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Annual REPORT OF THE

Board of Road Commissioners for Alaska

TO THE SECRETARY OF WAR

1907

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LETTER OF TRANSMITTAL.

OFFICE OF BOARD OF
ROAD COMMISSIONERS FOR ALASKA,
Skagway, Alaska, October 21, 1907.

SIR: I have the honor to submit report of the operations of the Board of Road Commissioners for Alaska for the season of 1907.

Two copies of the report are forwarded—one herewith, the other under separate cover—with certain photographs illustrating the work.

Very respectfully,

W. P. RICHARDSON,
Major, Ninth Infantry,
President Board of Road Commissioners for Alaska.

The ADJUTANT-GENERAL,
War Department, Washington, D. C.

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REPORT OF THE BOARD OF ROAD COMMISSIONERS FOR ALASKA.

REPORT OF THE PRESIDENT.

The present report of the Board covers the period from the date of last report, November 5, 1906, to the present time, and is composed, as heretofore, of three parts: Report of the president of the Board, report of the engineer officer, and tabulated statement of expenditures by the secretary and disbursing officer.

To avoid repetition my own report is more in the nature of a brief summary of what has been accomplished, and touching such matters as relate to labor, population, benefits, and general progress of the work not covered by the detailed reports of the engineer and disbursing officers.

Immediately after the rendition of last year's report the Board laid out certain necessary winter work, similar to that of the previous year, embracing the examination, under winter conditions, of the principal cut-offs on the overland mail trail between Fairbanks and Fort Gibbon, and between the mouth of the Koyukuk River and head of Norton Bay; the shipment of supplies over the Valdez-Fairbanks trail, to be "cached" for use of the summer working parties, and the staking of certain exposed lines of travel in the Seward Peninsula and on the mail trail. Of this work the results of the Koyukuk River-Norton Bay reconnoissance were not encouraging, and the Board, while not abandoning the route definitely, will probably postpone further expenditure upon it until other and more important work can be disposed of. Reference was made in last year's report to the work of winter trail staking in the Seward Peninsula and along the mail trails, and an extract was there given from the report of the superintendent of the Nome district setting forth its advantages. The importance and benefit to the people of this work were further confirmed by the experience of last winter. The benefit to the mail service from improvements on the overland mail trail up to last winter was evidenced by the arrival at Nome on December 5 of the first through winter mail, forty-nine days from Seattle, as against December 29 of the previous year and December 31 of the year before. This saving of twenty-four days over any previous record was greatly appreciated by the citizens of Nome and the Seward Peninsula, and was made the occasion of a telegram to that effect to the Secretary of War. The best time from Seattle to Nome

was thirty-nine days, and the average time forty-one days for the season. It is expected that this time will be still further reduced the coming winter. The record time from Valdez to Fairbanks (376 miles) during the season was six days, ten hours and ten minutes. Much of the credit for the improved services should be given to Mr. E. S. Orr, mail contractor in charge of the route between Valdez and Fairbanks, and to the superintendents and carriers along the river and Bering Sea coast who undergo many hardships and occasionally lose their lives in the effort to protect and deliver the mails on time.

The amount accruing to the "Alaska fund" for road and trail construction from taxation in the territory was again supplemented by the Congress at its last session by a special appropriation of $250,000, "For the construction and maintenance of military and post-roads, bridges, and trails in Alaska * * *," which, with above $90,000 in the regular tax fund at the beginning of the season of summer operations, gave to the Board a larger fund than in any previous year, and a vast amount of work has been done, distributed from Prince of Wales Island in southeastern Alaska to Kotzebue Sound beyond Bering Strait. The Board made provisional allotments in the early part of April for the different sections of work determined upon, and met in Seattle for this purpose and for the purchase of animals, tools, and other equipment, and for the organization of parties for the season's work.

Some reference was made in the last report to the difficulty of carrying on work over such a wide area, giving it proper supervision and protecting expenditures, and explanation was made of the method employed in making disbursements. The same plan has been carried through this year and will be continued, with some modifications in detail now decided upon by the Board, to insure a more thorough protection to public funds.

The original act states that "the engineer officer of the Board shall in all cases supervise the work of construction and see that the same is properly performed." Under this proviso the engineer officer becomes responsible for the proper execution of work after it has been decided upon, "laid out" by the Board, and in support of this responsibility and in the further interest of a proper system, avoiding interference in instructions, he is given charge of the organization of all working parties and their immediate direction in the field as far as possible and consistent with the responsibilities devolving upon other members of the Board.

The system of accounting and of responsibility for work results in an undivided and harmonious effort on the part of all members of the Board, and has, it is believed, produced the best results possible under the conditions. The geographical divisions of the work and the sub-offices mentioned in last report have been continued with the same civilian assistants.

The requests for assistance in the way of road and trail construction in various parts of Alaska have been so numerous and so far in excess of the abilities of the Board to meet, with the funds available or likely to become available in the near future, that it was thought proper at the beginning of the present season to issue the following

circular for the purpose of informing the people throughout the Territory upon the policy and limitations of the Board:

OFFICE OF BOARD OF ROAD COMMISSIONERS FOR ALASKA,
Skagway, Alaska, May 1, 1907.

CIRCULAR NO. I.

In view of certain inquiries made of the Board of Road Commissioners, from time to time, in regard to its plan of work and policy in the distribution of funds at its disposal, the following is published for the information of all who may be interested:

The original act states in part:

"The said Board [of Road Commissioners] shall have the power, and it shall be their duty, upon their own motion or upon petition, to locate, lay out, construct, and maintain wagon roads and pack trails, * * * if in their judgment such roads or trails are needed and will be of permanent value for the development of the district; but no such road or trail shall be constructed to any town, camp, or settlement which is wholly transitory. * * * "

The above quotation from the law defines the general authority and limitations of the Board in its expenditure from the "Alaska fund," which consists of moneys derived from liquor licenses, occupation and trade licenses outside of incorporated towns in Alaska, and 70 per cent of which is applied to the construction and maintenance of roads and trails.

The Board of Road Commissioners has, in pursuance of this law, endeavored to locate and construct such roads during the past two years as the funds available would permit, giving preference to localities which seemed in the greatest need of immediate aid. The Board has given consideration, wherever practicable, to petitions received from the people, and such petitions are desirable to have, but they should always be accompanied by the fullest possible information as to the character of the route desired, tonnage to be transported, number of people to be benefited, probable permanence of the community, and approximate cost of the desired road or trail.

In addition to the "Alaska fund" proper, Congress has at its last two sessions appropriated additional sums from the Treasury for the "construction and maintenance of military and post roads, bridges, and trails," and it has been the plan of the Board to apply this latter fund, as far as possible, to the location and construction of main trunk lines of communication through the territory, and especially the through mail route from Valdez to the Seward Peninsula, applying the "Alaska fund," as far as practicable, to local improvements.

The Board is not able to redistribute this latter fund altogether in the localities where collected, and when it is borne in mind that a large proportion of it is derived from the tax on canneries and transportation, this difficulty will be appreciated. Effort has been made to apply the fund as equitably as possible, taking into consideration the amounts collected, and the respective needs of the different districts and localities, and the length of time which they have been paying taxes.

Also, those interested are reminded that the Board has an immense territory to cover, and it will take several years before a complete examination even can be made of all the sections requiring aid, and that the actual construction work can not be undertaken before this is done, or before provision is made for protecting the Government and people in the expenditure of funds.

In addition to the main office at Skagway, the Board has suboffices at Nome, Fairbanks, and Valdez, and petitions or other communications relating to local needs should be addressed to the superintendents of districts at these respective places, who are instructed to forward the same to the headquarters' office with full report.

Suggestions will be received and given consideration in regard to work contemplated or in progress, and especially in remote places where it is impracticable for the Board to give personal supervision.

Cooperation of the people is also invited in this very important work for the opening up of the Territory, and subscriptions will be received, where offered, in case the funds in the hands of the Board are inadequate for any particular work undertaken, and these subscriptions will be disbursed strictly for the purposes offered and with the same care as other funds; or, the Board will

furnish an engineer to superintend such disbursements, if preferred, where the amount is sufficient to justify.

Several applications having been received for reimbursement to private parties of expenditures made upon roads before and since the commission began its work, it is thought proper to state definitely here that such claims can not receive favorable consideration. The Board will, however, where an expenditure of this kind has been made in good faith, endeavor to aid, if necessary, in the further improvement or completion of any such road or trail, if properly located, giving it preference to new work in the same locality. * * *

It is only proper to remark again here that the people of Alaska generally, under the stress of a pressing need in this respect, and with other difficult and discouraging conditions to face, have manifested a sentiment of patient confidence in the Board and of hearty support of the work accomplished; but along with it has been some discontent and ill-natured criticism, as might be expected, it being quite beyond the compass of human intelligence and energy to satisfy the demands and exactions of certain elements whose interests are not served or who suffer from an overstrained responsibility for all public work. In comparison to the importance of the work, there are perhaps as many expert road and trail builders in Alaska as there are Panama Canal diggers in the United States.

