June 5th, 1923
518 - 14th Ave. North,
Seattle, Wash.

Dear Mr. Shaw:-

You asked me to give you some late facts about the Innoko Country in Alaska.

The Flume Dredge Company has a 2-1/2 cu.ft. dredge working on Yankee Creek. This dredge is rumored to have taken out well over $100,000.00 last season. This same company has another dredge already installed on Little Creek, nine miles to the West of Yankee Creek. They expect to operate this coming summer.

The Union Construction Company, through the Innoko Dredging Co., have a 3-1/2 cu.ft. bucket stacker dredge on Gaines Creek which will start digging by the first of July. This dredge is on No. 6 above Discovery and will dig down-stream. The Union Construction Company own or control from Discovery to No.12 inclusive on Gaines Creek.

From No.13 to No.23 inclusive Reed and Glass have under option. Careful prospecting on this latter ground has revealed a pay streak of atleast 300 ft.wide averaging in value over $1.00 per yard. The depth to bedrock on these holdings averages 9 ft. On lower Gaines Creek the depth increases to about 20 ft. Reed & Glass will ship in a 2-1/2 cu. ft.flume dredge this summer for their ground and will be operating by the middle of June, 1924. They estimate they will clear atleast $100,000.00 per season from their operation, or $1,000.00 a day, and that there is on a conservative estimate a million and a half dollars in their proposition with eleven or twelve years work.

About 30 miles SE of Gaines on the Candle Creek in the Kuskokwim water-shed, the Aikins & McKinnon dredge is rumored to have taken out about $800,000.00 last season. It is rumored that the Flume Dredge Company are intending to install still another dredge on lower Yankee Creek. The Flume Dredge Company is also building a hydro-electric plant on Yankee Creek, intending to supply their dredges on that creek with electric power and also their dredge on Little Creek and the dredges which may operate on Gaines Creek. This power will be supplied to all the dredges by the summer of 1925.

The Flume Dredge Company has built a good road from Takotna to No.8A above on Yankee Creek and from thence there is a winter road built over to Gaines. It is rumored that the road commission will take over this road and finish it for summer hauling atleast as far as Gaines Creek by the summer of 1924. Transportation difficulties are the main draw-back in this country. Freight comes by ocean vessel as far as Bethel on the Kuskokwim River, thence by River Steamer as far as McGrath, thence by scows to the Forks on the Tacotna River, where it is hauled by horse teams or tractors to Yankee or Gaines Creek, a distance of 12 miles, or GainesCreek, a distance of about 15 miles.

Seattle to Bethel	$28.00	a ton
Bethel to Fork on Tacotna	28.00	"
Forks to Tacotna	15.00	"
Tacotna to Gaines Creek	45.00	"
	116.00	

June 21st, 1923

2081 L.C.Smith Bldg.,
Seattle, Wash.

Mr. Karl Thiele,
U. S. Surveyor General,
Juneau, Alaska.

Dear Sir:-

Your letter of June 11th, 1923, is at hand. I am leaving for Nome on July 5th and will arrive there July 13th. If you should come to a decision on the Kaltag-Unakakleek Portage Road, I can leave for such survey immediately as soon as I get to Nome and on receipt of notice of my appointment from you.

Very truly yours,

U. S. MINERAL SURVEYOR

Fairbanks, Alaska.
October 17, 1930.

Gentlemen:

LITTLE SQUAW GOLD MINES.

The Little Squaw Group of gold mines, owned by your Company, is situated at about Latitude 68° North, Longitude 148° West, in the southern foothills of the Brooks Range of Mountains, which are a westerly extension of the Rocky Mountains of North America.

The Little Squaw Group consists of nine Lode Mining Claims, seven of which are patented, and located on the divide between Little Squaw Creek, and Big Squaw Creek, in the Chandalar Mining District, Alaska. These Creeks are tributaries of the North Fork of the Chandalar River, which flows South to the Yukon River, a little above the Town of Beaver.

GEOLOGY.

The country rock is a schist, which forms a belt of about 20 miles wide, running East and West, parallel to the Brooks Range. The lodes are true fissure quartz veins, with a general strike East and West, due to the intense folding of the country rock from a North-South thrust. These veins appear to be persistent, and should go to great depth.

CLIMATE.

The Little Squaw Gold Group of nine lode mining claims are situated at an altitude of about 3,500 feet above sea level. Snow at this altitude begins in the Autumn and stays on the ground until late in the Spring. The precipitation, however, is so light that the total accumulation does not exceed three feet. It is a well known scientific fact that high elevation, in Northern Alaska, as in all sub-arctic regions, means less extreme temperatures, than in the valleys. Thus, at the Town of Beaver, on the Yukon River, 100 miles South of the Chandalar, at an elevation of only 400 feet above sea level the Winter temperature is much colder than the lowest ever reached at the Little Squaw Gold Mines. This is because the cold air, being heavier than the warm air, settles in the valleys, while the warm air currents from the South circulate over it, just as though it were a solid surface. This gives the valleys periods of intense cold in the Winter, while the plateaus are comparatively warm. The Summer season on these plateaus is comparatively cool, though Summer temperatures of 90° Fahrenheit have been recorded at Little Squaw Mines.

The general climate of the Chandalar Mining District, like all of Interior Alaska, has a low precipitation, and is exceedingly healthy, even common colds being rare.

TRANSPORTATION.

There is a Government Road from Beaver on the Yukon to the Little Squaw Mines, a distance of about 115 miles. The heavy freighting is now done during the Winter by individual miners with dogteams, horses, and tractors, being used only where a large amount of freight is to be handled.

The transportation in the future lies in the use of tractors. Tractors are used around Fairbanks in much deeper snow and under more adverse conditions, so there will be no difficulties experienced in the Chandalar. The Winter season then becomes a benefit as materials and provisions in the Summer can be shipped by water to Beaver, and then hauled by tractors to the Chandalar over a road that will be permanently in good condition.

A good pack horse road, with easy gradients, has been built by your Company, from your Mill Site to the Little Squaw Mines.

TIMBER.

There is plenty of timber for mining and building purposes in the District.

THE LITTLE SQUAW GOLD MINES.

The Little Squaw Gold Group lies near the Little Squaw Settlement, and is the one on which most of your development work has been done. The claims lie in a line east from Big Squaw Creek, over the divide, and across Little Squaw Creek, then over the next divide, and part way down the slope of McClellan Creek. It is from this group, and the Bonanza Gold Group, that the rich placers of Little Squaw Creek have been derived by erosion

On the Little Squaw Lode Claim there is a strong ore shoot, which has been trenched here and there for a distance of over 2,000 feet. The vein averages about four feet in width, strikes East and West, and the walls are strong and well defined, with a slight upturning, demonstrating great pressure from below in its formation.

On the Little Squaw Lode Claim there is a strong ore shoot, which has been trenched here and there for a distance of over 2,000 feet. The vein averages about four feet in width, strikes East and West, and the walls are strong and well defined, with a slight upturning, demonstrating great pressure from below in its formation.

A tunnel called Tunnel No. 1, about 100 feet below the surface, has been run on the vein a distance of about 200 feet. Another tunnel, called No. 2, about 200 feet below the portal of Tunnel No. 1, is being run to develop the mine at greater depth. There is an upraise from the first tunnel to the surface, and a winze has been put down from the centre of this tunnel about 68 feet - all in ore which will average better than $50 a ton on the mill plates.

It is estimated that you now have developed, on this Group, what may be considered as "known ore" 1,200 feet in length, by 300 feet in depth, by four feet in width, which equals 1,440,000 cubic feet, which divided by 14 cubic feet to the ton, equals over 100,000 tons, which at $50 a ton approximates $5,000,000.

There are shoots of high grade free milling gold ore in the Little Squaw Vein averaging better than $1,000 to the ton.

THE BONANZA GOLD GROUP.

The Bonanza Gold Group, consisting of six lode claims, three of which are patented, lies about three quarters of a mile South of the Little Squaw Group, extending over the Divide between Big Creek and Little Squaw Creek. Considerable development work has been done on these claims, and the vein is similar to the vein on the Little Squaw Group, but wider and in places richer. Near the West end line of the Eneveloe Lode Claim there is a large outcrop of white quartz, more than nine feet wide, in which specks, here and there, of free gold can be seen.

A tunnel is being run from the base of this outcrop, and the vein has been trenched for 1,500 feet by open cuts, and shallow surface workings. In breaking up any of the vein rock free gold is found. The vein can be easily traced on the Bonanza and the Golden Eagle Claims.

The Bonanza Gold Group in the opinion of mining experts is going to make a rich gold mine, and that is the judgment of every mining man who has seen it.

THE FOUR STAMP MILL.

Your Company also owns a big four stamp Allis-Chalmers Mill, which is being installed. The Mill has a capacity of 25 tons a day, and is so arranged that additional stamps can be added as desired. When the Mill starts it should work about 25 tons a day, which at $50 a ton equals about $1,250 a day, or about $400,000 a year. If some of the known high grade free milling gold ores were milled at the beginning your Company would immmediately be placed on a substantial profit making basis.

Fairbanks, Alaska

June 1st, 1932

Mr. G. A. Collins,
Collins Engineering Company,
200 Pine Street,
San Francisco, Calif.

Dear Mr. Collins:-

Your letter of May 16 came on the last mail. Your son left down river with Cy McGann in a small boat about three weeks ago. He intended stopping for a week or ten days while going over the Yukon-Kuskokwim portage to hunt muskrats--probably picking up enough skins to pay his expenses.

In answer to your question, the post office at Bethel will cash money orders. There is no regular post office at Muntrak on Goodnews Bay. However, I think Joe Jean, the trader at that place, would cash any money order sent to Grenold. By the time this reaches you, I think Grenold will have passed through Bethel. However, you might wire there with a request that the telegram be forwarded, so that whenever a boat left Bethel for Muntrak, your message would go with the mail. At that, a letter might reach him just as quickly as a wire.

Grenold is a very good outdoors man and a good worker. He grows on one the more you know him and realize his good qualities. I liked him very much and was glad to help him out what little I could.

The Goodnews Bay platinum fields lie in about the only really unprospected part of Alaska, with quite good possibilities in both gold and platinum. There is a possibility that Red Mountain, from which all the placer platinum so far found in commercial quantities, comes, may carry sufficient metal for lode mining. I had pieces of

peridotite given me by the miners in which chunks of platinum as large as a dime showed all over the surface. (For further details you could send to the Territorial Mining Department at Juneau, for my report and maps.)

Very briefly, Grenold's scheme was to get a lease on a producing creek, or to prospect on the beach or on some of the unprospected creeks flowing from Red Mountain. It is quite probable he can make much more by doing this than by working driving points for wages at Fairbanks--besides holding his own self-respect. During his leisure he intends staking Red Mountain across the heads of the producing creeks (about 5 miles) as a lode proposition. He will then send a sample from each claim to me at Fairbanks to be assayed. I will then telegraph him at Bethel the results and whether the claims are worth recording. If things look fairly good, it will be a diamond drilling proposition to test the total mineralization of the mountain.

In regard to any unusually good gold mining deal for your clients. I suppose all of us up here are hunting for just that very thing. At present we are in the very first stages of gold lode development. What we need is a prospecting company--not a mining company. The present large company in here is strictly on the mining side. Their engineers are too timid to lay out a prospecting campaign and seem anxious to retard rather than develop new properties. My experiences has been mainly with placer. However, I think this Fairbanks district has great gold lode possibilities. I would like very much to see you up here making an examination of this field. I know nothing of the possibilities south of the Alaska Range, but am as familiar as anyone I know of the two-thirds of Alaska north of the range, and would be pleased to furnish you any data which I have.

