unit/shelf): 10 / 05 / 09 / (2)

Type of documents (circle one): map(s), drawing(s), photograph(s), or other (describe below)

Full Title/Description: Projected Route from Mile 105 on Richardson Highway to Tazlina Lake

DATE: _____

USGS Quadrangle Name _____ & Block Number: _____



Limestone Gap

Slabier Pt

ARC GAP

ARC GAP

Chickaloon

MOUNTAIN STATE R.R.

KING'S MOUNTAIN

Carbon

King's Mt

Little

Place

Flat

Limestone

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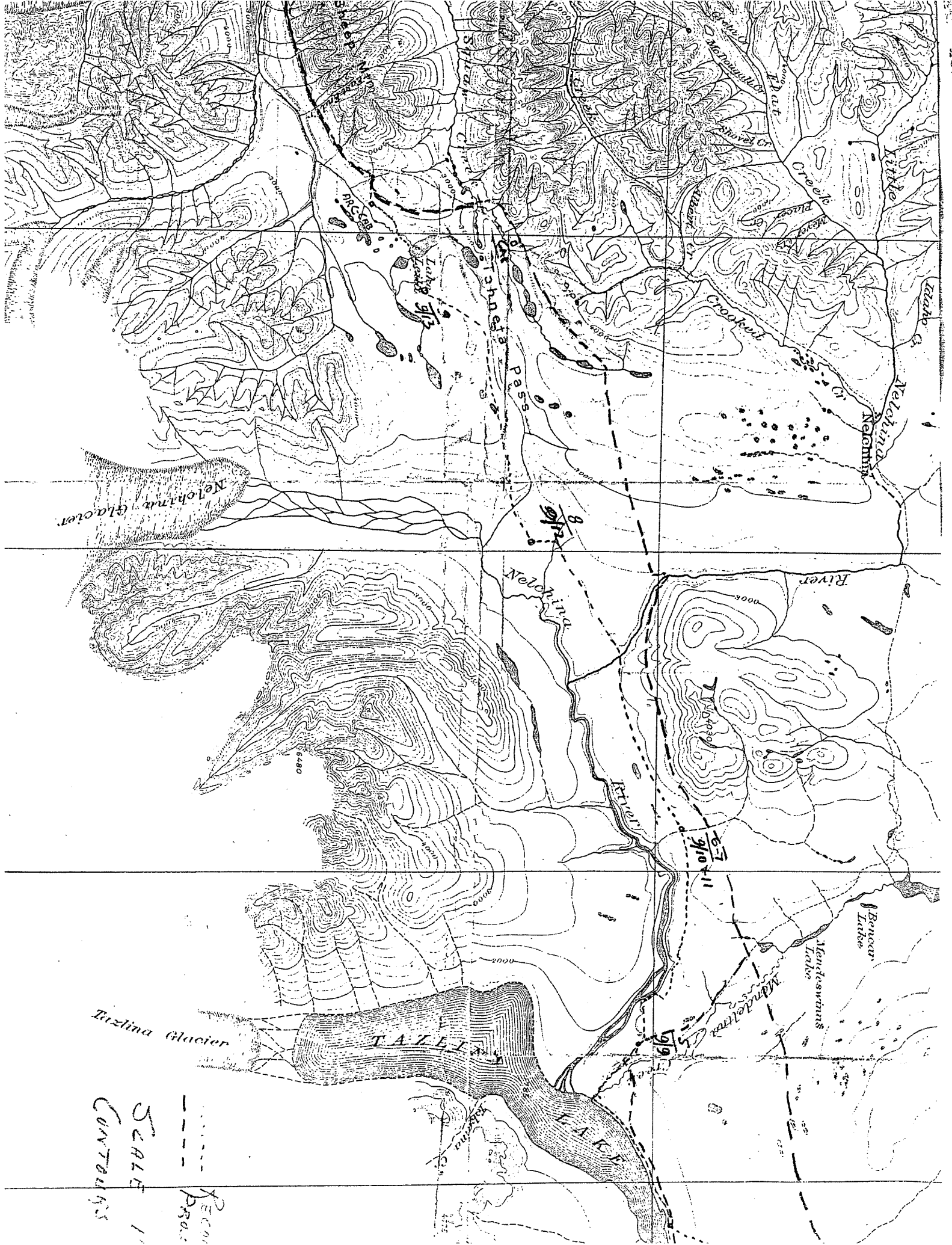
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Nelohina Glacier

5480

TAZLINA

8

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Tazlina Glacier

SCALE 1'

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--- Pass

Nelohina
Nelohina

River

Boncum
Lake

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Nandolter

Shore Cr.