In the duty of inspection and supervision the president of the Board has visited the localities of Seward, route No. 12, and Valdes, on the southern coast, and the trail through Keystone Canyon and over Thompson Pass, the portage road on Prince of Wales Island, the various points on the Yukon where work was in progress, and the Fairbanks and Nome districts.

The engineer officer has been in the field the greater part of the time, all but about three months and ten days, since the date of last report, making the journey over the winter trail as far as Fort Gibbon and back to Valdes, superintending the sledding and distribution of supplies from Valdes during the late winter, and following up the various working parties during the summer.

The disbursing officer has, of necessity, been kept almost constantly in the office, but with supervision of the nearby work of the Haines-Chilkat road.

A tabulated statement follows, showing the distribution of work and the mileage completed during the season, also what had been completed up to the date of last report.

Distribution of work and mileage completed during season.

WAGON ROADS.

No.	Name.	Constructed and improved to Nov. 1, 1906.	Constructed Nov. 1, 1906, to Oct. 1, 1907.	Total constructed and improved.	Length previously constructed improved during year.
		Miles.	*Miles.*	*Miles.*	*Miles.*
1	Portage road	2.00	1.96	3.96	0.31
3	Haines-Pleasant Camp	3.04	9.00	12.04	.....
4	Valdez-Copper Center	.....	.71	.71	.....
7	Gilmore-Summit	6.00	.....	6.00	.....
7a	Summit-Cleary	4.73	[a] 1.33	[a] 6.06	.....
7c	Summit-Fairbanks	9.22	[a] 1.33	[a] 10.55	.....
7b	Fox-Dome	6.88	[a] 1.00	[a] 7.88	.....
7d	Ridge-Vault	.....	[a] 1.50	[a] 1.50	.....
7e	Siding-Esther	.....	[a] 6.00	[a] 6.00	.....
9	Rampart-Big Minook	4.25	2.00	6.25	1.00
11	Eagle-O'Brien	.....	8.75	8.75	.....
15	Circle-Birch	.....	9.50	9.50	.....
8	East Fork-Council	31.00	.....	31.00	.....
10	Nome-Fort Davis	2.10	.....	2.10	.....
13	Nome-Dexter	7.00	3.00	10.00	.....
31	Anvil-Glacier	.....	.80	.80	.....
33	Penny River	.....	.80	.80	.....
32	Cripple River	.....	.80	.80	.....
27	Deering-Inmachuck	.....	.75	.75	.....
26	Candle Creek	.....	2.00	2.00	.....
12	Mile 35, Sunrise-Hope	.....	37.00	37.00	.....
12a	Bear Creek	.....	1.50	1.50	.....
	Total	76.22	89.73	165.95	1.31

SLED ROADS.

	Valdez-Copper Center	24.75	.....	24.75	5.75
4a	Marshall Pass	.75	.....	.75	.....
6	Copper Center-Delta	6.00	43.00	49.00	7.25
6a	Delta River	25.00	.50	25.50	.....
5b	Delta Cut-off	.....	52.00	52.00	.....
5	Fairbanks-Washburn	62.00	.....	62.00	62.00
5a	Washburn-Tenderfoot	4.00	15.00	19.00	4.00
16	Cleary-Birch Creek	.....	[b] 34.00	[b] 34.00	.....
17	Fairbanks-Hot Springs	.....	[b] 48.00	[b] 48.00	.....
18	Hot Springs-Fort Gibbon	.....	34.00	34.00	.....
11	Eagle-O'Brien	.....	7.25	7.25	.....
22	Eagle-Seventymile	.....	15.00	15.00	.....
34	Canyon Creek-Walkers Fork	.....	2.50	2.50	.....
11a	Jack Wade-Steel Creek	9.90	.....	9.90	.....
	Total	[b] 132.40	251.25	383.65	79.00

TRAILS.

4	Valdez-Copper Center	2.00	.....	2.00	.....
6	Copper Center-Delta	74.00	.....	74.00	6.00
(5)	Washburn to McCarty	30.00	.....	30.00	.....
16	Cleary-Birch Creek	.....	[a] 30.00	[a] 30.00	.....
19	Cut-offs on Yukon	.....	36.50	36.50	.....
35	Nome-Unalaklik	.....	52.00	52.00	.....
	Unalaklik-Kaltag	17.00	.....	17.00	.....
	Total	123.00	118.50	241.50	6.00

[a] Estimated; reports not yet received.
[b] Does not include 65 miles sled road from Washburn to Doneleys, replaced by new Delta Cut-off.

The totals to date are: 165.95 miles completed wagon road, 383.65 miles winter sled road, 241.50 miles dog team and pack trail, 382 miles winter trail flagged (last winter); 3 river bridges, 3 ferries installed.

Under the head of bridges are mentioned only those which have cost for their construction above $2,500, or have been built by a separate allotment, apart from any road or trail. Scores of smaller bridges have been constructed, many of them costing several hundred dollars, along the different roads and trails; in fact, in many instances, the first necessity is to provide for the safe crossing, by bridge or ferry, of the various water courses, which are very numerous throughout Alaska.

To convey a proper understanding of the work a somewhat different classification has been adopted from that used heretofore. The designation "wagon road" is applied in a restricted sense, embracing only that class of road intended to meet the conditions of an all-year-round traffic of considerable tonnage, located with suitable grades, crowned, ditched and drained, and corduroyed or planked where necessary. The "winter sled road," of which the principal mileage is between Valdez and Fairbanks and extending to Fort Gibbon, is designed to meet the requirements of winter travel only, although many portions are suitable for light-wheeled traffic in summer. It differs from the "wagon road" in not being crowned, ditched and drained, nor extensively corduroyed, and from the "dog-team and pack trail" in being of suitable width through the timber and side hill cutting for double teams, of proper grade for loads, and with the principal stumps and surface inequalities removed to give an even bearing. The winter travel begins in early October and lasts to about the end of April. The cost of the winter sled road is only a small fraction of the cost of the "wagon road." The "dog-team and pack trail" construction is only used where the volume of travel is not sufficient to justify a more expensive road, or where the cost of other construction is practically prohibitive, as has been the case heretofore through Keystone Canyon and over Thompson Pass, near Valdez. It differs from the winter sled road only in being narrower, and with less attenton to grade and surface inequalities.

An inspection of the foregoing tabulated statement may suggest the idea that the work of the Board is much scattered, but attention is invited to the fact that there exists a likewise wide separation between the different communities in Alaska, and it is believed to be a proper policy to distribute the expenditure, especially from the tax fund; also, that the most difficult sections should be taken care of first. The Board is working to a fixed plan, and if the previous liberal support given by Congress shall be continued for two or three years longer many of the disconnected parts of the work will be united and a definite and permanent result will be accomplished.

Some figures were given in last year's report illustrating the reduction in the cost of transporting supplies where roads had been built by the commission. The same encouraging results, referred to in detail in report of the engineer officer, have been observed this season. The Valdez-Fairbanks route has continued to receive first consideration by the Board, and substantial improvements were made along nearly the entire distance. There passed over the southern, Valdez-Copper Center, section of this route last winter 2,300 persons, 2,100 tons of freight, and 160 head of beef cattle; over the northern or Tanana section, in and out of Fairbanks, 3,000 persons and 1,700 tons of freight.

The labor conditions during the season were not entirely satisfactory. Two serious labor strikes occurred in the spring—one at the Treadwell mines, in southeastern Alaska, and the other in the Fairbanks district. There was also a small strike in the Seward Peninsula, Nome district, but this appears to have been settled without any special effect upon the camp. The Fairbanks strike occurred at about the beginning of the spring "washup" of the winter gravel dumps from the mines and resulted in a serious depression to the camp, which continued nearly all summer, with a consequent diminution in the season's output of gold.

The effect upon the work of the road commission was to compel a continuation of the same rate of wage for an eight-hour day that had previously been general for ten hours. It is only in recent years that the "day" unit of time has come to be used in connection with the scale of wages in Alaska; the practice formerly being to consider only the hour in fixing the rate, that generally being uniform throughout the camp, but the number of hours being agreed upon by the parties at interest.

Road and trail work has not the heavy monotony of work in the mines and, being above ground and more varied, is more attractive to the average laboring man, and our Board believed that labor ought to be engaged at the same hourly wage as in the mines, without regard to the number of hours. But this was not found practicable, except in one instance, and is not thought to have been a success even then, considering the results accomplished.

The Board has heretofore considered that the expression "extraordinary emergency" in the eight-hour law had a proper application to a great deal of the work carried on by the road commission in Alaska, on account of the extremely short working season, the remoteness and pioneer character of much of the work, and the fact that most of the men employed have no other home but the camp and are striving to earn as much as possible during the long daylight hours of the brief summer season, expecting this to offset in part the frequently enforced idleness during portions of the long winter. However, under the conditions existing at the beginning of the present season, the Board felt constrained to lay the question of the application of the law before the War Department for decision, and the president of the Board was advised by wire under date of June 4, that the Secretary of War decided that the eight-hour law applies to work of the commission in Alaska. The result of its strict application, with the high cost of subsisting the men and expense of transporting materials and supplies remaining the same, and with, in some instances, a loss of much valuable time in conducting parties to and from the locality of the season's work, has been a greater increase in the cost of construction than is represented by the percentage of reduction in hours.