In regard to placer possibilities, I know of five dredging propositions, three quite large, and one quite large hydraulic proposition. However, it would take considerable money to investigate and drill these. If you should ever come to Fairbanks, I would be pleased to go over the reports on these placer possibilities with you.

Very truly yours,

Box 1972,
Juneau, Alaska
November 14, 1956

Mr. Maurice T. Johnson, Attorney at Law,
316 Chena Bldg.,
Fairbanks, Alaska.

Dear Maurice:

I received your letter a couple of days ago on returning from Ketchikan. I wish to thank you for the trouble you took in procuring the precinct votes for me.

Some of the places where I had done a lot of work, like Aniak and Nenana certainly surprised me, particularly Nenana after I had made the Nenana road a reality, something they had been asking for for many years. However, as a whole, I feel very greatful to the Fourth Division. I was pretty sure that I would get the Nome road and the road from Fairbanks to McKinley Park so far advanced on the Federal Aid agenda that they could not be changed after I left office. However, after the death of Morton Flint, I do not feel so confident. You may be sure though, that I will do everything in my power.

It is a funny thing, but I did not do badly in the 13 precincts of the city of Anchorage itself. I was only 100 votes behind. However, it was the small outlying towns where I had really put the economy of the community on its feet and planned to make them really self-sustaining, where I was beaten. Spenard, Cordova and Seward are those towns in particular that went against me and defeated me; where if they had sense of the economic work I had done, they would have been for me. However, there is a strong pink labor vote in all these places. They voted just as their labor leaders, who are supporting wholeheartedly the Demo regime. I do not think the road to Nome from Anchorage is feasible either economically or by the nature of the terrain. It is just one of those wild pipe dreams that Bob Atwood and some other Anchorage people dreamed up, including Harold Strandberg. It cannot be justified in any way.

Again I want to thank you for your letter. It is most heartening to feel that your efforts have been appreciated and that I have some friends left.

With kindest regards, I am,

Very truly yours,

March 11, 1957

Mr. Walter R. Hermansen, Member,
Thane Road Extension Committee,
Juneau, Alaska.

Dear Mr. Hermansen:

Although I do not like to get into a controversy during my last day or so in office, Mr. A. F. Ghiglione's letter of March 7 to you is so misleading, that I feel I should answer it.

In the first place, Ernie Haugen has just been appointed and confirmed as Territorial Road Commissioner for the First Division and could not have any idea of what all this talk of the Thane Road is about nor how or by whom the road could be built. In fact neither Mr. Haugen nor myself as Territorial Highway Engineer and Chairman of the Board, have the authority together or singly to change one cent in the allotment as set up by the B.P.R. for roads under the Federal-aid Highway Act for Alaska. This law states: "The Federal funds apportioned to the Territory and the funds contributed by such Territory in accordance herewith may be expended by the Secretary of Commerce either directly or in cooperation with the Territorial Board of Road Commissioners of Alaska,-----" In other words the Secretary of Commerce can say where and on what roads Federal-aid funds will be spent with or without the approval of the Territorial Board of Road Commissioners, as he sees fit.

On February 20, 1957, the three remaining members of the Board, Mr. Dewey Goodrich of Nome, Mr. Charles Wilson of Nenana and the Highway Engineer, through the courtesy in Washington D.C. of Mr. C. D. Curtiss, Commissioner of Roads and representative of the Secretary of Commerce, were invited by the B.P.R. officials in Juneau to review the program already set up for the allotment of Federal-aid funds for the fiscal year 1958 (July 1,1957 to June 30, 1958). Noting an absence of any allotment for a start of the Thane road extension, I asked if funds could not be

allotted to it. But, although the Board was able to effect some minor changes in the program which it thought proper to the Westward, it was informed by Mr. Ghiglione that no money could be spared from the 1958 fiscal year allotments for this road. However Mr. Ghiglione stated that the north extension of Glacier Highway to Echo Cove and the south extension to Point Bishop was on the "Forest Highway System" and could be placed on the 1959 fiscal year (July 1, 1958 to June 30, 1959) program which would be set up later in the year. So we can still hope for action later.

This program for the allotment of funds on the Federal-aid Act for the fiscal year 1958 was placed in the minutes of the Territorial Board of Road Commissioners for the meeting of February 18-19-29, 1957. It was from copies of these minutes furnished the Juneau Independent and the Alaska Daily Empire that the setup of the allotment of funds was shown in the newspapers, and not from any formal announcement from the Territorial Highway Engineer or from the Bureau of Public Roads.

I had gone over very thoroughly the first mile of the Thane road extension and had allotted $50,000 of Territorial funds to start construction on the theory that, if the Territory started the work, the Federal Government would in time step in and finish it. I had considered that the $50,000 would possibly build a one-lane road a little over one-half mile. At a meeting of the Road Committee of the Juneau Chamber of Commerce held in the office of the Highway Engineer on February 5, 1957, Mr. Ghiglione stated that the $50,000 would build less than one quarter mile of one-lane road and persuaded the committee that no definite allotment of the $50,000 should be made at the present time on the Thane road extension, but the money should be held to help if needed on the Eagle River bridge. However, I wish to state here, this $50,000 is still in the Territorial kitty and can still be used on the Thane road extension this coming

summer if my successor in office, Mr. Frank A. Metcalf, sees fit.

Sincerely,

Irving Reed

Discovery of gold was made in Fairbanks District in the summer of 1902 and in the fall of the same year the prospectors and miners from Eagle, Dawson, and Forty Mile Districts followed the middle fork of the Forty Mile to the head of Healy River, thence down Healy River to Healy Lake and the Tanana River, followed the Tanana River to Walkmar Bluff, thence followed the Slough that was known as Walkmar Slough to the mouth of Good Pasture River and crossed the Tanana River and around the hill on the left limit of the Tanana River to the meadow and head of Little Clear Water, now known as Blue Creek, thence around Little Clear Water Creek on the south side to the Tanana River. The mouth of Little Clear Water is located about two miles eastward from the Tanana River at Bates Rapids. From the mouth of Clear Water the trail followed the left limit of the Tanana River to the place that used to be known at that time as McCarthy Roadhouse, established in 1902.

Three of the homesteaders claim the road as thier land and won't allow anyone to travel on it but they're using other patented land as a road to get to thier place.

Originally the trail from McCarthy Roadhouse by Clear Water and across Clear Water was used by prospectors, trappers, and the people who lived on the drainage of the Good Pasture River and had been used continouslyonn both sides of Clear Water. The army has improved it and has been using it for the last twenty years.

I.

Refering to Our Conversation wel I was in Anchorage last Spring and Your letter of March 29 Last, which I greatly Apreciate
I made a Several Trips by float plane from Eagle on the Yukon, Northern
End of Taylors Highway over Eagle Creek pass and Sheep Creek pass
and followed left limit of Ogilvie River the Branch that originates
at the ft of Mount Harper (this locality is unsurveyed and Uncharted)
we folowed this Branch Of Ogilvie to the forks and Crossed all the forks
and folowed main Ogilvie the left limit to the Small Chain of hills
about 20 Mile West of Ogilvie Canyon to avoid Ogilvie Canyon
and Crossing and Re Crossing Ogilvie River below the Canyon
this Chain of Hills Can be Crossed at the locality above Mentioned
thence we followed Small Valey that drains in to the Ogilvie River
this is head of Peel River. From here we folowed left limit of peel River
around Souther End of Richardson Mountains nett to peel River Canyon
thence folowed ft. Hills of Richardson Mountains East Side to a point
fifteen Mile west of Aklavik. on our way Back we crossed peel River
at the Mouth of Canabon River and followed Right limit of Peel River
crossing Snake River, Bonnet plume River - Wind River - about 7-10 Mile
westerly of the Mouth of Wind River we located the place on Peel River
that Crossing in Winter Can be made Shalow Rifle good aproch from
both Sides This is lower End of Pee River Canyon and the Mouth
of Small Creek that runs in to peel River from the South, Originating
from a Small Lake located about 5-6 Mile Southerly from peel River
From here we folowed Right limit of Peel River Crossing Hart River
and Black Stone River here Canadian Cat Train from Dawson

Crossing Sela pass and followed Black Stone River Crossed The Peel River here and followed Ridges to East porcupine they are Exploring for Oil. from Black Stone River we followed Right limit of peel River to the mouth of Ogilvie River we landed here on the River and Camped here this place is about 45 Mile below Ogilvie Canyon Flying time formation on peel River and Ogilvie Rivers is Lime Stone Shale and Slate. ~~The Creeks that flows into the~~
The Tributarys of peel River from the north and opposite peel River Canyon which is about in lenght from 10-15 mile long
are narow and deep and the ~~wont~~ Trail or Road Can be only built in Summer and crossing Can be made Close to the head of Each one and there is Several of them That was the reason that we were loking for the Crossing of peel River for Winter use from Right limit to left limit or Vice Versa The Timber on peel River and its tributarys is very light and in Spots. Mostly light growth of Spruse and Cotton Wood. East Side of Richardson Mountains are narow Creeks and gelches and only Sefely Can be Crossed Close to the head of Each one
I notice in Several places Slides or deep holes with Springs Indicating that Must be dangerous for Heavy Machinery
This is only on the East Side of Richardson Mountains between peel River and ~~ft~~ Hills I done this Work practisly on my own time hoping that I must Interest Alaska Freight lines to folow this Route in Fact the Alaska Freight lines is the only Civilian Outfit in the Interior not only present but the future will be benefited by them operating from here

I Recomended this Route To Alaska freight lines and they Excepted moved in Seneral D.8. and D. 9 Caterpilers Cross the Yukon on a Ferry and Build Winter Road up Eagle Creek and over Eagle Creek pass Elevation? . Thence down to Sheep Creek and Down Sheep Creek Canyon up Sheep Creek to the pass to Distance from Eagle to this Sheep Creek pas is About ? 60 Mile ? From here [page 4] for Some reason they followed high ground down Black Stone River partly thence Cross rest of the Streams to Snake River From there they will follow ft Hills Crossing the Streams that flows in To McKenzie River from the West Expecting to Reach Norman Wells.

Baseline Eventualy they be back on the Ogilvie and Peel Rivers as I Recomended for the reason this is Lower land no heavy Snow drifts and no Glacier or Over flow that Cant be Controled this information I got from Trapers prospectors and flyers who had Experience trough that Section

Also I have been told that Peel River is to Shalow for Sommer trasportation have to be under 30 inches. And in Winter not Safe for traveling on Ice. ~~River~~ in the Fall River freezes on high Water thence later Water Drops forming Shel Ice, all tho Can be Crosed Safely in Spots and this Spots Should be very Carefuly Inspected

This Road is very Expensive Undertaking for Alaska Freight lines
Cant See how they Can Come out Without Some finacial Assistance
I belive this Winter Road is good thing for the Country
Can be used in anny Capacity Just as it is in Case of Murgency

I have been told th by Some people who propes to have Experience
that the Road never Can be build and be of Use
bby Eagle Creek and Sheep Creek to the pass
But the Road is there with Some Improvements in Summer
Can be made ~~first~~ first Class Road. We Should give Credit to
Young Gehzzie he is good Man for the Country

I hope this is Starting point for the Road to the arctic
of Course would goe practicly aeross the Canadian Territory
all the Way to Demarcation point untill reaching Our Shores
of the Arctic

as a American Citizen I Cant help as Seeing Danger
from the Arctic

PRELIMINARY REPORT ON THE LONG CREEK DREDGING PROPOSITION

By Irving McK. Reed, November 1933

Long Creek is situated 29 miles south of Ruby, a small town on the Yukon River, on the Ruby-Poorman road and is a tributary of the Sulatna River. This in its turn is a tributary of the Nowitna River, a south confluent of the Yukon.