Shore Cr.

Crooked Cr.

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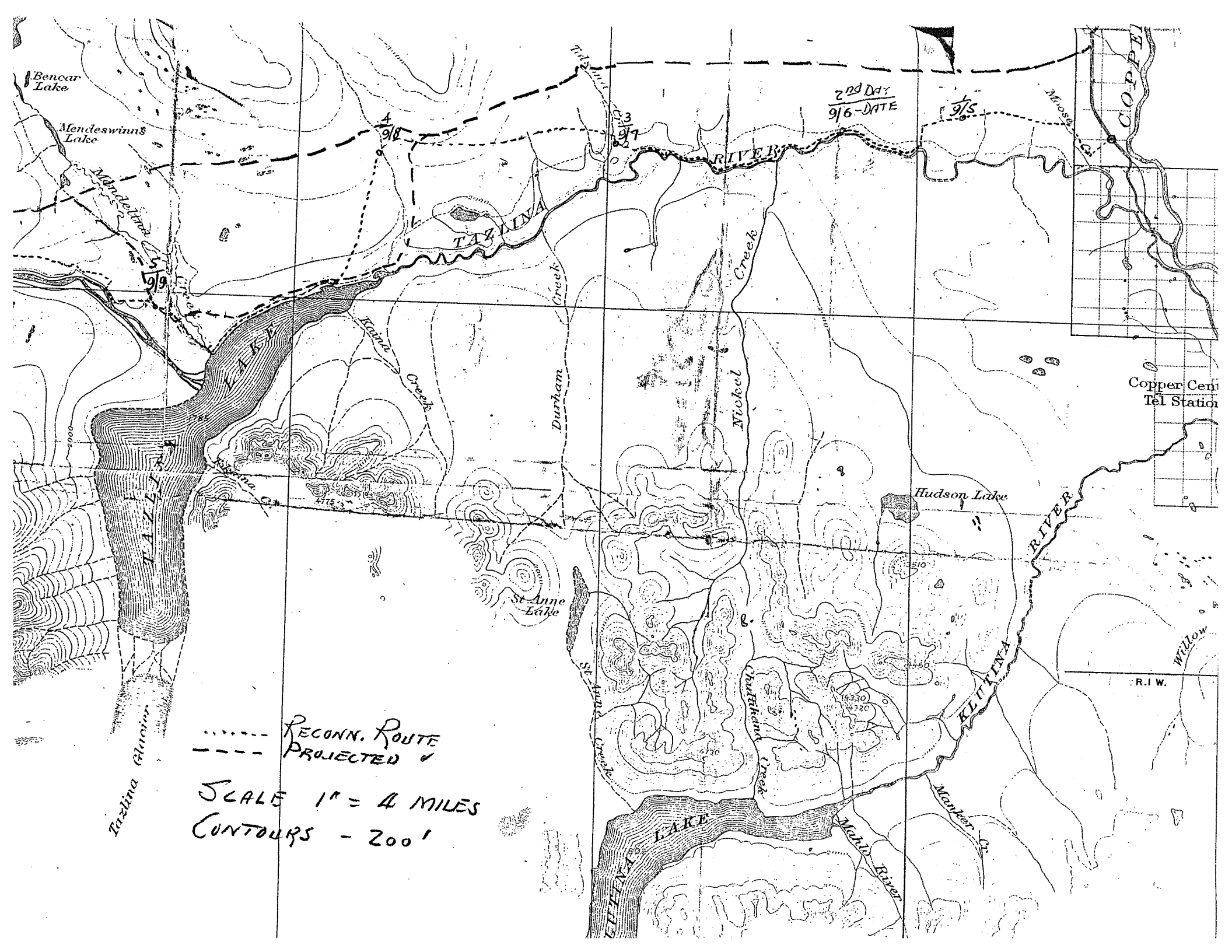
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Bencar Lake