Some little confusion in accounting has arisen, also, from an effort on the part of superintendents to adjust the daily rate to a fractional division per hour for eight hours.

The Board will undertake next season to fix and maintain rates of pay for the different localities based upon past experience. There is, however, a great variation in the conditions. The cost of labor during the past season has ranged from $2.50 to $5 per day, the commission boarding the men, with cost of subsistence ranging from little

more than 50 cents per day, in southeastern Alaska, to $3 per day in the interior. Superintendents, locating engineers, foremen, and assistant foremen have received from $150 per month to $10 or more per day. When it has been necessary to hire animals a similar variation existed, ranging from $10 per day for a 4-horse team, with feed, to, in one instance, $13 per day for a single horse. The mileage cost of construction under these varying prices of labor, and with an even greater diversity in climatic, timber, and soil conditions, and for the different kinds of work enumerated, varies very greatly, as might be expected, being as low in some cases as $100, or less, and from that to several thousand dollars per mile. The average cost in round numbers has been, for wagon road construction, about $2,200, winter sled road, $250, and pack trail, $100 per mile.

An attempt has been made in previous years to include in the report such information in regard to railroads, output of gold, and population in the Territory as might have a bearing upon the work of the commission.

Touching upon the subject of railroads in last year's report, I stated, referring to the various enterprises under way or projected at that time, that "none of these routes named gives promise, in my opinion, of becoming any time in the near future what Alaska needs in the way of a trunk line or developer of the Territory." This view has been more than confirmed by the progress of events since that time, especially in regard to the proposed routes from Valdez, Cordova or Orca, and Katalla. In these localities the situation has been marked by vacillating policies, with many conflicting interests and legal complications, accompanied by more or less rioting and some bloodshed, and with very little railroad building. I have no recent reports from the Alaska Central Road, but understand that work has continued in a reduced way, and that the prospects of the road are more encouraging. The Tanana Valley Railroad, Fairbanks, has added 20 miles to its line, making a total mileage of 46 miles, all well located for the supply of the mining camps. The Seward Peninsula Railroad, Nome, has made important extensions of its line to the eastward and westward, along what is known as the third beach line, where the most active mining operations are in progress. The extension of this road and of the Tanana Valley road have in a general way joined well with the road commission work, the two constructions supplementing each other.

I have not been able to get late or accurate reports in regard to the season's output of gold. Owing to the long continued strike and suspension of operations in the Fairbanks district, and to the Treadwell strike, the output for the Territory will doubtless be less than it was last season. The Nome district will come forward with its usual reliable output, amounting for the present year to perhaps $7,500,000. The approximate figures furnished me place the total yield for the Territory, conservatively, at least about $18,500,000.

Two new gold-bearing districts on the upper waters of the Chandelar and Innoko rivers have attracted some attention during the past year, but sufficient development work has not been done in them to say whether or not they are to become producers to any considerable extent. The Chandelar River has its source near the headwaters of the Koyukuk and flows southeasterly into the Yukon at a point about 40 miles below Fort Yukon. The Innoko rises south of the Yukon,

near the Kuskokwim divide, and flows in a southwesterly direction to its junction with the Yukon, about 400 miles from the mouth.

The population of Alaska has not, so far as I am able to judge, increased during the past year, but has shifted somewhat.

There was considerable activity in exploration for copper and in development work on properties located in the Prince William Sound region and on the Chitina River, in southern Alaska, which has caused an influx to these sections, but in the interior of Alaska and in southeastern Alaska, except Ketchikan, there has probably been a slight diminution. This is largely due to the labor strikes already referred to. There are, however, other reasons. No new districts of importance have been located for several years, unless one of the two already mentioned should prove to be rich, and in the meanwhile glowing stories of the richness of gold discoveries in another part of our country have spread far and wide. Aside from the usual contingent of the simply hopeful and adventurous, but inexperienced, there is a percentage of the country's population engaged in the business of mining more or less permanently and which enters every new field, and for the time being Alaska is suffering from the competition, if one may use the term in this connection, of the more convenient and alluring field of operations in the State of Nevada.

These facts, with the prosperous condition and high wage in the States, have temporarily checked the flow of people to Alaska. Also the glamour and romance, surrounding in many persons' minds the search for gold in the far north, have largely disappeared, and have been succeeded by a sober appreciation of the hard facts connected with such search in any country, and which are only emphasized in Alaska with its remoteness, severe climatic conditions, and still very imperfect means of travel and communication with the outside world. In a certain sense the Territory is in a kind of transition stage, and there has been no time, in my opinion, when it stood more in need of a continuation of aid from the General Government than at this time to tide over the effect of what seems to me a sort of unrest, especially in the smaller communities, amounting almost to discouragement. Her yearly output of gold and other products justifies this. The telegraph, cable, and mail service have done much and are being further improved. The Geological Survey, under the direction of Mr. A. H. Brooks in Alaska, has performed marvels in the way of mapping the country and furnishing valuable information in regard to mineral and other resources.

This commission has labored hard to effect such improvement in the travel and transportation conditions as the funds at its disposal permitted.

When the last special appropriation was made by Congress for the "construction and maintenance of military and post-roads, bridges, and trails," to be expended by the road commission, supplementing the Alaska tax fund, it was proposed by our Board to carry on the work through two seasons without request for further aid. The developments, however, since that date and the numerous demands upon the Board, with the increased cost of construction under a strict application of the eight-hour law, will compel the Board to seek a further appropriation of $200,000 for the next season in order to carry forward the work properly. This estimate has already been submitted,

with statement more in detail as to the needs and proposed work for next season. It is intended, if funds permit, to continue construction, or improvement, on practically all the roads enumerated in the engineer officer's report, giving special attention to the improvement of the Keystone Canyon and Thompson Pass sections of the Valdez route, also to the Chilkat road leading from Haines (Fort Wm. H. Seward), and to the winter sled roads and trails of the interior, over which mails are carried.

A map of the Fairbanks local district accompanies this report; also certain photographs illustrating portions of the work.

The Board is indebted to Judge Royal A. Gunnison, of the first judicial district of Alaska, who made the winter trip from Valdez to Fairbanks, for the small photographs illustrating the conditions along that route last winter.

Respectfully submitted.

W. P. RICHARDSON,
Major, Ninth Infantry,
President of the Board.

OCTOBER 18, 1907.

REPORT OF THE ENGINEER OFFICER.

The season of 1907 has been an extremely satisfactory one for the work of the Board. The weather in the interior was most favorable. The funds at the disposal of the Board were considerable and were available sufficiently early in the year to permit the most advantageous organization of the working parties. Under these circumstances the work was pressed to the limit of the funds, since all the work undertaken is urgently needed, and will result in a very considerable saving to the various communities in reduced freight charges as well as adding greatly to the ease and convenience of communication.

The cost of the surveys for the maps and plans required by law has, as heretofore, been considerable, although the strictest economy was practiced and no refinement of method employed beyond the necessities of the case. These surveys are, however, in many cases essential, and in all cases of great convenience in the prosecution of the work.

Practically no change has been made in the character of the wagon roads constructed by the Board, or in the method of their construction, all of which has been described in detail in previous reports. These roads are designed to be good country highways and nothing more. Where the ground permits, ordinary graded earth roads are built. Where the ground is of such a character that an ordinary earth road can not be expected to support the traffic, a light corduroy of small spruce is ordinarily laid and covered with several inches of earth. As a rule the corduroy is required only where the ground is a peaty muck, where it contains large quantities of ice, or where it is wet and considerable traffic is immediately expected.

On the Seward Peninsula where no timber is available a thick layer of gravel is used as a protective covering on bad ground. In one instance, on the portage road across Prince of Wales Island, on

the southeast coast of Alaska, a plank road was laid, as the rainfall in this section is excessive and plank the cheapest protective covering locally available.

In the construction of the roads considerable economy is effected through the use of road machines drawn by 6 or 8 horses. These machines can be used to great advantage in ditching and in side hill grading. The Board now owns 4 of these machines, distributed throughout the Territory. These machines and other tools and equipment are loaned to local authorities on their request for work under the local road tax or under the funds of incorporated towns.

To remove any misapprehension in regard to the character of the wagon roads constructed by the Board, it should be stated that they are in the main part merely earth roads, and as such will become soft and will cut up badly during long-continued wet weather. In the present stage of the development of Alaska, however, when many localities have no roads at all, it is not considered expedient to use more costly construction than that which will afford a good road during all ordinary conditions.