Long Creek heads in one of the highest hills of the Ruby district, known as the "Hub" or Hub Mountain. It then flows in an almost due south direction for about 9 miles where it turns sharply to the southeast for about 1/2 mile to its confluence with Bear Pup Creek. Long Creek then makes a sharp right-angled bend and flows southwest about 7 miles to its confluence with Ptarmigan Creek. Then the creek makes another sharp right-angled bend and flows southeast again about 6 miles to its confluence with Sulatna River.

Bear Pup Creek is a small left limit tributary of Long Creek. It heads in the flat-topped divide between Long Creek and Birch Creek and flows in a southwesterly direction for 3 miles, joining Long Creek about 9½ miles from its head.

It is on the lower end of Bear Pup Creek and on the southwest flowing part of Long Creek that the main placers of the Ruby District lie.

Long Creek, between Bear Pup Creek and Basin Creek, has a grade of about four tenths of one per cent (0.4%). Between Bear Pup Creek and Last Chance Creek the grade is about 1%. Lower Bear Pup Creek has a grade of about 1%.

The largest rocks from any mining operations seen on Long and Bear Pup Creeks were on No. 1 Bear Pup, where there was a tailings

pile about 15 feet high containing rocks up to 12 inches in diameter. The accompanying photograph shows the largest rock in this tailings pile. On the upstream side of the Grant Fraction several large surface boulders up to 3 feet in diameter were seen in the bed of Long Creek. These boulders have rolled down from a greenstone (basalt) point outcropping on the right limit at the northwest corner of the claim. No large boulders have been found anywhere in the gravels of the creek and this is the only spot where surface boulders were seen. They would not interfere with dredging operations.

Long Creek at one time supported a town, Long City, of about 1000 inhabitants. At present the population has shrunk to about a dozen people who eke out a more or less precarious living by mining on Long and the surrounding creeks. There is also a general store, hotel and restaurant where supplies and lodging may be purchased. The post office, situated in the hotel, was abandoned in 1933 at the request of the postmaster because of the lack of business. The town is connected by telephone with Ruby.

The Ruby Poorman road runs along the entire upper length of Long Creek as far as Rabbit Gulch, where it gradually angles away from the creek to cross the divide at the head of Snow Gulch. This is a fair dirt road and is used by automobiles and trucks in summer, and tractors in winter. The road has good gradients which could be improved in a few places by a little better engineering. It could be gravelled by the Alaska Road Commission at a cost favorably comparable to gravelling roads in the Fairbanks district. Once gravelled, it would make an excellent trucking road and would place hauling costs at a very reasonable figure for Alaskan conditions.

Freight rates from Seattle to Ruby are about the same, or a little lower, than those between Seattle and Fairbanks.

the creek to the present day. The Ruby district is described in U.S.G.S. Bulletins #578 and #754, the creek itself being more specifically described on pages 44 and 45 of #578 and pages 91 and 92 of #754.

The main country rock in which Long Creek lies is a light-colored greenish schist, which towards the intersection of Bear-Pup Creek and Long Creek is crossed by a band of harder greenstone of igneous origin. The creek and surrounding hills are below the 1200-foot elevation and are therefore heavily covered with muck and various alluvial deposits. The valley of the creek is asymetrical, the north side rising rather steeply in contrast to the south side, which ascends to the hills in a gradual slope. The present creek flows near the north side of the valley.

On the south side of the valley and paralleling the present creek and from 600 to 1000 feet south of it, is an old bedrock channel. The bedrock level of this channel is the same, or slightly below that of the bedrock in the present creek. Below the Novikaket Association, the old channel seems to swing towards the right limit near to and parallel to the present creek. Below Snow Gulch there seems to be another old channel at a somewhat higher level than the first. The first old channel continues up Bear Pup Creek to the upper end of the Courtney Bench where it swings rather sharply towards the right limit and coincides with the present Bear Pup Creek channel. Above Bear Pup Creek there is also an old channel on the left limit of upper Long Creek. On Discovery Claim this channel lies near the present creek channel but swings away on No. 1 Above. It has been traced for about 800 feet on the Dakota Association.

Mr Irving McK. Reed
Engineer Mining and
U S Gavernment Mineral Surveyor
Fairbanks. Alaska

Dear Sir

Would you be good enough to let me know. about what you think of the main Vein Fault. of the mine you surveyed and reported on for the Gavernment. as to when you surveyed the mine for Patened. the mine is The group held by the Chandolar mining Company. at Chandolar. Alaska the Little Squaw group owned by the Chandolar Mining Co.

would you also tell me about the Gavernment Road from Beaver on the Yukon Riv to the Little Squaw Mines group at Chandolar alaska. how is the Timber around alaska in the Chandolar district

Yukon River to the little Squaw Group of the Chondolor Minny Co in the Chondolar Distruct. open the whole year around

has the Alaska Rood comision got the rood into Fairbanks Alaska my friend Gen Seaps who left the government comising used to keep me informed. but he is now out of the service. would you show me the location of the rood to Fairbanks alaska how far is it completed toward Fairbanks. the Gavernment Rood.

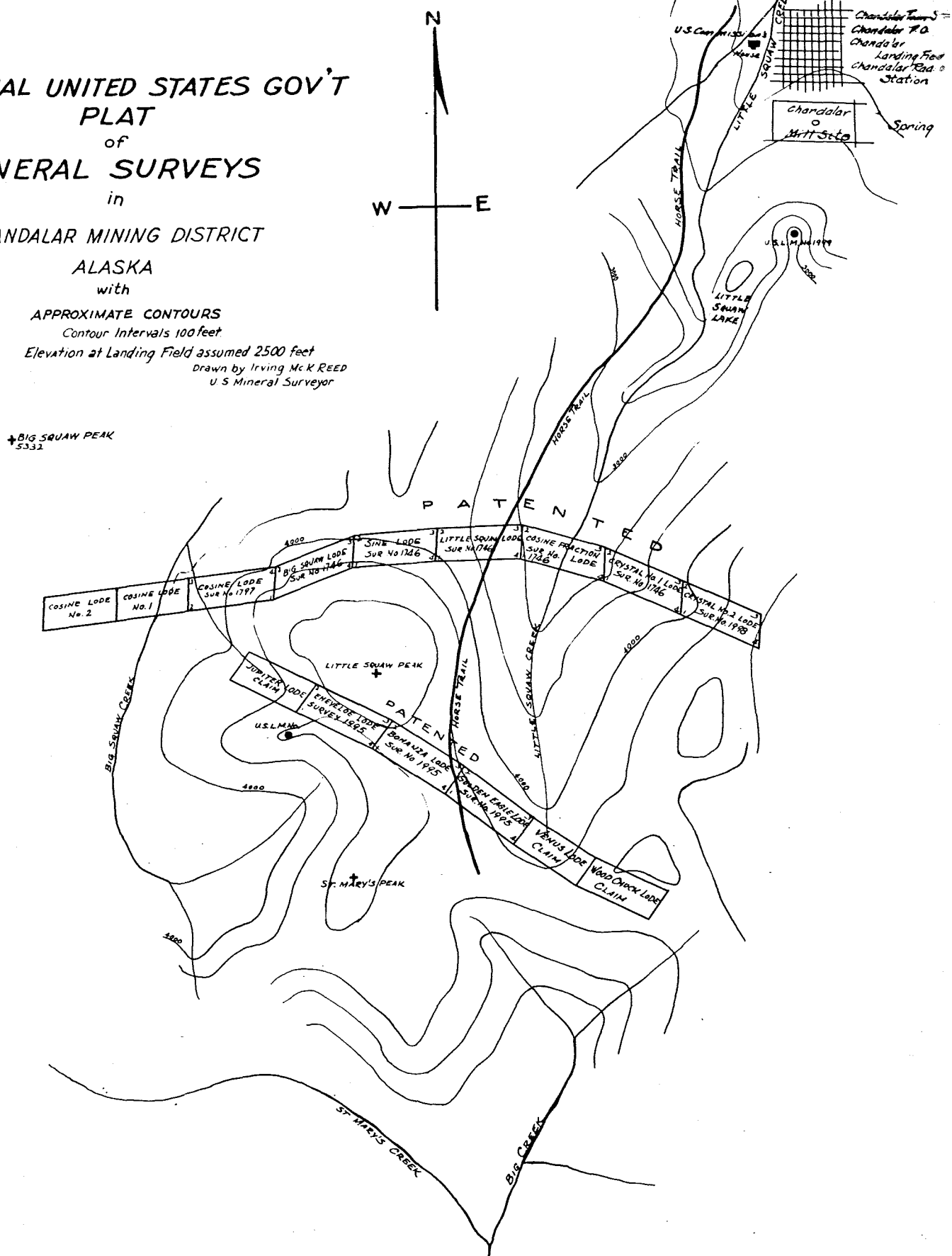
If it is not asking you too much would you tell me what you though of the Chondolor mining Company claims the Little Squaw group and the other mine vains own by the Chondolor mine Company

Enclose find a self adress letter thanking you in advance for your courtesy in this matter. I remain

Very truly yours.

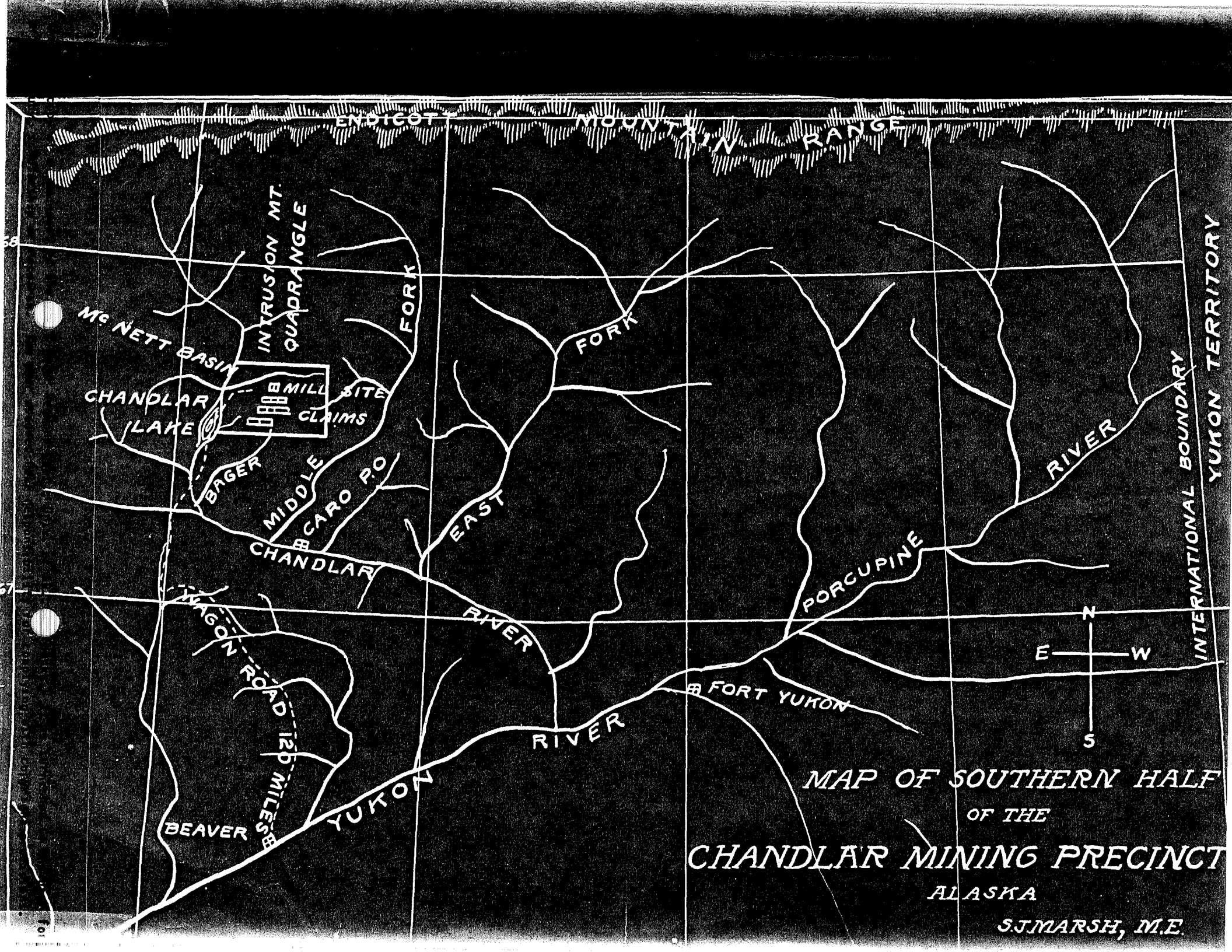
OFFICIAL UNITED STATES GOV'T PLAT of MINERAL SURVEYS in CHANDALAR MINING DISTRICT ALASKA with APPROXIMATE CONTOURS

Contour Intervals 100 feet
Elevation at Landing Field assumed 2500 feet
Drawn by Irving McK Reed
U.S. Mineral Surveyor



CHANDALAR GOLD MINES, INC.