Mendeswinns Lake

TAZLINA RIVER

TAZLINA RIVER

COPPER RIVER

Copper Cent
Tel Station

Hudson Lake

St Anne Lake

GITTEN LAKE

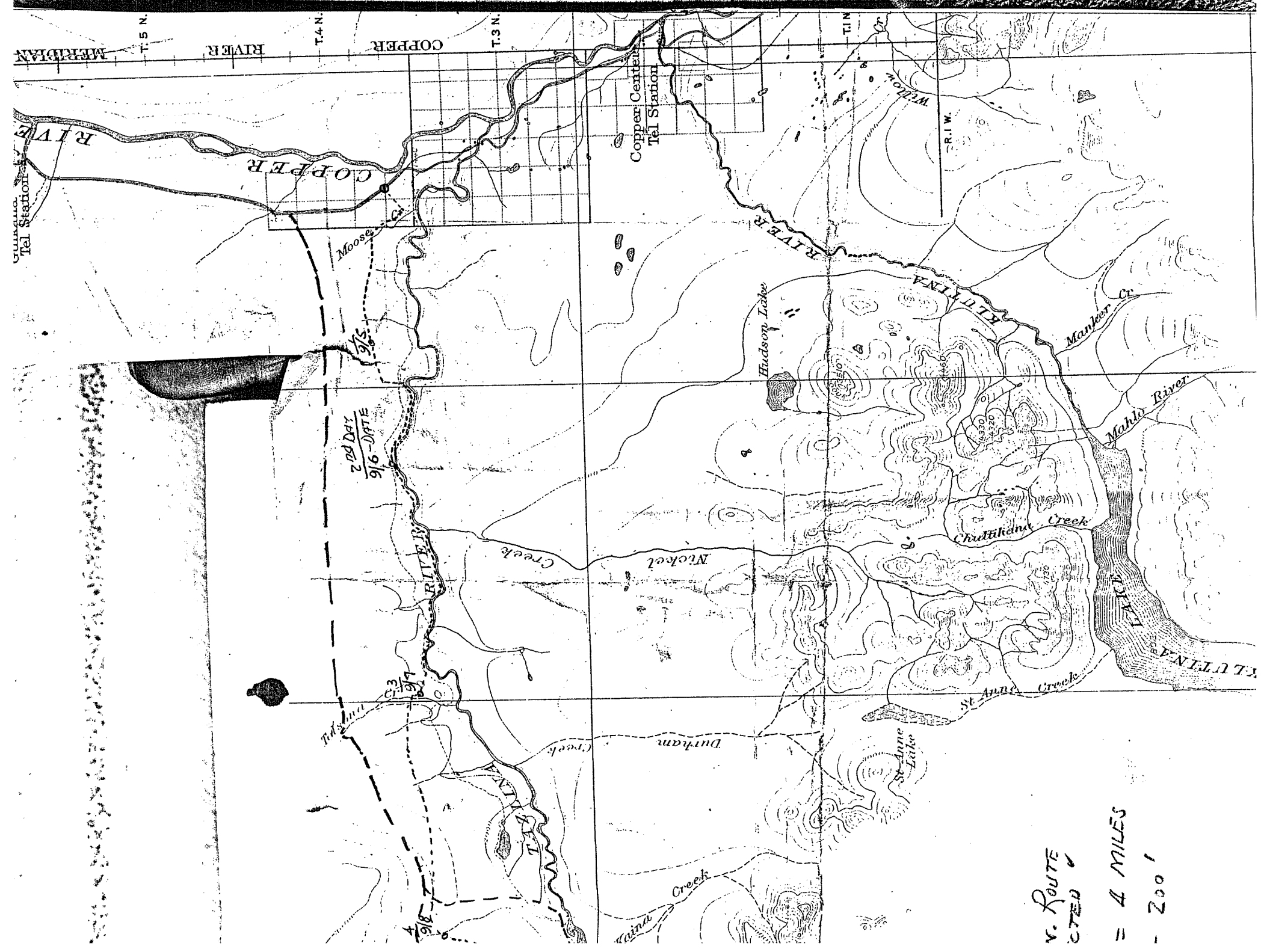
TAZLINA RIVER

..... RECONN. ROUTE
- - - - - PROJECTED

SCALE 1" = 4 MILES
CONTOURS - 200'

Tazlina glacier

R.I.W.



V. ROUTE
CTED ✓
= 4 MILES
- 200'

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