The sled roads constructed by the Board during the year were of a better character than those previously built, with a corresponding increase in cost. In their construction up to the past season the trees were merely cut close to the ground, and considerable reliance was placed on the snow to afford a smooth roadway. It was found, however, that as the moss and vegetation was trampled down the stumps projected to such an extent as to seriously interfere with travel in the early winter. This was particularly the case last winter, during the early part of which little snow fell. As far as practicable, the stumps were grubbed out and the ground leveled on the new sled roads constructed during the season, and considerable work of a similar character was done on those previously constructed.

A detailed description of the various roads undertaken by the Board is as follows:

SOUTHEASTERN ALASKA.

Portage Road, Prince of Wales Island (No. 1).—This road connects the head of Chomly Sound, on the east side of Prince of Wales Island, with the head of Hetta Inlet, on the west side of the island. The length is 3.96 miles. It is designed to afford communication between the town of Ketchikan and the west coast of Prince of Wales Island without rounding the island by way of Cape Chacon. Vessels rounding the cape are likely to encounter very heavy seas and the smaller craft are frequently delayed awaiting favorable weather. The west coast of the island is sheltered by numerous small islands and can be navigated with safety by small craft. There is a regular weekly mail service from Ketchikan across the portage.

Construction was begun during the season of 1906, but progress was slow. Rain fell almost continually and the ground was covered with decaying vegetable matter to the depth of as much as 4 feet. It was very difficult to keep men on the work.

At date of last report (November 1, 1906) the crew was still in the field. The cost to that date, including outstanding liabilities, was $12,395.05. The crew continued at work until November 14, 1906, when the work was closed down for the winter. The expenditures

during this period were $3,158.49, making the total expenditure for 1906 $15,553.54; 1.09 miles of earth road and 0.9 mile of corduroy had been constructed, and 1.66 miles in addition had been cleared and logged off during 1906.

Construction was resumed April 26, 1907, under Mr. George Pulham, superintendent, and J. S. Hayes, foreman. On arriving at the work considerable snow was found on the ground, but to utilize the equipment properly during the season the work could not be delayed and the snow was shoveled off. The cost of laying corduroy during the preceding season had been so high that it was decided to use plank on those places where an earth road would not serve. It was found that portions of the earth road constructed during the previous year would not sustain the heavy wagon loads of plank, and these portions, aggregating 0.31 mile, were corduroyed or planked.

The entire road was completed June 12.

The new construction comprised 0.24 mile of earth road and 1.73 miles of plank road. In addition a foot trail was constructed along the north side of Chomly Sound to a point open throughout the year, as during severe weather ice forms at the head of this inlet.

The cost of construction was as follows:

Repairs and improvements to road previously constructed:		
1,565 linear feet plank road, at $1.26 per foot, including lumber	$1,978.39	
90 linear feet corduroy, at $2.18	190.81	
General repair	578.11	
		$2,747.31
New work of the present season:		
Grubbing and grading 1.97 miles, at $1,895 per mile	3,734.48	
9,148 linear feet plank road, at $0.92 per foot, including lumber	8,231.41	
Foot trail	500.17	
		12,466.06
Total		15,213.37

The above figures include superintendence, incidental labor, transportation, and all plant and equipment except that transferred to other roads. Lumber cost $14 per 1,000 delivered at the head of Chomly Sound and $14.50 per 1,000 delivered at Hetta Inlet.

The road has been in use since its completion, but the travel has been light and, as far as known, confined to foot travelers.

Road from Haines to Pleasant Camp (No. 3).—The purpose of this road is to afford communication to the Porcupine mining district, a promising mining region at the headwaters of the Chilkat River. A weekly mail goes over the route. During the season of 1906 the section between the town of Haines and the Indian village of Hindustucki, on the Chilkat River, a distance of 3.04 miles, was completed at a cost of $5,977.91. This road affords good communication between Haines and canoe navigation on the Chilkat River.

The work of the present season began at Wells, on the Chilkat River, 20.43 miles above Hindustucki, and extended toward Pleasant Camp. Between Hindustucki and Wells travel at present goes up the river by canoe.

The line was located and surveyed by Mr. J. H. Watson, from Wells to Pleasant Camp, a distance of 18.31 miles. Mr. Watson then located and surveyed a line from Wells to Hindustucki. The total cost of the survey of the entire distance of 38.74 miles was

$3,230.63, or $83.40 per mile. As the work involved in the construction, particularly between Wells and Hindustucki, is very heavy, the survey was made with a much greater degree of detail than is ordinarily the practice of the Board.

Construction of the section from Wells toward Porcupine and Pleasant Camp was begun June 18, with Mr. J. C. Hayes as foreman, and continued until October 4, 1907.

Nine miles of road were completed. The work was heavy in places, but for 2 miles the road follows a dry gravel bar of the Klihini River, where no work was necessary.

The cost of the work is as follows:

Clearing 27.53 acres, at $123.43	$3,398.14
Grubbing 9.28 acres, at $50	464.00
Bridging 470 linear feet, at $2.50	1,175.00
Culverts, 50 linear feet, at $2	100.00
Corduroy, 486 linear feet, at 80 cents	388.80
Earth, 9,150 cubic yards, at 25 cents	2,287.50
Rock, 3,800 cubic yards, at 90 cents	3,420.00
Cribbing, 200 cubic yards, at $2	400.00
Total	11,633.44

The proportional cost of superintendence, subsistence, and incidentals is distributed among the various items.

The cost of plant, etc., transferred from route No. 1, was $355.87, of which $90 is charged to the above distribution, making the total cost of the road $11,899.31.

The road has been continually in use since the first portion was completed, one company hauling 2 tons per day over it. The rate for freight from Wells to Porcupine—12.3 miles—previous to the construction of the road was $50 per ton. Since the construction no rate has been established, but the cost of hauling is estimated as not to exceed $25 per ton.

The table of distances along this route is as follows:

	Miles.
Haines	0.00
Hindustucki	3.46
Wells	23.89
Porcupine	36.20
Pleasant Camp (international boundary)	42.20

VALDEZ DISTRICT.

Mr. J. H. Ingram is superintendent in charge of this district.

Valdez-Copper Center route (No. 4).—This is the first section, 102 miles in length, of the main winter route into the interior of Alaska. It is also the summer route for all travel to the Copper River Valley, including various widely scattered placer mines and copper deposits said to be extremely rich, but as yet not producing on account of high transportation costs.

The precise amount of freight and number of persons using this route last year could not definitely be determined, but from careful estimates it is believed that more than 2,100 tons of freight, 2,300 persons, and 160 head of beef cattle left Valdez over the route during the past winter. About 900 tons of freight and 300 persons left the route at Wortmans and went over the sled road via Marshall Pass

(4a) to the Chitina River, in the valley of which the copper deposits are located, instead of following the main trail over Thompsons Pass.

Between November 1 and April 1, 2,200 pounds of mail matter per week are carried over the route to the interior.

The route through the Coast Range, some 30 miles in length, is as yet merely a pack trail, sufficiently wide for narrow 1-horse sleds. For the remainder of the distance there is a sled road for winter use and a pack trail for summer use. The pack trail was constructed by the War Department in the early days of the development of Alaska. The Board has improved it where necessary, and is extending the sled road into the mountains from the north side. As the cost of constructing a wagon and sled road through the range would be very high, and as each year one or another railroad company claiming substantial financial backing has been actually engaged in constructing a railroad through the mountains, the radical improvement of this section has not as yet been thought advisable by the Board.

The work of the past season has included winter maintenance, the construction of a road around a rock bluff about 8 miles from Valdez, so that wagons could be safely used on the first 11 miles of the route, various improvements to the sled road beyond the mountains, and the extension of the sled road from Teikhell, 50 miles from Valdez, to Beaver Dam, 40 miles from Valdez.

During the winter, a force of from two to four men were employed on the mountain portion of the trail, in filling holes as they formed, cutting flat the intrusions of ice formed by springs, and otherwise repairing the winter trail.

The cost of this work to the Board was $655.27, which comprised the wages of the men only, their subsistence being paid by a subscription raised by interested parties.

The necessary supplies for the summer work, as well as for work on sections 6 and 6a, and for the Kotsina Bridge, were distributed by a sledding party during the winter. The work was done by the Board's teams and hired labor. The cost of the sledding party, including all equipment, was $10,133.65, of which $710 is chargeable to this section of the trail.

The work at the 8-mile bluff from Valdez was commenced May 22 and completed June 16, with Mr. Ingram in charge, O. C. Olson, foreman.

The work comprised—

330 linear feet rock bluff graded 8 feet wide, at $2.93	$968.66
540 linear feet earth grade 8 feet wide, at 29 cents	158.66
226 linear feet bridges and culverts, at $1.68	370.79
One-half mile clearing, 16 feet wide, at $147.84	73.92
Total	1,572.07

The proportionate cost of transportation, subsistence, and superintendence is charged to each item.

This piece of work is not expected to appreciably reduce freight rates, but should add to the safety of summer travel by doing away with a dangerous ford.

The work of improvement on the sled road consisted in reducing an excessively steep grade near Copper Center and in cutting an alternative sled road between Ernestine and Tonsina. In this latter section considerable difficulty has always been experienced from seepage

water, that, continuing to flow under the snow in winter, comes to the surface at the well-broken road and, freezing on its upper side, gives it such a side slope that sleds often overturn. It is hoped that if the upper trail is first broken and used, it will cut off the flow of this water and enable travel to follow the lower trail without inconvenience.