115 BROADWAY, NEW YORK CITY.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CHANDLAR
EAST FORK
PORCUPINE RIVER
INTERNATIONAL BOUNDARY
YUKON TERRITORY
WAGON ROAD
120 MILES
BEAVER
YUKON RIVER
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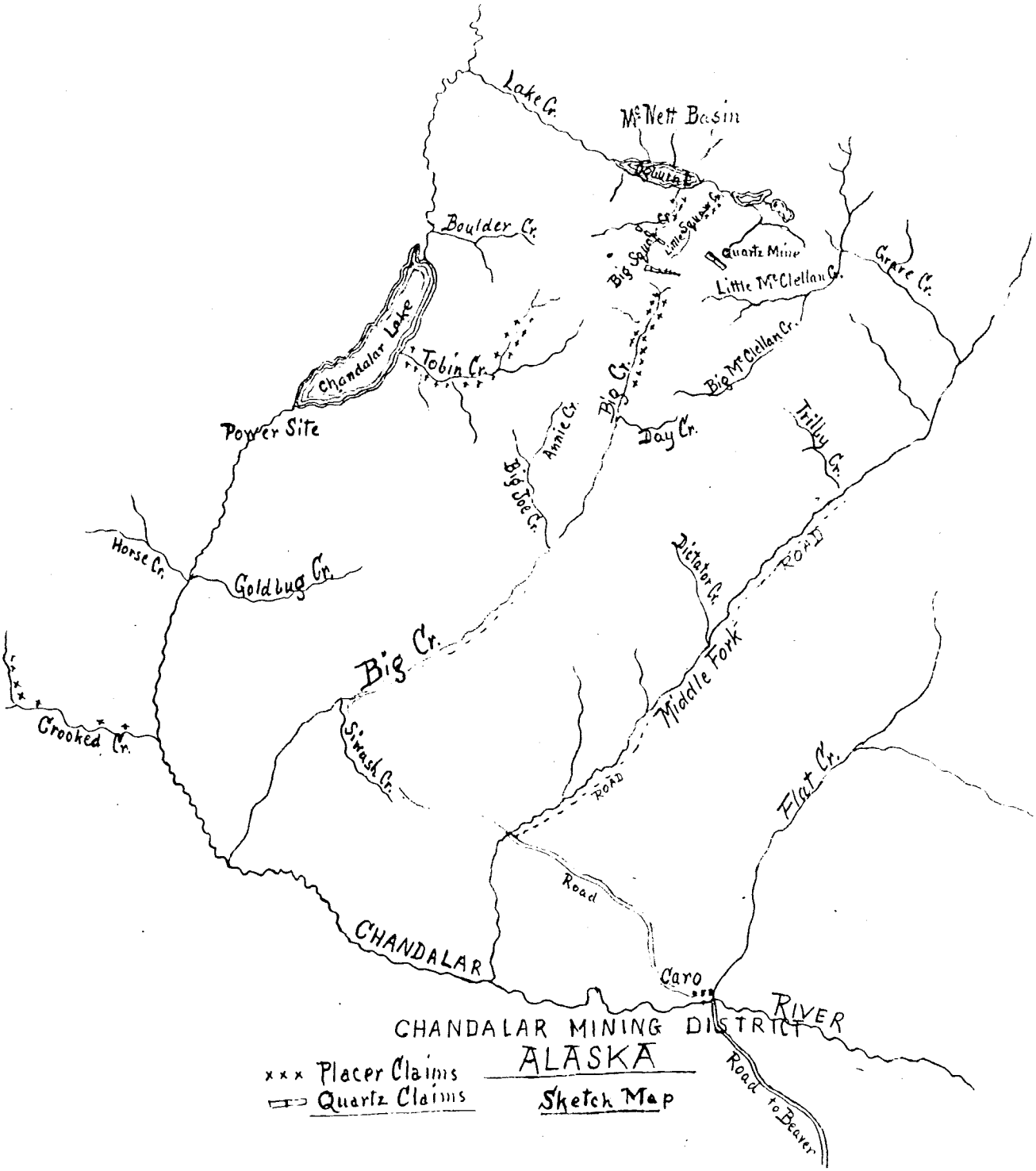
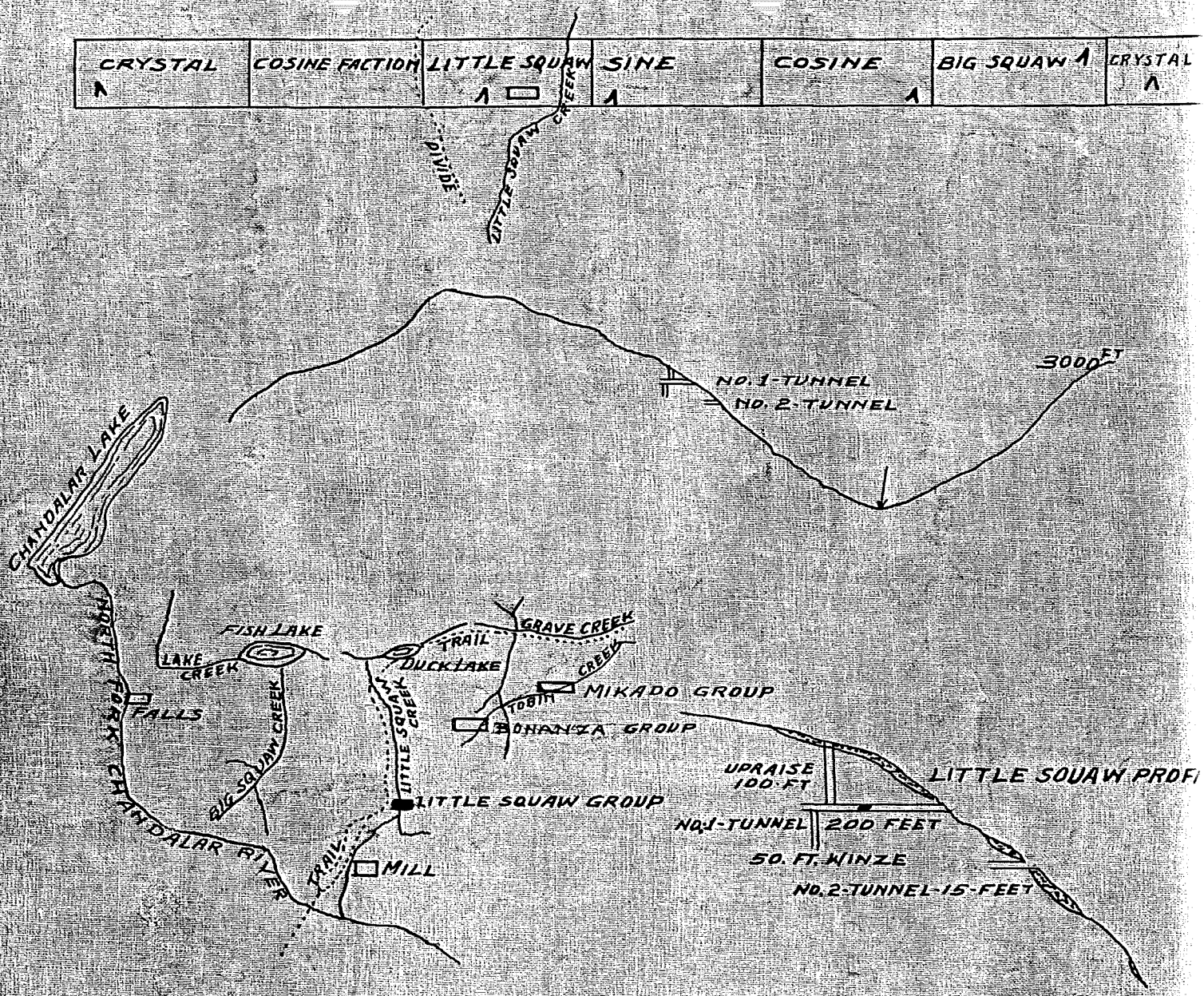
MAP OF SOUTHERN HALF
OF THE
CHANDLAR MINING PRECINCT
ALASKA
S.J.MARSH, M.E.



LITTLE SQUAW GOLD MINES.

CRYSTAL	COSINE FACTION	LITTLE SQUAW	SINE	COSINE	BIG SQUAW	CRYSTAL



NOTE: BY RUNNING TUNNEL No. 2- 450 FE
WOULD CUT BOTTOM OF WINZE 150
FEET DEEPER.

LEGEND

OPENCUTS &c. ^

TUNNELS ▭

N
W E
S

LONG. E. 148°46' X LAT. 67° 5

ASSAY MAP OF LITTLE SQUAW TUNNEL No 1

1	2	3	4	5	6	7	8	9	10
20'	20'	20'	20'	20'	20'	20'	20'	20'	20'
2.47 OZS.	3.02 OZS.	2.33 OZS.	5.02 OZS.	3.22 OZS.	6.40 OZS.	4.30 OZS.	2.01 OZS.	5.14 OZS.	4.02 OZS.

ASSAY MAP, LITTLE SQUAW GOLD MINES.

CHANDALAR MINING PRECINCT, ALASKA.

COPIED (TYPED) 1952

Original S. J. Marsh. MR

REPORT.

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I arrived at the Chandlar Camp December 17th, 1906, with a Dog-team, carrying the Record books and Post Office supplies and a small amount of grub; having left the two horses at Circle in charge of J.F.Sipp to follow with the main supplies, bought at Circle.

After looking over the camp I decided to locate the Record and Post Office at the mouth of Flat creek, at that time the most central point. I located 160 acres as a "Site for Trade and Manufacture" and erected a building for an office. At this time there was three feet of snow and 60 below zero.

On January 2nd the Boys arrived with the horses and supplies. The horses were worn out and, as there was no feed of any kind to be had, they were killed for dog feed.