The work was executed by the party engaged on route 6, after they were obliged to discontinue work on the latter route on account of the lateness of the season.

The work comprised—

Laying out trail	$80.00
Grading 1,230 linear feet, 8 feet wide, at 17 cents	212.35
Clearing 5½ miles, 16 feet wide, at $106	583.00
Total	875.35

This distribution includes superintendence and incidental labor, but not the cost of transportation of supplies. As the party is still in the field, the latter item is not yet settled and reported.

The extension of the sled road from Teikhell to Beaver Dam was taken up on the completion of the improvements previously described and is still in progress.

Sled road over Marshall Pass (No. 4a).—This is an alternative trail to route 4 for travel to the copper deposits and placer mines on the Chitina River. It runs by way of Marshall Pass, which is of considerably lower elevation than Thompsons Pass, crossed by the main trail. For travel to the far interior, however, this road is so much longer than the main trail as to be out of the question. A considerable amount of grading on this summit, to enable 4-horse sleds to travel over it, was done during the fall of 1906, at a cost of $1,058.14. During the winter of 1906–7 about 900 tons of freight were hauled over the road, but the difficulties experienced, on account of deep snow, render it doubtful whether the freighters will again use it during the coming season.

No work was done on this road in 1907.

Sled road from Copper Center to the Delta Pass (No. 6).—This is the second section of the through route from Valdez to Fairbanks. It runs through the Copper River basin to the summit of the divide, a distance of 99 miles by the sled road and 102 miles by the summer trail. At Gulkana, 26 miles from Copper Center, the trail to Eagle leaves the road to Fairbanks.

During the season of 1906 a pack trail 6 feet wide was cut by the Board from Gulkana to the Pass, to secure a fairly dry summer and fall route. This trail was used during the winter by the 4-horse stages of the mail and by all other travel.

The work of the season of 1907 consisted in straightening, widening, and grading the pack trail to provide a good winter road for 4-horse teams, in widening the grades between Copper Center and Gulkana, and in repairing the Taslina Bridge.

During the winter supplies for the work were freighted in and distributed along the route, the proportional cost for this section being $5,585. The construction crew, J. McDonnell, foreman, left Valdez June 17, and arrived at the work June 24. Construction was continued until the 1st of September, when the crew returned to Copper Center to take up the work on route No. 4.

The following new work was accomplished:

Clearing 43 miles trail 16 feet wide, 75 acres.	
Clearing 6 miles trail 12 feet wide, at $55.22	$4,140.33
Sidehill grading 8 feet wide, 12,130 linear feet, at 6 cents	707.89
Bridges and culverts, with ditches, 2,000 linear feet, at 66 cents	1,325.59
Locating and staking	712.00
Total	6,885.81

One and one-fourth miles of sidehill grade were widened, at a cost of $290.

The cost above given includes all superintendence and incidental labor, but not the cost of transportation of supplies. A considerable stock of supplies remains on hand for future use.

The Taslina Bridge was constructed by the Board early in 1906. It has four truss spans supported on pile piers, the piles being protected by rock-filled cribs. During the summer of 1906 the cribbing around the center pier was undermined and settled somewhat. The pier was repaired early in 1907, and a considerable amount of very heavy riprap was deposited around it to prevent further trouble of this sort. The cost of these repairs and improvements was $549.

It is expected that the work done on this route during the season will materially increase the speed of the mail and greatly improve conditions of general travel.

Sled road down Delta River (6a).—This is the third section of route from Valdez to Fairbanks, and is the portion through the central mountain chain known as the "Alaska Range." The length of this section is 42 miles. The valley of the Delta River forms the only available pass through these mountains. The river is a very rapid, shallow stream, continually shifting its channel in a broad gravel flat. In summer the fording of this stream in its lower portion is hazardous in the extreme. In winter the water is almost continually overflowing the ice, making travel on the river dangerous. Violent winds sweep down the valley at frequent intervals during the winter.

To improve the conditions of travel the Board constructed late in 1906 a sled road on the benches and along the hillside on the east side of the river for a greater portion of the length of the river traveled. The construction party was still in the field at date of last report. They completed 25 miles of sled road. The cost of this work was $8,506.

The portion of the route above timber line, about 18 miles in length, was staked by Mr. E. S. Orr, the mail contractor, under an agreement with the Board, for a compensation of $100.

The road constructed was of great benefit during the early part of the winter, when travel conditions are at their worst. Later in the winter, however, as the snow accumulated, the drifts became so deep after each succeeding storm that section after section had to be abandoned, the travel taking to the river, from which the wind had swept the snow practically clean.

The work of the present season consisted in the extension of the hillside road across a rock bluff that could not be attacked with the limited resources at hand the preceding season, and in installing a cable and traveler across a swift and deep stream that runs from a glacier across the trail in summer.

The necessary supplies were freighted in from Valdez during the winter, with the supplies for sections 4 and 6. The proportional cost for this section was $3,477.60.

The crew was sent to the work from Valdez, leaving June 17, and arriving June 30. Mr. O. C. Olson was foreman.

The work was of far greater difficulty than was anticipated, as the apparently solid rock of the bluff was, when opened up, found so seamy and slabby that large amounts had to be removed to secure a face that would stand. The party is still engaged in the work.

On August 31, 1,900 linear feet had been completed, at a cost of $4,323.90, including all incidental labor. The cable was installed at a cost of $186.

In addition to the work of the construction crew, an agreement was made with Mr. W. N. Ahlmark for cutting one-half mile of sled road on the lower portion of the route for the sum of $150. This will cut out a locality where, on account of the conformation of the ground, an enormous drift of snow was formed last winter.

While work on the Delta River is expensive, on account of its long distance from the base of supplies, and while it can not be expected that portions, at least, of the road will be used in late winter or by any considerable amount of freight, yet this work is of the greatest benefit in reducing the hazard of travel in the early portion of the winter season. Three horses were lost last year at the site of the work in progress this summer, and one man lost his life on the lower delta beyond the point where the winter trail leaves the valley.

The Kotsina Bridge.—The Kotsina River is a tributary to the Copper River, and is crossed by the land trail to the copper deposits and placer mines on the Chitina. The crossing has been a dangerous one, as the stream is deep and swift.

A bridge was constructed over this stream in March, 1907, by a crew from Valdez, O. C. Olson, foreman. The bridge consists of one 89-foot Howe truss span, on crib pier and abutments, and one smaller simple span.

The cost was as follows:

Cost of tools and material at Valdez	$168.60
Cost of outfit at Valdez	147.75
Transportation of material, provisions, and forage to site	1,397.60
Wages to and from site	1,183.83
Getting out timber, 1,640 linear feet, at 26 cents	433.25
Squaring timber, 1,640 linear feet, at 7 cents	108.76
Building and filling piers	260.52
Framing and raising truss	106.94
Cutting, hewing, and laying decking, 1,500 square feet, at 13 cents	198.84
Approaches	83.22
Foreman, cook, blacksmith	234.15
Total	4,323.46

FAIRBANKS DISTRICT.

Mr. John Zug is superintendent in charge of this district.

Delta Cut-off sled road (No. 5b).—This sled road is the fourth section of winter route from Valdez to Fairbanks. It extends from Doneley's Road House, on the Delta River, at the point where this stream leaves the Alaska Range, to the town of Washburn, on the

Tanana, at the confluence of the Little Delta River. The length of the section is 52 miles. It crosses the Delta River at Doneley's. As the fording of this river, on account of its depth and swiftness and the likelihood of a quicksand bottom, is dangerous, and as it shifts its channel to such an extent that neither a bridge nor a ferry appears practicable, the Delta Cut-off is suitable for winter travel only. Since, however, it shortens the distance some 20 miles and avoids one-half the length of the valley of the Delta, with its winds and overflows, the construction of this road for winter use only is fully justified.

A winter sled road was located and constructed through this section in 1906. The grades on the road were numerous and heavy, and an examination showed that a much more favorable location could be had. The new line was surveyed and located during the winter by Mr. John Bernard, at a cost of $4,572.77. Construction of the new line was begun early in July by a party under Mr. J. C. Wood. The party is still in the field, but will complete the work before winter.

Sled road from Fairbanks to Wasburn (No. 5).—This road is the last section of the winter route from Valdez to Fairbanks. It serves, in addition, the town of Richardson, on the upper Tanana. The length of the section is 62 miles. About 1,700 tons of freight and 3,000 persons traveled it during the winter of 1906–7.

The road was constructed by the Board during the season of 1906, and is described in the report for that year. The work of the past season was that of general improvement, and consisted in grubbing out stumps and grading all sidehill portions. In addition, several small changes were made in the location to improve the grade and decrease the distance. The portion from Fairbanks to the Tanana River—a distance of 3 miles—which had been so swampy as to be at times impassable, was corduroyed and ditched.

The improvement of main portion of the road was carried out by a party under Mr. John Joslin, and was extremely well done. The party began work May 22 and completed the section early in August.

The improvement of the portion from Fairbanks to the Tanana River was made by a party under D. Callahan, foreman, in August. A short section between the point where this crew left off and where Mr. Joslin began was completed by a special crew in September.

Early in the year ferries were installed at the Pile Driver Slough and at the Salchacket River, two streams crossing the trail that are frequently unfordable during the summer. These ferries are operated without expense to the Board.

Detailed reports of the work are not yet received.

Sled road from Washburn to Tenderfoot (No. 5a).—This road branches from the Fairbanks-Washburn road at the 60-mile post from Fairbanks. It affords communication during the fall, winter, and spring between the towns of Richardson and Fairbanks and connects the mines on the upper portion of Tenderfoot Creek with Richardson. The length to Tenderfoot Creek is 18 miles.

The first 4 miles of this road was constructed by the Board in 1906, and the citizens of Richardson completed the remainder during that year.

During the past season the location of portions of the road previously constructed was changed to bring the road on dry ground,

and throughout the entire distance stumps were grubbed and the road otherwise improved for the use of wagons in the fall.

The work was executed by Mr. Joslin after the completion of route 5. Detailed reports are not yet received.

FAIRBANKS LOCAL ROADS.

This system of roads connects the various towns and settlements in the vicinity of Fairbanks with the Tanana Valley Railroad. A map showing their location accompanies this report.

During the year the railroad extended its line, and the travel over certain of the roads has been largely decreased.

The Board's superintendent, Mr. Zug, was appointed road overseer of the Fairbanks road district by the local authorities, with the consent of the Board, and has administered the local road-tax fund during the past year. A very advantageous coordination of the two road-building agencies in the locality has resulted.

Detailed reports of the work on the local roads are not yet received. A general description is as follows:

Gilmore-Summit road (No. 7).—This road is the trunk line from the former terminus of the railroad at Gilmore to Fairbanks Creek and Cleary City. It was built originally by the citizens, and improved by the Board in 1905 and 1906. The work of the past season was confined to maintenance.

Summit to Cleary road (No. 7a).—This road is the branch from No. 7 to Cleary City. It was constructed by the Board during the seasons of 1905 and 1906. An extension down the creek was begun by the local authorities in 1906, and extended with the combined funds during the present season to the terminus of the railroad at the mouth of the creek.

The road previously constructed was maintained during the year.

Summit to Fairbanks Creek road (No. 7c).—This road is the branch from No. 7 to Fairbanks Creek. The original road was built by the local authorities. It was greatly improved by the Board in 1906. During the past year the portion constructed was maintained, and an extension of 1⅓ miles was built.

Road from Fox Gulch to Dome City (No. 7b).—This road runs from Fox Station on the railroad to Dome City on Dome Creek and was the supply route for that place and for Vault Creek previous to the extension of the railroad. It was constructed by the Board in 1906 and maintained during the past year. A branch 1 mile in length, from the road to the Ridge Top Station of the railroad, was built during the year.

Road from Esther Siding to Esther Creek (No. 7d).—This road was originally constructed by the citizens and local road authorities. During the year it was straightened, ditched, and improved with the combined local and Board funds.

Road from Ridge Top Station to Vault City (No. 7e).—This road was constructed during the year from the Ridge Top Station of the railroad to Vault City, the center of Vault Creek, which has just begun to develop during the year. The length is about 2 miles.

The six roads above described go far toward supplying the needs for local roads. To complete the work so that all the mines may

receive their freight at economical rates and so that the considerable population on the producing creeks may have easy and convenient intercommunication, will require much extension of the existing system.

In addition to these local roads and the sled road to Valdez the following sled roads were constructed.

Sled road from Cleary to Birch Creek (No. 15).—This sled road connects with the well-broken winter sled trails between Circle and Birch Creek, and will be used by the winter travel from Fairbanks to Circle and Dawson. The most essential part of the work was the construction of the road up the valley of the Chattanika River. Previously travel has gone on the ice of the stream, which overflows very badly. The route over the Twelvemile and Eagle divides was well staked, and some work was done along Eagle and Twelvemile creeks. In addition, the summer ridge trail to Twelvemile Creek was cleared and staked.

The line of the sled road was located by Mr. J. C. Wood during the winter, and the road was cut by a party under his charge. Work was begun May 21 and completed July 5. The summer ridge trail was cleared and staked under an agreement with Mr. J. C. Nichols.

Sled road from Fairbanks to Baker Hot Springs (No. 17).—This is the first section of the mail route from Fairbanks to Fort Gibbon. Its length is about 100 miles. Until the winter of 1906–7 travel to Hot Springs and Fort Gibbon followed the Tanana River, making some cut-offs across bends in the stream.

In the fall of 1906 the Northern Commercial Company, which has the mail contract, cut a land trail for one-horse sleds from Fairbanks to Fort Gibbon and used it for carrying the mail during the winter. To facilitate travel and expedite the mail the Board undertook this year the construction of a sled road.

A preliminary survey of the line was made by Mr. John Bernard during the winter, and the location was made by him in the spring and summer. Construction was begun by a party under Mr. Fred Date on June 1, and this party is still in the field. The line crosses some very extensive swamps, impassable in summer. The party had to be shifted about from section to section to do the necessary grading and heavy clearing, leaving the swampy sections to be cleared late in the fall after the ground freezes. The expense of moving the party will add very considerably to the cost of construction.

Reconnoissance for a trail to the Wood River region (No. 24).—In response to a request from the people of that district, a reconnoissance was made by the Board with a view to determining the location and cost of a trail to the Wood River region. The examination was made by Mr. Beauchamp in August and September.

YUKON DISTRICT.

Mr. H. D. Reeve was disbursing agent of the Board for this district. Mr. C. R. Corbusier was in charge of the construction of the trails from Hot Springs to Fort Gibbon and from Fort Gibbon to Kaltag. Mr. George Pulham was in charge of the construction at Eagle and Circle.

Sled road from Baker Hot Springs to Fort Gibbons (No. 18).—This trail is the second section of the mail route from Fairbanks to Fort Gibbon.

Since the construction began, what appears to be a promising placer gold district has been discovered at Sullivan Creek on the line of the road.

The line was surveyed and located by Mr. T. Beauchamp, who began work May 16 and completed the location June 24. The cost of the survey and location was $1,864.

Construction was begun June 10, with Mr. C. J. Smith as foreman. As the road was intended for winter travel only, it passes over some quite swampy ground, and the construction party was forced to stop late in August, when 34 miles had been completed, on account of the difficulty in bringing up supplies. The cost of construction of the completed portion, which includes all the heavy work, is reported as $11,787.68.

The construction of the remainder of the section will be taken up after the ground freezes and will be completed in time for use the coming winter.

Cut-offs on the Yukon between Fort Gibbon and Kaltag (No. 19).—The Yukon River below Fort Gibbon flows in the main in a fairly straight course. It does not ordinarily offer the difficulties to winter travel that are encountered on many other streams. Except in the vicinity of the main tributaries there is a gravel beach along the river, uncovered in the fall of the year, which can be traveled until the river freezes. At these tributaries extensive alluvial deposits have caused considerable bends in the river and perpendicular river banks are encountered.

This section was surveyed in the summer of 1906 under the special appropriation for the survey of a land route from Fairbanks to Council city.

The work of the Board during the past season has been the construction of trails 8 feet wide across these bends to shorten the distance and particularly to expedite the mail in the early fall.

Construction was carried out by small parties with boat transportation.

On October 1, 36½ miles had been completed at a cost of $3,090.46. The work is still in progress.

Rampart-Big Minook road (No. 9).—This road facilitates the supply of the mining district tributary to Rampart. The country in the vicinity of Rampart is quite rugged and the Big Minook Valley offers the only feasible route for a road. The valley is exceedingly swampy. Until the construction of the present road by the Board no freighting was ever done with wagons. During the summer supplies were transported by pack horse and the pack trains were compelled to follow the bed of the river when the stage of water permitted.

The road under construction by the Board was located and surveyed in 1906 and its construction was begun the same year. The detailed report of the work of that season was not received in time to incorporate in the annual report of the Board for 1906.

The survey, 28 miles in length, was made by Mr. John Bernard at a cost of $1,568.91. The construction work began August 6 and stopped October 10, 1906. Mr. S. E. Heeter conducted the work under an agreement with the Board in regard to the cost of labor subsistence, and teams, with Mr. Bernard as inspector. Four and a quarter miles were completed, and the line was cleared to the 5-mile post. The cost of construction in 1906 was $13,192.

Construction was resumed June 17, 1907, and continued until August 31, 1907, by Mr. Heeter, under the same agreement as the preceding year. Two miles of road were completed and about 1 mile of the previously constructed road improved at a cost of $9,996.70. The road is well and substantially constructed. The heavy cost was due to the extremely wet nature of the ground.