As the principal creeks were "stampeeded" by this time I located some ground on a new creek near Caro and started to do some winter prospecting. We succeeded in putting down a shaft 48 feet with wood fires and obtained some fair prospects but had to abondon it as it became dangerous by that method. The rest of the winter was spent in prospecting some benches on the Middle Fork, where good surface prospects were found and a large group of ground located.

In March one of the men, F.B.Marsh, "got cold feet" and I released him from his contract.

May 15th I sent Sipp, the other man to Fort Yukon, with W.H.Furman, whome I hired for the trip, to meet the supplies. Here they waited untill July 2nd, when the supplies came down on the N.A.T.& T.Co's Steamer Cudahy, and as there was $725.00 freight charges against them, they were carried on to Ware. Sipp arrived at Caro with the news on the 8th. I strongly blamed him for letting them go by with the result that he quit and I went at once to the Fort.

During this time I had spent most of the time in the mountains and had secured some more claims and obtained some valueable data.

I fianly succeeded in getting the supplies back and landed at the Fort and got back to Caro with a boat-load on Aug.15th.

March 1, 1911
S. J. Marsh

REPORT.

I arrived at Fort Yukon March 5, 1910 with a millright and two men, sending them up to camp with a dog team and remained at the Fort two days, to let a contract to haul the food supplies, which were stored at Beaver.

I left on the 6 and proceeded to Old Caro, where I turned across the mountains to reblaze the trail, over which the supplies were hauled - there being no one in camp, except myself, who knew the route - arriving at camp on the 25. The snow at this time was three feet in depth.

During the month of April and the fore part of may, the timber and logs for the mill building were hauled to the site, by contract, with dog teams. During this entire time the camp was very short of supplies and I had to make two trips over the trail to hurry along the freighters.

As soon as the snow permitted (about May 25), the construction of buildings for cook house, office, stable and storehouse was begun and the timber cleared from the mill-site.

The excavation for the mill building was begun June 10, the ground being frozen, and continued untill July 20. During this time the timber for the mill building was fraimed and a small quantity of lumber whipsawed.

At this time it was reported that the Road Commission was, as yet, undicided re the construction of the new road, and as this was of vital importance to the carrying out of the plans, I went to Fairbanks. By much talking and by promices of assistance from the men of the camp, the Commission fianly decided to alot $10,000. for the work and a force of men was sent out at once.

Before leaving, I started two men on the tunnel at the Little Squaw mine, with instructions to drive to a point under the first crosscut (about 100 feet). On my return I found they had gone but about 8 feet, when they had encountered decomposed ore, which could not be driven through in summer without timber, which was imposible to get up at that time. As this ore was of a very high grade, and there was no more room on the dump, I stopped the work and proceeded with the annual assessment work on the other claims, keeping one man, however, at work, grading a larger dump.

In the month of July I received an offer for the hauling of the plant from Beaver to the mill-site for $240. per ton.

As I had received no answer from my letters to the Company re my proposal to purchase teams and haul the freight ourselves, and as this offer was was nearly as low as we could do it, considering the purchase of horses and equipment, I made a contract with Geise & Rasmusson, of Circle. Early in August Geise came up and reported that the work of construction on the road was progressing very slowly and that it could not be finish with the present alotment. The contract, which required all the freight to be delivered before the 1st of April, had not been signed and Geise declined to go furthur with the construction of the stables along the route, untill it was certain the road would be completed.

I made a trip to Circle and telegraphed Mr. Zug, of the Commission, asking that $3000. more be aloted to complete the work to the Chandlar river. He answered that he was authorized to expend this extra amount, provided I would gaarentee the completion from Old Caro to McNett Basin. This I did and the work proceeded.

I came back to camp, meeting Geise on the road. He agreed to finish the stables and haul the freight at the price named, provided I would buy for him two horses (he having three of his own), he to furnish his own feed and to wait for the money untill July 1st, 1911. To this I agreed, as it was better termes than the proposed contract, which called for 50 tons of feed to be advanced.

On arrival at camp, I proceeded to locate three deffinitely known points and to make the preliminary survey of most of the claims. I also constructed a trail, from the mill-site, up the gulch of Little Squaw creek, to be used as a winter ore road.

At this time it became evident that the machinery could not arrive untill late in the spring, and wishing to continue the development work on the Little Squaw mine, and to mill some of the rich ore we had encountered, I secured the use of the small three stamp mill, belonging to T.S.Haynes. Finding it imposible to obtain the use of the small engine and boiler, belonging to another man, and which had been used to run it, I went to Coldfoot to try and get one from there. After an imspection of the trail however, I found it impracticable to attempt to haul anything over it. I came back and saw Geise, He promiced to get our engine and boiler up as soon as the snow permitted, which it was expected would be by the first of the year. At this time the mill building was finished and a bull wheel built, for lowering ore down the mountain and the men were put at work, cutting wood.

It now became evident that the money collected for road tax would not be sufficient to complete the road from Old Caro to camp, and I proceeded to do it, taking four men and finishing it about December 1st.

Up to this time no snow of consequence had fallen, it being only from two to six inches along the trail. Giese had got to Old Caro with a small portion, including the food supplies. The moving of the main freight was progressing very slowly, the entire road being rough on account of lack of snow and Geise had allready killed two horses in the work. Geise fianly arrived at camp on January 5, but was unable to haul anything of consequence, there being but two inches of snow in the basin of Flat creek - this part of the road being through nigger heads and requiring a foot of snow to make it passable with a load.

During the entire month of January, the weather was extremely cold, ranging from 35 to 65 below zero. Geise however still attempted to move, and as a result, crippled two more horses one a valueable one having frozen its lungs and probably ruined.

By February he was out of horse feed and had to haul 2 1/2 tons from Fort Yukon, a distance of 100 miles.

exploration and most of the prospectors have been forced to bring in thier own supplies by the methods allready described.

During last summer and fall it has been found that a good route for a pack trail and wagon-road can be got by leaving the Yukon at a point about 10 miles above the mouth of the Hosana river, and following a series of low, dry gravel ridges, and through a low pass at the head of Trail creek, reaching the Chandlar river at the mouth of the West Fork and thence up the main river, along a series of benches to the Lake, a distance of about 100 miles.

From data gathered from the principal freighters in northern Alaska, an estimate shows that freight may be hauled over this route on a large scale for $80.00 per ton during the winter months. The rate from the above point to Seattle averageing about $60.00 per ton.

CLAIMS SECURED BY LOCATION.

1. Trade and Manufacture site (Caro) Also covered by placer location. 160 acres
2. Two Association Claims on Furman creek, a tributary of Funchion. Surface prospnots, shaft down 48 feet but bed-rock not reached. 320 "
3. Three single claims on Mascotte creek, tributary of Funchion. surface prospects, good prospects found on Funchion, on rim, Two shaftsput down by Funchion, 110ft. and 80ft. but channel not located, Old osannel should cross here. 60 "
4. Association claim on Caro creek, Trib. Flat. 160 "
5. Four Aseociation claims on Middle Fork at Simplex creek. This group, with that on Caro creek, consists of benches on the left side of the Middle Fork, a low pass acros the devide and a low creek on east side of divide running into Flat creek. This is directly in line of the old river channel, before refered to and is one of the most favorable places in the camp to test this channel. The benches prospect on surface and have a hight of 60 to 80 feet above the Middle

miles up from their mouths are fairly well timbered with spruce and small quantities of birch.

While the amount large enough for lumber is limited, there is a large amount of mining timber and fuel. Some samples of lignite have also been brought in from the Middle Fork.

CHANDLAR LAKE.

This lake is an enlargement of the main river and is about 8 miles long by 3 to 5 miles in width, bounded on the west, generly by high mountains while to the east the mountains are more rolling and along the lake shore is a series of benches.

This lake is a natural milling site and being very deep, would furnish a good dump for tailings in summer, while in winter tailings would run out on the ice, to be carried away in the spring. There is also considerable timber around the lake, while the river and most of the tributarys for 45 miles up are well timbered, which can be easily be floated down and hauled out and cut by machinery during the summer.

Nearly every stream flowing into this lake will furnish a small water power and should the camp develope on the lines which the present development would seem to indicate, can be a great power can be had by building a dam at the mouth, and by running a short tunnel through rock at the head of the rapids, can be used all winter, thus giving cheap power for light, transportation and all milling and mining operations.

TRANSPORTATION.

The first supplies were brought in from Coldfoot, a distance of about 100 miles. Later, from Fort Yukon, to Caro, 110 miles and to Big creek 150 miles. These supplies were brought up in summer by poleing boat and in winter by dog team, the freight averageing, to Caro, 15¢ and to the head of Big creek, 35¢ per lb.

During the past summer the Northern Commercial Co. succeeded in getting a steamer up to a point about 20 miles below Caro and opened a store at that point. The prices charged however, were prohibitive, (both for freight and prices for goods) to anything but development work on a small scale and

CHANDALAR GOLD QUARTZ PROPERTIES

Major Ashelby and J. H. Shockley, Mining Engineer, Return From Inspection Trip.

CONTROLLED BY J. C. WEIR

While Claims Composing Group Cannot Be Said to Be Developed Properties, Yet Indications Exceedingly Favorable For Mine-Making In Arctic Circle.

Major J. H. Ashelby, general manager of the Chandalar Gold Company, controlled by J. C. Weir of New Pork, and J. H. Shockley, mining engineer, who has long been the field man for the big Broad street broker, arrived this week from the Chandalar country, north o fthe Yukon river, and immediately departed for New York. Both expressed themselves as highly pleased with the mineral possibilities of the Chanadalar.

The Chanadalar Gold Company owns and controls several groups of mining claims situated on tributaries of the Chandalar river, some 100 miles north of where it empties into the Yukon river. The latitude of the vicinity is approximately 67 degrees 50 minutes north by longitude 140 degrees 25 minutes east. The camp lies in the foothills of the divide that separates the Chandalar river from the Arctic slope. As the crow flies, the Arctic ocean lies 150 miles north, thus the camp is located well inside the Polar Circle and is one of the most northern known.

It is reached from Beaver on the Yukon river by government wagon road and trail a distance of 120 miles. Much development has already been done and a 4-stamp mill is now erected on the ground. Another 4-stamp mill is now being freighted in from Beaver. The capacity of both mills will be 40 tons daily. The ores of the different veins of the district are to a great extent free milling gold quartz of high grade, running from $35 to $200 per ton. The area in which pay veins have been found is about 10 miles square. By reason of its inaccessibility, this great region is one of the least explored in Alaska, but now under plans of the Chandalar Gold Company which, assisted by the government, consists of completing the wagon road direct to the mine and a U. S. Radio Station at Beaver, it will undoubtedly come rapidly to the front. This road will not only open the Chandalar District, but will also give the upper Koykuk region direct communication to the Yukon river at Beaver. And certainly, at no distant date, form a main highway to the Arctic —a gateway to the North—so to speak. From Chatanika to Beaver, the government is now opening a new route, thus forming a connecting link to the U. S. railroad.

Evidence points to two somewhat parallel vein systems several miles in length existing in the Chandalar District, Alaska, with at west end another intersecting system. Each of these three systems embraces several strong fissure veins of normal type filled with ore up to 15 feet in width, enclosed in highly altered schist with nearby intrusions of diorite and greenstone. Development has not fully proven the length of any of the ore shoots, but without question some of them are very long. The veins do not follow the laminations of the schist but cut across it at high angles. Several faults occur but there are no freakish aspects of vein structure or geology. On the contrary, the conditions are similar to many other of the world's well known gold camps. Samples, while in the main are not representative of any large blocked tonnage, will serve to prove extent and richness of mineralization and results judged by pannings and visible gold will exceed expectations. The "Little Squaw" mine has sufficient reserves above levels to warrant immediate starting of stamp mill now on the ground.