There are two groups of placer mines that have been supplied by Rampart, one on the lower tributaries of Big Minook and the other on the tributaries of Baker Creek across the divide between the Yukon and Tanana rivers. The road at its present state serves the first group, but has little effect on transportation to the second.

The summer freight rate to points along lower Big Minook, previous to the construction of the road, was from $80 to $100 per ton. Since the construction of the road it has been reduced to $40 per ton. Between 50 and 60 tons were hauled during the present summer season.

The summer freight rate to the Baker Creek region from Rampart is $240 per ton and the winter rate $60. During the summer of 1906 Mr. F. G. Manley constructed a road on dry ground from Baker Hot Springs to Glen, the center of the Baker Creek region, and has maintained and improved this road during the past summer. The summer rates from the Hot Springs to Glen are but $100 per ton. Under the circumstances little or no freight goes from Rampart to Glen in summer, but considerable is moved in winter.

A small amount will be expended by the Board this fall in improving the sled road from the end of the Big Minook wagon road to Glen.

Road from Eagle to O'Brien Creek (No. 11).—The Fortymile placer mining region is the oldest in the interior of Alaska. Mining has been carried on in this locality for more than twenty years and is still being actively prosecuted.

The nearest town in American territory to the district is Eagle, but through lack of roads all supplies have been brought to the country from the Canadian town of Fortymile, at the confluence of the Fortymile and the Yukon. The customs inspection at the boundary and the duty and bonded-warehouse charges have been a great annoyance to the mine operators. Even the winter mail from Valdez to Eagle, via the Fortymile district, has always gone through Canadian territory. To enable this district to draw on an American town for its supply and to facilitate the carrying of the mail, the Board has begun the construction of a road from Eagle to the Fortymile district. The first section is from Eagle to O'Brien Creek, a tributary of the Fortymile River.

A preliminary survey of the route was made by Mr. F. E. G. Berry during the summer of 1906. The final location and survey was made by Mr. Berry, who began work May 27, 1907, and completed the survey in the latter part of July. The cost of the final survey and location was $3,786.67.

Bids for the construction of this road were invited and were opened at Eagle on June 3. But one bid was received. The unit prices bid, with the amount of yardage involved, considerably exceeded the funds available for the road at the time, and the Board therefore rejected the bid and undertook the work by hired labor.

Construction was begun by a party under Mr. Pulham June 26, with W. R. Cameron foreman, and was continued until September

27. Eight and three-quarters miles of completed wagon road were constructed, 3½ miles in addition cleared, grubbed, and stripped, and a further 2 miles cleared and grubbed. A sled road with side hill grades 7 feet wide was carried to O'Brien Creek, this sled road following the location of the wagon road to the 12-mile post. From the 12-mile post to O'Brien Creek the winter road is of temporary character, with steeper grades than the final road to be constructed.

The cost of the road, including transportation charges on the plant and tools, was $36,269.27. In addition, equipment to the value of $3,140.58 was transferred to this route from route 1.

From the 2-mile post to the end of the constructed section the work was very heavy, being practically all heavy side-hill grading in frozen ground or in slide rock. A very substantial road was constructed. Two bridges of about 30 feet span were erected. The detailed reports of the work are not yet received.

A small party under Mr. Frank Frase left Eagle September 28 to cut a winter trail down the flats of O'Brien Creek to the Fortymile. This party is still in the field.

Sled road from Eagle to Seventymile (No. 22).—This road is intended to facilitate the supply of the Seventymile River mining region. Freight to this region has always been hauled down the Yukon River to the Seventymile, distance of about 20 miles, and then up the Seventymile River to the diggings, a farther distance of about 20 miles. The distance across country from Eagle to the diggings is less than 20 miles. By the construction of this road, therefore, the length of haul is cut in half.

The route was located and surveyed by Mr. F. E. G. Berry at a cost of approximately $1,100 during the month of August, 1907.

Construction was begun, Mr. G. Matlock, foreman, on August 23, and completed September 17. The roadway was cleared and large stumps leveled to a width of 12 feet. On side hills the line was graded 7 feet wide.

The work accomplished was as follows:

Clearing and grubbing 13½ miles, 12 feet wide, 18 acres, at $72.25	$1,300.00
Sidehill grading, 8,000 linear feet, 7 feet wide, at 6 cents	514.60
Bridging 28 linear feet, at $1.94	55.18
Total	1,870.18

The costs above stated include all incidental labor, subsistence, and superintendence.

It is stated by persons interested that the construction of this trail will reduce winter freight rates from Eagle to the Seventymile from $140 per ton to no more than $100 per ton.

Sled road from Canyon Creek to Walker's Fork (No. 31).—This road across the divide between the two tributaries of the Fortymile River will greatly decrease the length of haul to the upper portion of Walker's Fork, where extensive dredging operations are to be inaugurated. The mining operators contributed $1,080 toward the construction of the road.

The work was under charge of Mr. F. E. G. Berry, and was executed in September, 1907. The work accomplished was as follows:

Clearing 2.5 miles, at $105	$210.00
Grading 6,670 linear feet, at 6 cents	4,091.80
Total	4,301.80

The grading was heavy, the ground was frozen, and the cost of delivering supplies to the work was $320 per ton.

Road from Circle to Birch Creek (No. 15).—The supply of the Birch Creek mining region, centered about Central House and Miller House, from the river port Circle has always been most difficult in summer. Summer freight rates at the present time are $500 per ton. As might be expected under the circumstances, as little freight as possible is moved in the summer. While these conditions have not actually brought mining to a standstill, yet their retarding effect on the development of the lower-grade workings of the district are easily understood.

As the distance to the mines from Circle is considerable, the Board has not considered itself in a position to take up the construction of a wagon road until the past season, when the line was located and construction begun.

The location and survey was made by Mr. H. H. Edgerton, jr., who began June 23 and completed the work August 31. The length of the located line to Miller House is 49½ miles. Mr. Edgerton then made a reconnoissance from Central House to the Yukon at Thanksgiving Creek to determine the feasibility of a winter route through this section should future through travel between Fairbanks and the upper Yukon render the construction advisable.

Construction was begun under charge of Mr. Pulham August 28 and closed down September 29. Nine and one-half miles of road were completed. The construction is, on the whole, light. Report of the work is not yet received.

NOME DISTRICT.

Mr. W. L. Goodwin was superintendent in charge of this district.

Winter examination of proposed mail trail from the Koyukuk to Council (No. 14).—This route was surveyed in 1906 under the special appropriation for the survey of a land route between Fairbanks and Council City. The Board had an examination of the conditions on the route made during the past winter by Mr. D. A. Jones, a civil engineer of Nome.

Mr. Jones left Nome March 12 with dog-team transportation and arrived on the Yukon River May 17. The spring thaw set in while the party were between Norton Bay and the Yukon. They experienced the difficulties of travel incident to the season and suffered some hardship, being four days without food.

As stated in the report of the president of the Board, Mr. Jones's unfavorable report has caused the Board to defer the construction of a trail over this route.

Nome-Unalaklik trail (No. 30).—The winter dog-team trail between Nome and the outside world goes over the ice of Bering Sea, close to the coast, as far as Unalaklik, where it takes the Kaltag portage to the Yukon River.

As a rule the ice is safe and, as most of the snow is swept off by the winds, the traveling is good. In the early fall, however, and when severe storms break up the ice, travelers are obliged to go along the shore; and on account of the lack of any trail through the country, in many places covered with timber and brush, progress has been difficult and slow.

To improve the conditions the Board undertook the construction of a trail along the coast in such places as it was necessary.

The work was in charge of Mr. R. S. Giddings. An examination of the route was made July 14 to July 28. Construction began August 12 and completed September 18.

The work consisted mainly in clearing a trail through timber and brush and in staking the portions where there was no timber. The stakes were from 7 to 10 feet long and were firmly set in the ground about 100 feet apart. The work done by the crew comprised 17 miles of clearing and 35 miles of staking.

Road from East Fork to Council (*Nos. 8, 8a, and 8b*).—This is the summer mail, passenger, and express route from the East Fork Station, on the Solomon River Railroad, to Council. Heavy freight for Council does not follow the route, but goes by sea to Cheenik and is from there taken up the Fish River in flat boats. The trip by way of Cheenik is, however, a long and disagreeable one.

The road was built by the Board in 1906 and a detailed description of its construction is given in the annual report for that year.

The work of the past season has been confined to maintenance. The work consisted of cleaning the ditches, applying gravel, placing 4 additional culverts, and in general repair.

The cost of maintenance was as follows:

East Fork River portion, 9 miles, at $1.55	$14.00
Skookum Pass portion, 2 miles, at $96.50	193.00
Fox River portion, 14 miles, at 82 cents	11.50
Fox River to Council (corduroy), 5¼ miles, at $141.00	655.50
Total	874.00

The road has been maintained in good condition. The corduroy section is somewhat rough, but the expense of applying a sufficient depth of gravel to give easy traveling would be so great that this improvement has not been undertaken.

The stage fare before the construction of the road was $20, and this rate was maintained in 1906. The fare from Nome to East Fork was $6. During the past year active competition of two rival stage lines brought the through fare down to $11.50.