CHANDELAR MINING MEN ARE VISITORS

ASHELBY AND SHOCKLEY, HERE ON WAY EAST, TELL OF PROSPECTS.

In Anchorage for the purpose of consulting with the Alaska Road commission on the question of road extension in the Chandelar from Caro to their property, a distance of thirty-six miles, H. E. Ashelby, owner of the Chandelar Gold company property and J. H. Shockley, mining engineer, arrived here Wednesday from the interior.

At present the journey to the Ashelby property is made via Beaver, a trip of over 100 miles. It is hoped to have the roads and trails improved to lessen the cost of taking in supplies and equipment. Already supplies for a full season have been ordered and operations will continue throughout the winter. Eight men have been employed all summer and there are about thirty in the district.

The government is now building a permanent trail from Chatanika to Beaver, and extensions of the system, say Mr. Shockley and Mr. Ashelby will serve to open up a large and rich country to the miner.

According to Mr. Shockley a three-stamp pilot mill has been installed on the Chandelar property and a thirty-ton mill has been ordered. The four-stamp mill which is now at Beaver will be freighted in over the snow this winter and set up for operation in the spring.

The visitors are enthusiastic over the possibilities of quartz development in the Chandelar, and are well satisfied with the development thus far, which includes more than a thousand feet of tunnel.

Speaking of the physical conditions of the region in which they are operating Mr. Shockley said: "Evidence points to two somewhat parallel vein systems several miles in length, with an intersecting system, some of the veins being fifteen feet in width enclosed in highly altered schist, with nearby intrusions of greenstone and diorite. Development has not proven the length, and the conditions are about the same as prevail in other adjacent gold camps. Results of development judged by pannings and visible free gold exceeded expectations, and there are sufficient reserves to warrant the placing of a thirty-stamp mill on the ground."

Mr. Shockley said there had been very little evidence of glaciation in the district and that the possibilities for developing a big quartz camp were "most promising."

Mr. Ashelby said the signal corps has announced that a wireless station will be established at Beaver next spring.

Mr. Shockley and Mr. Ashelby are en route to their headquarters in New York City and will leave here tomorrow for Seward. They expect to return through Anchorage in April.

BASEBALL RESULTS

YESTERDAY'S GAMES

Pacific Coast League.

San Francisco 4, Salt Lake 10.
Portland 0, Oakland 3.
Los Angeles 5, Sacramento 1.
Seattle 7, Vernon 2.

National League.

Chicago 8, Pittsburgh 2.
Philadelphia 2, Boston 7.

American League.

Detroit 5, Cleveland 4.
Boston 3, New York 8.
(Only games played in t

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TOBIN CREEK PLACERS

DRAWN BY
1926 Jos. J. Shaw M.E.

NORTH-YUKON GOLD, INC.

program.

Bridges On Trail Will Be Repaired

Repair of three bridges on the trail between Beaver and the Chandalar has been authorized by the Alaska Road Commission.

Charles Schultz of Beaver is in charge of the repair and maintenance job, covering 120 miles of trail.

The work is to be done this fall, according to Superintendent Frank Nash of the Road Commission.

There are twenty tons of winter supplies to be freighted in to the Chandalar miners.

Best of All Investments

In a communication to Western Canada Mining I
A. P. Nelson of Gunnison, Colorado, said: "Crops
fail, be ruined by drouths, floods or frost; the for
foundry or factory may be consumed by fire; the ba
or business may go bankrupt; but a gold mine, once
has reached the productive stage, is immune and imper
ous to every destructive force—the gold is there; it cann
be ruined; car[illegible] cannot decay, it never lo
its value, never lacks a customer, and always
its price."

Alaskans know that Mr. Nelson is not quite 100
t, for they remember the day that old Moth
[illegible]ded to move the ocean in on the Treadw
[illegible] realize that his argument is, in the m
[illegible]ound . . . that is, simply the exception
[illegible] prove the rule.

The last six years have witnessed the gradual e
ent of government on industry—the sinister
[illegible] politicians and labor bosses taking ove

View of winter scene from bluff overlooking village of Venetie.

To CARO...

For a long time I had wanted to go to Caro, a tiny gold mining camp located on the middle fork of the Chandalar River, well above the Arctic Circle.

Before proceeding further, permit me to explain that I am the principal teacher at the government day school operated by the Bureau of Indian Affairs at Venetie, some 50 air miles northwest of Fort Yukon. This Indian village is situated right at the edge of the Yukon Flats, a short distance from the place where the river breaks through the highlands and spreads itself in devious channels over the marshy flats. The Chandalar at Venetie is still a swift stream, and I wouldn't want to attempt navigation on it with anything less than an 18 h.p. outboard motor.

Occupying the position of government teacher in an isolated village implies much more than the usual pedagogical duties. Like St. Paul in the Bible, we strive to be "all things to all men." After school has closed for the day and the last pupil has departed, our real work begins. It is then that people come to us for assistance in filling out papers and questionnaires, or to have letters read and explained, or for a variety of other reasons. All of this help is freely and cheerfully given. My wife and I have made ourselves readily accessible to the village people, and we wouldn't have it any other way. This is what builds bridges to understanding, and makes the job of bush teacher unique. Even in summer the teacher who remains at his post will not find himself lacking in things to do. Here at Venetie we have the gardens to look after, the greenhouse to attend to, school freight to receive and process, visitors to confer with, and each year more and more tourists to greet. Hence, one cannot pick up and leave on a sudden impulse for a jaunt into the surrounding wilderness.

In a conversation with my Indian buddy, Allen Tritt, frequent companion on many a lonely wilderness trail, I had expressed a desire to travel up the Chandalar to see the old ghost town of Caro. He was also taken with the idea and readily agreed to make his time and equipment available. We sat down and planned a tentative trip with no deadlines or conditions other than that it would occur at a time convenient to each of us, and "around hunting season."

Finally in late August, 1967, the opportunity came to travel up the Chandalar. Returning from his fish camp along the Yukon, Allen brought along a full drum of gasoline which he had picked up for me in Fort Yukon. We assembled provisions enough to last a week, an 8x10 wall tent, down-filled sleeping bags, rubber boots, waterproof clothing, cameras, guns, ammunition and binoculars.

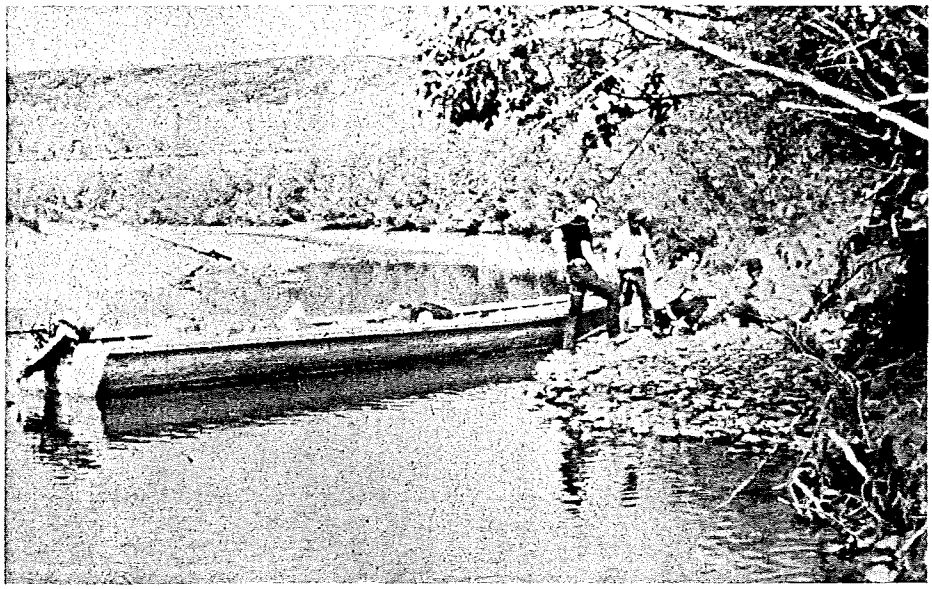
About this time my son, Steve, accompanied by a Navy buddy, Lt. J G Charles Carter, arrived by plane from the U.S. Naval Station at Glynco, Georgia. The boys were all primed to go moose hunting, so the first requirement was to obtain hunting licenses for them. This done, we proceeded to pack for the trip upriver. Since this was to be a combined hunting and exploring venture, all hands were anxious to get on with it as soon as possible. Besides the two boys from the Navy, the party included Allen Tritt and Noah Peter, both sergeants in the famed First Scout Battalion of the Alaska National Guard, and myself.

We shoved off from Venetie village shortly after noon on August 22, 1967, two days after the opening of hunting season. Practically the whole village, including my wife and daughter, were on the river bank to see us off. Our craft was a 30 foot flat-bottomed river boat, *The*

Water Witch, owned by Allen Tritt and powered by a 33 h.p. Evinrude outboard.

The first afternoon we traveled leisurely up the stream, keeping on the alert for signs of wildlife on either bank. Allen Tritt, as pilot, was kept busy attending to navigational duties, watching for shoals and submerged boulders which might damage the propeller or snap the drive shaft. It has always been a source of amazement to me how thoroughly these native boatmen know the river and its perils. They seem to memorize the location of every reef and rock and possess the requisite knowledge and skill to navigate a boat safely past these obstacles, where a novice would surely come to grief. Truly, they know the river like the backs of their hands.

About 40 miles upstream we came to the gap where the river breaks through the highlands and enters the Yukon Flats. From this point the Chandalar is more confined, and the landscape rises rather abruptly to higher elevations. Old-timers recall that in the days of their youth sternwheelers plied the Chandalar as far as Caro. This would be impossible now. Due to spring flooding and the erosion of the banks on both sides, the Chandalar is becoming wider and more shallow.



Moose laden WATER WITCH with hunting party, from left, Lt. Charles Carter, Noah Peter, Steve Henderson and Allen Tritt.

and Beyond

Story and photos by
WILLIAM J. HENDERSON

A few bends past the gap we came to the place where the East Fork of the Chandalar enters the main stream. We continued on up the Middle Fork and made camp toward evening in a sheltered spot on the right bank of the river. That night we dined on canned beans, wieners, fresh rolls, canned fruit, and gallons of strong tea, generously sweetened with quantities of sugar. On these wilderness jaunts we usually take along cube sugar, because if one accidentally trips over the container and spills the contents, we can still use the sugar!

Next morning we were up bright and early, prepared breakfast, broke camp, and after loading our gear, continued on up the Chandalar. We pulled into shore now and then to examine the beach for fresh moose tracks.

Around noon one of the party sighted a moose feeding in the willows along the south bank of the stream. Allen quickly beached the boat, secured the painter to a dry drift log, grabbed his .30-06, and began the chase, for by now the animal had become frightened by the outboard and taken off for the tall timber. The rest of us fanned out, thinking we might run into additional moose. About half an hour later we heard three or four shots, and climbing a cone-shaped pinnacle commanding an excellent view of the surrounding countryside, we saw Allen in hot pursuit of the wounded animal. Allen is an excellent hunter and an expert rifleman, possessed of tremendous vitality and endurance, and the agility of a mountain lion. He pursued the moose over uneven terrain for a distance of about two miles, and caught up with the dying animal about the time it dropped. Another shot from Allen's rifle signalled the chase was over and that the boat was to be brought up to a point nearer the fallen moose.

We piled into the boat and shoved off upstream with Noah Peter at the controls. Rounding the next bend, we spied Allen standing on a boulder at the water's edge motioning to Noah to bring the boat into a narrow slough. Getting the boat up the slough proved to be quite a task, as the water level was so low the motor couldn't be used. We had to push and pull the boat for perhaps an eighth of a mile, and the rubber boots came in handy. Packing out a moose over uneven ground is quite an undertaking, so we all felt that if dragging the boat up the slough as far as possible would reduce the distance the moose had to be transported, then the effort would well expended.

But to get back to the moose—it still had to be butchered, cut up, and packed out to the boat, a distance of about a quarter of a mile over most difficult terrain. I would estimate that this task required at least two hours.

With the moose loaded into the boat, we moved across the river to the opposite shore, made camp, set up the tent, and put the moose inside, the better to protect it from the elements and thieving camp robbers.

That night we slept out under the stars, while the moose occupied more luxurious accommodations. Next morning, leaving the moose behind in the tent, we resumed our trip upstream,

Allen Tritt taking time out for tea, with Chandalar River in the background.

pausing time and again to inspect the muddy beach for fresh tracks of moose or bear. We saw many sets of fresh bear tracks, where bruin had come down to the river to drink or fish for salmon, but nary a bear did we see the entire trip.

By mid-afternoon we came to the bend nearest the abandoned gold mining camp of Caro. The cluster of log cabins lies behind a slight rise and a growth of brush, hence is not visible from the river. We could easily have missed the site but for the presence of our two native guides who had been there on other occasions.

We tied up the boat, found an excellent campsite with plenty of dry firewood and prepared a lunch of biscuits, salami, cheese, and tea. Then we set out for Caro, which was about a quarter of a mile away and to the right of our campsite. A wagon trail now partially obscured by a growth of brush and tall grass led from the river to the old ghost town. We discovered that the cabins, although unoccupied for a great many years, were in excellent condition. The log walls had been expertly constructed of hand-hewn spruce timbers with corners notched and dovetailed.

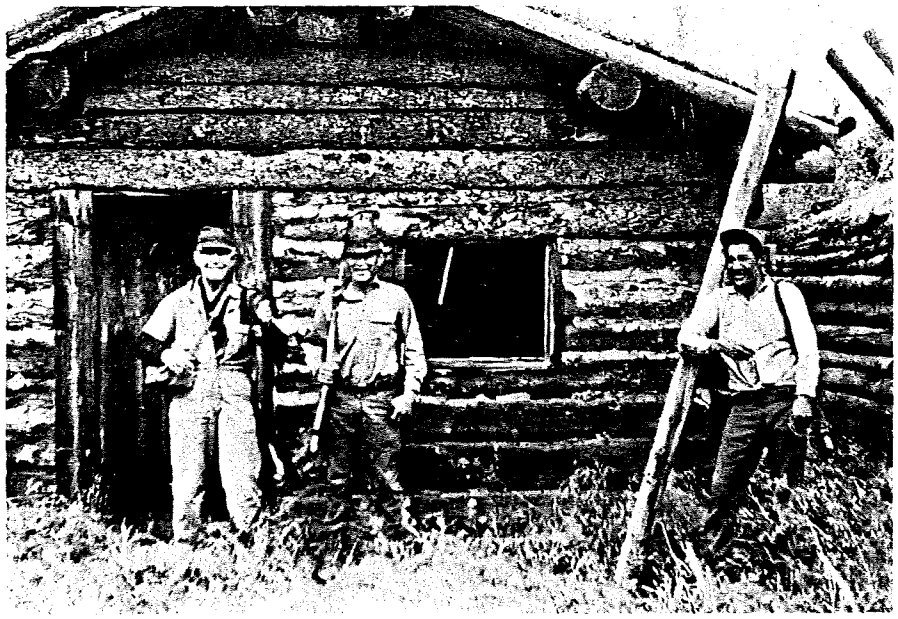
We browsed around from cabin to cabin, inspecting each and remarking on the craftmanship of the builders. We picked up copies of *Newsweek* and *The Nation* with datelines of 1934, and read accounts of Hitler's Third Reich and other political problems of a generation ago.

Old-timers tell me that a wagon trail known as the Government Road was built to connect Caro overland with the village of Beaver on the Yukon. I am inclined to believe this report, because we saw evidence of the road leading from the river to the camp. Also, we discovered some wooden packing cases addressed to a general store in Beaver. A high-wheeled wagon and a wide-gauge bobsled, abandoned when the inhabitants left for greener pastures, would indicate that draft animals other than sled dogs were once used at the camp.

The location of Caro is in itself singularly beautiful, situated as it is in a natural bowl, with mountains on three sides and the Chandalar River on the fourth. A stream of fresh water, so clear we could see grayling swimming about, flows through the camp. One can only speculate what considerations persuaded the men to leave this rustic scene so suggestive of peace and contentment.

We looked around for souvenirs that we could carry back as evidence of our visit and mementos of the past. Being of antiquarian tastes I picked up an old brass safety pin of the kind that Indian women used a generation ago to secure their shawls. I also acquired an old square-shouldered, amber whiskey bottle, which I intend to have made into an ash tray some day.

After taking pictures of some of the cabins and relics at Caro, we retraced our steps to the small cove where the boat was tied up, and prepared to make camp for another night.



Noah, Allen and the author at Caro.

Allen inspecting an old wagon at Caro.

Next morning we continued on up the Chandalar beyond Caro. By this time the current was noticeably stronger, as we were really in the highlands. My only concern was the gas supply, for by now we had traveled approximately 100 miles upstream from Venetie. Whenever I inquired how much gas we had left, Allen would give me an impish grin and say, "Oh, we'll make it!"

We cruised on up the Chandalar another couple of hours, interrupting now and again to prospect for big game, but saw none. Tracks were there in abundance, but not a moose or bear to be seen.

Allen maneuvered the boat past rapids where partially submerged boulders churned the swift-flowing stream into seething, frothy foam. At length, at a bend where the river makes a rather sudden turn toward the north, we ended the trip upstream and beached the boat in quiet waters at the base of a broad bluff which rises to a considerable height on the right side of the stream. Climbing its precipitous face in zigzag fashion, we ascended to a broad, flat surface and enjoyed a remarkable view to the north and east. A long, narrow lake lay two or three miles distant toward the northeast. We surmised it was likely moose country and briefly considered hiking there, but

The Road System of Alaska

By MAJOR MALCOLM ELLIOTT
Corps of Engineers, U. S. Army, President Alaska Road Commission

THE road system of Alaska consists of one main axis connecting the Gulf of Alaska with the Yukon River and a considerable number of small road nets which connect the various localities of commercial, mining or agricultural importance with bases of supply located on the coast, on the railroads, along the main highway or on navigable rivers.

The main road artery in Central Alaska is formed by the Richardson and Steese highways, which extend from Valdez, on the coast of the Gulf of Alaska, to Circle, on the Yukon River. The Richardson Highway at its northern terminal, Fairbanks, joins the northern terminal of the Alaska Railroad main line, which connects Fairbanks with Seward. Thus the highway and the railroad taken together form a belt line traversing an important section of Interior Alaska.

The Copper River & Northwestern Railroad extends from Cordova, on the coast of the Gulf of Alaska, to Kennecott, serving the large copper property at that place. Chitina, a point on this railroad, is the southern terminal of the Edgerton Cutoff, which is a branch of the Richardson Highway. The southern end of the highway, together with the Edgerton Cutoff and the Copper River & Northwestern Railroad, form another and shorter belt line which is especially attractive to tourists, as the trip is less expensive than the longer tours and the scenic features are magnificent.

The Steese Highway extends northeast from Fairbanks to Circle, on the Yukon River. This point is on the route which, beginning at Skagway, follows the White Pass & Yukon Railroad to White Horse, and the Yukon River down through the Klondike region into Central Alaska. These rail, highway and water routes form the framework of a transportation system covering a wide area and leading to many sections, rich in natural resources, which prior to the construction of these routes were very difficult of access.

The small road systems which are under development in Alaska are either tied in with the main highway, rail and river systems, or are located along the coast, connecting with good harbors. In Southeastern Alaska there are small highway systems centering at Ketchikan, Hyder, Wrangell, Petersburg, Sitka, Juneau, Haines and Skagway, each of which has a sheltered deep-water harbor. Along the remaining coast line of Alaska there are roads connecting practically all ports with the immediate hinterland. Small road nets of this kind are found at Cordova, Valdez, Seward, Kodiak, Iliamna, Kanatak, Nome and Deering. Tributary to the Yukon and Tanana rivers there are short road systems at Eagle, Beaver, Rampart, Brooks, Tanana Hot Springs and Ruby. In the upper Kuskokwim country access to the river is obtained over short road systems connecting with McGrath and Takotna.

Similarly the mining region around Flat and Otter is connected with the Iditarod River by a short road. North of the Arctic Circle, Wiseman, which is the head of small-boat navigation of the upper tributaries of the Koyukuk River, has short roads leading to nearby mineralized areas.

The Alaska Railroad is fed by a number of automobile, wagon and sled roads which supply mining, agricultural and trapping operations in the tributary area. Thus prospectors and miners on the Kenai Peninsula, in the Matanuska Valley, the vicinity of Talkeetna and in the important Kantishna region are provided with roads and trails, by which their supplies are moved to their workings and their products are shipped to outside markets. The highway from the railroad into McKinley Park will eventually lead to the base of Mount McKinley and open this national recreation ground to public use.

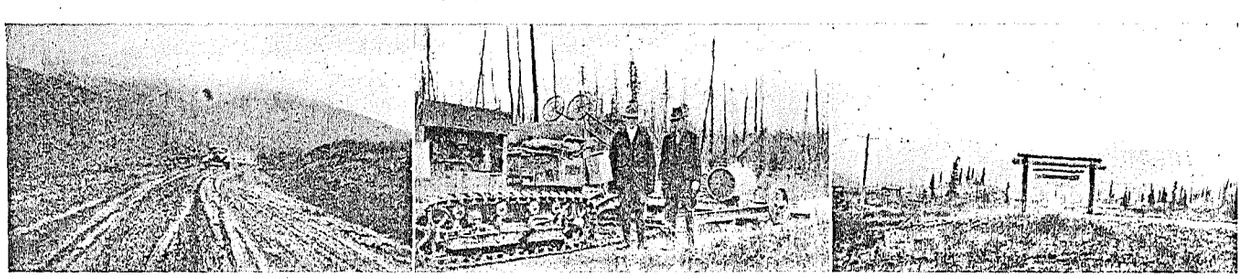
In the Matanuska Valley—just north of Anchorage—and in the vicinity of Fairbanks, farming has been undertaken to a considerable extent and a large number of homesteads have been taken up. Local roads have been provided to connect these farms with the railroad.

The country adjacent to the Richardson Highway and the Copper River Railroad are served by short roads. These regions include the mineralized areas in the vicinity of Kennecott, Kotsina and the Chistochina country.

The entire road system comprises 1,623 miles of automobile, tram and wagon roads, 1,375 miles of winter sled roads, 7,044 miles of trail and 712 miles of flagged winter trails.

This transportation system is the result of twenty-four years of work, and has cost about $13,000,000, of which over $4,000,000—over 30 per cent of the total—has been derived from Alaskan sources. The balance was appropriated from the federal treasury.

In 1905 there were no roads worthy of the name. Necessary overland freighting was done over unimproved wagon tracks or by pack horses or dog sleds. Life all over the territory was necessarily primitive as there were no practicable means of transporting the ordinary conveniences of civilization. Today in the country served by the existing transportation system one finds all the appurtenances of modern life found anywhere in the United States. There are automobiles, electric lights, piped water supplies, sewers, telephones, radios, phonographs, jazz orchestras, beauty parlors, theatres, restaurants, stores,



The Steese Highway—Governor Parks and Major Elliott—Entrance to McKinley Park

hotels and all the other accessories our culture demands. Doctors, lawyers and engineers in their respective professions serve the communities that are reached by the transportation system. There are schools, churches, chambers of commerce and rotary clubs, where a few years ago the communities got along with no more than bare necessities.

In 1885 a small party of soldiers under Lieutenant (now Major General) Henry T. Allen made a trip up the Copper River and over the Alaska Range into the Tanana Valley for the purpose of reconnoitering the resources of Interior Alaska. Private Fickett, a member of this courageous party, wrote the following in his diary:

"May 28—Had a little paste, rotten and wormy meat, for dinner; rotten goose eggs and a little rice for supper. Each meal about one-fourth of what we needed. We went into camp. Whole party played out.

"May 29—Party nearly played out for want of food. Can just crawl. Had to stop middle of p. m. to make flapjack for each and a little beef tea. Decided to abandon boat at the next Indian house.

"May 30—Temperature of water 43. Course NE by E. Arrived at an Indian house at 11 a. m., hungry. Decided to abandon boat. Indian gave us a dinner of boiled meat, from which he scraped the maggots by handfuls before cutting it up. It tasted good, maggots and all."

Today large groups of tourists go over a part of the same route by the Copper River & Northwestern Railroad from Cordova, observing from the parlor car windows the swift, deadly waters of the Copper River, and at Chitina transfer to seven-passenger automobiles for a ride over the Richardson Highway. They wear the same clothes and carry practically the same outfit as would be needed for a motor trip from Seattle to Portland.

But all of Alaska has not yet reached this state of development. There are thousands of square miles of country, capable of similar development, in which the same primitive conditions exist as in Private Fickett's day. Unless an airplane is available, the same or similar hardships of travel are encountered in going to or coming from these remote regions. In 1928 the writer visited communities of several hundred people—principally natives—where there were no doctors or dispensaries and no radio with which to summon help if needed. In such places cases of illness doubtless many times result in death because of lack of medical attention.

The development of this vast territory awaits means of rapid and convenient transportation of persons and freight. The work done in the past is an unmistakable guide of what should be done in the future. Coordination of the various means of transportation is essential and has not been overlooked. Waterways, railroads, aviation and highways are all taken into consideration in the development of this country. The characteristics and limitations of all transportation facilities are given due weight in considering the various transportation problems. Each community is provided with that type of highway which best suits its needs.

Where the topography and the probable volume of traffic permit, railroads may be used, but the initial development of a new country must rely principally on waterways and roads. Aviation has a great future in Alaska, but will never eliminate ground transportation. Airplanes are and will continue to be used for carrying passengers, mail and valuable freight. They cannot be used for carrying dredge machinery, coal, building materials or other bulky materials, nor will they be so employed at any time in the near future.

The Territorial government, alive to the importance of aviation in this country of vast distances and comparative scarcity of other means of transportation, has given needed encouragement to aviation by appropriating funds for the construction of aviation fields. There are over fifty such fields at present distributed over the Territory in accordance with the most urgent requirements. The construction organization of the Alaska Road Commission is being employed for the installation and maintenance of these fields thus obviating the necessity of an additional constructing agency.

The most comprehensive inspection

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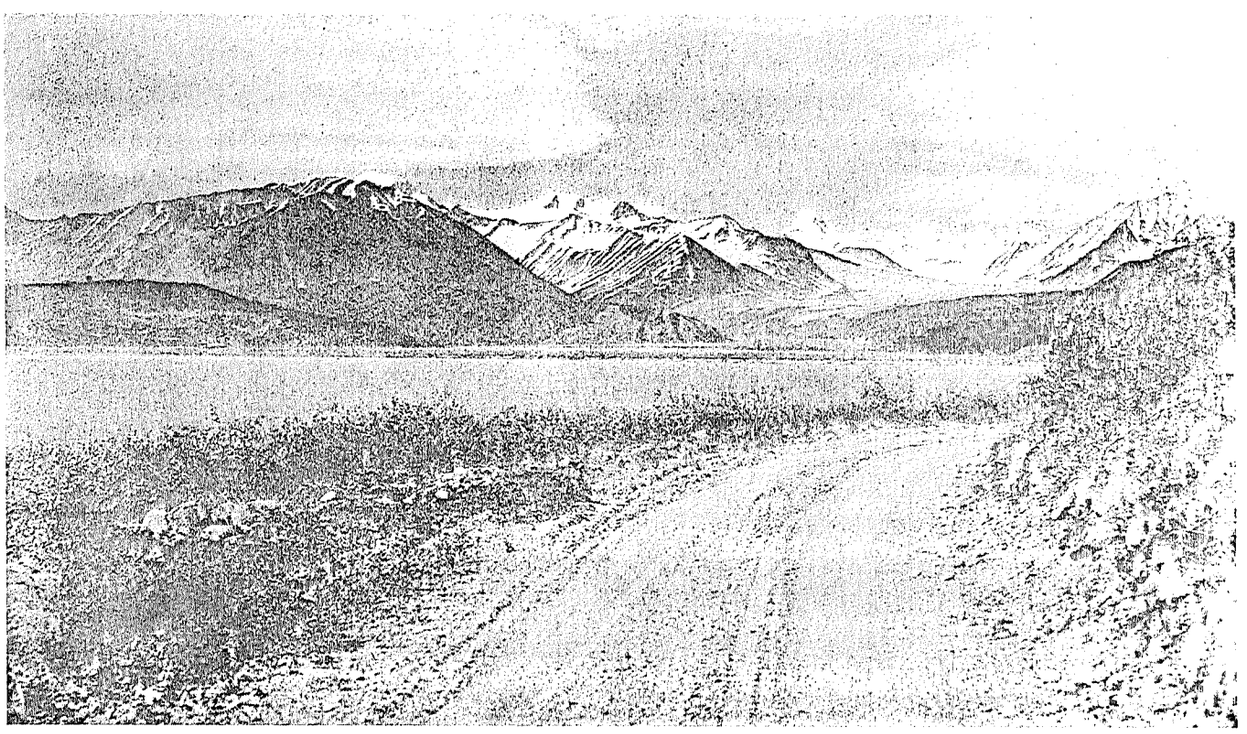

SUMMIT LAKE—RICHARDSON TRAIL —*Photo by Cann-Loussac.*

TEACHING SCHOOL IN ALASKA

(*Continued from Page* 32)

States? Many people assume that a frontier country naturally is barren of all but the so-called essentials in public education. Readin', writin' and 'rithmetic have their proper place and receive due emphasis here as elsewhere. However, music, art, the vocational subjects, such as manual training, home economics and commercial high school courses, physical education, and so on are not neglected. Several school systems employ music and art supervisors. Manual training and home economics are available to the majority of pupils enrolled in city schools. (The population of Alaska cities varies from 300 to 6,000 each.) School orchestras, bands, glee clubs, school newspapers and annuals, basketball teams—boys and girls, debate teams, and the like flourish north of 54° 40′ as they do south of that line.

To what extent do high school graduates enter college or other higher institutions of learning? The answer to this question affords a test of the inspiration provided in the schools and of the ideals of both parents and pupils. Before presenting tatistics it is well to call to the reader's attention the fact that Alaska has but one higher institution of learning, the Alaska Agricultural College and School of Mines, situated near Fairbanks, in Interior Alaska. Students must choose between this school and similar institutions in the states. In either event the travel distance for the majority of students will range from 800 to 1,500 miles. In spite of this handicap an average of approximately 60 per cent of the high school graduates over a series of years enter higher institutions of learning. A much larger per cent of eighth grade graduates enter high schools—about 95 per cent.

Alaska does not neglect to provide opportunity for foreigners seeking knowledge of the English language and of American history and ideals. During the past year citizenship night schools were maintained in seven centers. A total of 205 adults, representing thirty-two nationalities, took advantage of the opportunity to attend such schools.

The Alaska school field embraces approximately 600,000 square miles of territory, an area equal to one-fifth that of the United States. The Territorial school population is approximately one pupil to each 120 square miles. The administration and supervision of the schools presents problems not found elsewhere. For example, an inspector leaving the central office at Juneau when schools begin work in September, would consume the entire school year in visiting all schools in the field once by ordinary means of travel, namely, by steamboat, railroad, gasboat, automobile and dog team. If an airplane were placed at his disposal the travel time could be reduced considerably in Interior and Western Alaska, where natural landing fields are numerous during the winter months. Again, lack of transportation facilities makes mail communication slow. Months are consumed in collecting information of a particular type. School supplies and equipment for schools off the regular winter ocean and railroad travel routes must be ordered well in advance and delivered before the close of river steamer and small coastwise boat navigation. And yet, as stated in the opening paragraph of this article, teaching school in Alaska has about it a fascination which annually attracts thousands of the nation's best teachers.

ROAD SYSTEM OF ALASKA

(*Continued from Page* 35)

of the resources, routes of communication, government and territorial establishments and aviation fields ever made in the territory during one continuous trip was made in June 1928, by Hon. George A. Parks, Governor of Alaska; Mr. R. J. Sommers, Territorial Highway Engineer, and the writer. During this tour of about 4,500 miles, about 2,100 miles were covered by airplane. Only a small portion of the itinerary outside the regular rail and steamship routes could have been completed in the same length of time if an airplane had not been used.

The Alaska Road Commission was established by law in 1905 and has functioned since that year. During the earlier years of this organization's career progress of the work was necessarily slow because of very limited funds. But the accomplishments of the commission under the able leadership of General Wilds P. Richardson were of incalculable benefit to the Territory and the ground work laid during this period proved to be the foundation for the more elaborate system built with the increased funds provided during later years. General "Dick" remained with the work until called to command a combat brigade in 1917.

During the war, like many other civil undertakings the Alaska road system was forced to mark time while the resources of the country were concentrated on the war necessities. Major Wm. H. Waugh served as president of the commission during this period and also for a short time after the war until he was relieved for assignment to other important work.

General James G. Steese was appointed president of the commission in 1920 and served as such until 1927 when he voluntarily withdrew to respond to a compelling demand for his services elsewhere. General Steese's regime was characterized by greatly increased activities over the entire road system. His leadership not only inspired the entire organization but also produced such general confidence in the conduct of the work and benefits to be derived therefrom that greatly increased appropriations were forthcoming, permitting the introduction of high class mechanical equipment and concentration of plant and personnel on the important projects so that they could be prosecuted swiftly and efficiently.

So much for the leaders who have conducted this important work. The services of the other members of the organization should not go unnoticed. This organization has been built up in Alaska from men who know the country and its people and who have a comprehensive knowledge of the best methods of work. Many of them operate in remote localities with only occasional supervision. Invariably they command the respect of the public. Their accomplishments have been demonstrated by the miles of serviceable roads that form the framework of the present and future development of Alaska.

The program for the future includes the maintenance and improvement of the existing system and the opening up of new areas by additional mileage. The Kotsina country, the Chistochina country, the Fairbanks-Chena Hot Springs area, the Long-Poorman-Ophir section, the rich Kantishna area and Iliamna Lake-Lake Charles region in Southwestern Alaska are among those which can be opened and developed in accordance with the existing approved program as soon as the transportation routes to these areas can be built and as rapidly as conditions permit.

Alaska is not a poor relation of the United States seeking alms, sympathy or pity. It is a vast natural resource of great value but like all raw resources it needs development. It is the last frontier of continental United States. Even in its present underdeveloped state it annually purchases and pays for over thirty million dollars worth of goods which are shipped through our Pacific Coast ports.

ALASKA YEARBOOK 1928