Nome-Fort Davis road (*No. 10*).—This road connects the town of Nome with the military post of Fort Davis, and is used by all land travel east from Nome. The length between the town and post limits is 2.1 miles. It was originally constructed by Mr. A. E. Boyd as a toll road, but was taken over by the Board during 1906.

The road was maintained by the Board during the past season. The bridges were repaired, ditches cleaned, and a considerable amount of gravel applied to the entire road. The cost of maintenance, which was in part in the nature of improvement, was $1,360.94, or $648 per mile.

The amount of freight hauled over this road in the open season is variously estimated between 100 and 300 tons. The summer freight rate is $5 per ton.

Nome-Dexter road (*No. 13*).—This road runs north from Nome to the bars of the Nome River, at the mouth of Dexter Creek, a distance of 7.7 miles. Three miles from Nome it intersects the "third beach line," along which the principal mining activity is now distributed, at the Bessie mine. Branch roads are constructed along

this beach line to the east and west. The western branch extends to Little Creek, a distance of 1.25 miles, and the eastern to Dry Creek, 1 mile. The total length of the road and branches is 10 miles.

During the season of 1906, 4.75 miles of the main road and the branches were constructed by the Board. A detailed description of the work is given in the annual report for that year.

The work of the present season consisted in the extension of the main road to Dexter and in the maintenance and improvement of the portions already constructed.

The new construction, 3 miles, consisted mainly in grading and in building culverts and bridges. No corduroy was laid nor gravel applied. The width of the grade was 10 feet. The cost of this work, including one 24-foot bridge, one 20-foot bridge, and one 18-foot bridge, was $1,957.78, or $529 per mile.

The section from Nome to the Bessie mine was maintained at a cost of $2,406.08, or $802 per mile. The ditches were cleaned out, some gravel added, and the embankment at Bourbon Creek raised. The road machine was occasionally run over the road to remove the ruts and restore the crown. The traffic over this section of the road is variously estimated at from 1,000 to 3,000 tons during the open season, and it is believed that the latter figure is more nearly correct. The freight rate to the third beach line was reduced from $10 per ton to $5 per ton by its construction.

The section from the Bessie mine to Little Creek was improved and maintained at a cost of $1,733.98, of $1,387 per mile. The road runs close to the line of workings, and the gravel for its construction is cheaply obtained from the waste dumps of the workings. As an offsetting disadvantage, however, the waste water from the sluice boxes cuts the frozen ground so badly as to cause much trouble. A few hundred feet of road in the vicinity of the Bessie mine was so badly undermined within the period of a few days that yards of the road sunk several feet and the section became entirely impassable. In this particular case the owners of the mine voluntarily paid the cost of repairing the road, but many operators are not so public-spirited.

The portion between the Bessie mine and Dry Creek runs along the workings in a manner entirely similar to the section to the west just described. A portion of this road was very badly undermined early in the season, and there was a shortage of available gravel tailings for repair. As this section of the beach line is supplied by the railroad, it was not deemed expedient to expend the amount necessary for the repair and maintenance of this road and but little was done on it. The cost of the work done is reported as $72.50.

Road from Anvil to Glacier (No. 31).—This road runs from Anvil Creek near Banner Station on the Seward Peninsula Railroad to the summit of the divide between Anvil and Glacier creeks, and replaces the road previously used, which had excessive grades. It not only serves the mines on Glacier Creek, but is used for travel to the upper portion of Snake River.

The line was located by Mr. Goodwin, and has a uniform grade of 8 per cent. The length is 0.8 of a mile.

Construction was begun in June, M. E. Heavey, foreman, and completed early in July. The cost of the work, consisting mostly of sidehill grading, was $1,579.14, or $1,974 per mile.

The amount of freight over this road in the open season is estimated at between 200 and 300 tons. Freight rates do not appear well established, but a reduction in the rate of $5 per ton seems to have been effected by the construction.

Road to Ford, Penny River (No. 33).—Travel from Nome to points to the west goes along the sea beach. At Penny River, 10 miles from Nome, the first safe ford is about a quarter of a mile up from the mouth of the stream. The haul over the tundra to the ford was heavy. A road was accordingly constructed by the Board from the beach to the ford. The length of the road is 0.8 mile.

Construction was begun June 26 with a force of two teams and eight men under B. F. Derrick, foreman, and was completed July 2. The cost was $1,076.03, or $1,345 per mile.

Travel along the beach and over this road is light but increasing.

Road to Fort on Cripple River (No. 32).—Cripple River enters Bering Sea about 2 miles to the west of Penny River. A road was built to the ford of the river as in the case of the Penny River. The length constructed was 0.8 mile. Construction was begun July 3 by the same crew that constructed the road at Penny River and completed July 8, at a cost of $715.49, or $894 per mile.

Hastings Creek Bridge.—This bridge was constructed at the mouth of Hastings Creek, about 10 miles to the east of Nome, to accommodate land travel from Nome to Solomon and intermediate points. Although the creek is a comparatively small one, quicksand is encountered in its bottom and the crossing has given great trouble. It was necessary to construct the bridge at the mouth of the creek where it breaks through the sand dunes along the coast, since back of this point the stream broadens into an extensive lagoon and tide flat. The position of the bridge made it necessary to build about 120 linear feet of pile bulkhead to confine the stream to its channel through the loose sand. The bridge is a king post truss of 40-foot span.

Work was begun June 24 and completed July 8; T. T. Reed, foreman. In driving a portion of the piling frozen ground was encountered, and the expense of thawing considerably increased the cost of the structure. The cost of the bridge was $3,079.26, a large portion of which represents the cost of the bulkheads.

Road from Deering up Inmachuck (No. 27).—The Inmachuck mining region is supplied from the town of Deering, at the mouth of the Inmachuck River, the freight wagons going up the bars of the stream. At the mouth of the river there is an extensive tide flat, in crossing which the wagons had considerable difficulty.

During the past summer the Board constructed a road from Deering around these flats. The work was in charge of Mr. R. J. Kinney and was begun July 20 and completed August 4. The work comprised ditching and crowning about three-quarters of a mile of road, applying gravel to about half this length, and the construction of a 24-foot bridge on timber crib abutments. In addition a portion of the road up the river, where it leaves the gravel bars for a short distance, was repaired and a survey made of the lower portion of the river as a basis for future improvements. The cost of the entire work was $3,324.51.

Road from Candle up Candle Creek (No. 26).—The mines tributary to Candle extend along the valley of Candle Creek for a distance of about 6 miles. The unimproved road up the valley has been fairly bad, particularly for the first 2 miles to Jump Creek, and the cost of transporting freight high. Two of the side streams, Jump and Patterson creeks, were almost impassable in the spring.

During the past season the Board graded and ditched a road from Candle to Jump Creek, built bridges over Jump and Patterson creeks, and surveyed the line for a future improvement of the road to Patterson Creek. The work was in charge of Mr. R. J. Kinney and was executed between August 8 and August 28, 1907. The cost is reported as $5,424.50.

Tishou River Ferry.—The Tishou River enters Bering Sea 56 miles west of Nome. It is a wide and deep stream. To facilitate land travel along the coast, a ferry was installed across the mouth of the river at a cost of $604.99.

Bonanza River Ferry.—The Bonanza River enters Bering Sea just west of the town of Solomon. It is not fordable. The traffic was not considered sufficient to make a ferry a paying business, and during the latter part of the season of 1906 the Board guaranteed the wages of the ferryman. Information received during the present season indicated that the ferry could be made self-supporting, and the arrangement of the preceding season was discontinued on July 8. The result has been, however, an unsatisfactory service.

Flagging winter roads, Seward Peninsula.—The greater part of the Seward Peninsula, and practically the entire area inhabited, is a bare, treeless country. In winter high winds are frequent and fierce blizzards are occasionally encountered. It is very easy for even experienced travelers to become lost under these conditions, and many have died of exposure in that country during the winter storms.

To mitigate these conditions the Board has had the more traveled winter roads marked during the winter. Red cotton streamers are attached to lath and the flags so formed set in the snow at sufficiently close intervals along the road.

During the past winter 307 miles of road were flagged at a cost of $1,367.70, or $4.45 per mile, and 75 miles of the winter trail to the eastward where poles were available were marked at a cost of $1 per mile. The total cost was $1,442.70.

Survey Lanes Landing to Taylor Creek (No. 29).—The wagon freight rate to the upper part of the Kougarok mining region is probably higher than that to any other mining community on the Seward Peninsula. With a view to the construction of a road to facilitate the supply of this region the Board is having a survey made to determine the most feasible location and cost. The survey is being made by Mr. R. S. Giddings. It was begun late in September and is still in progress.

SOUTHWESTERN ALASKA.

Road work in this district was centered at the town of Seward, on the Kenai Peninsula. Mr. G. K. Armstrong was in charge.

Road to Sunrise from Hope (No. 12).—Sunrise and Hope are two small mining towns on the shore of Cook Inlet. This arm of the sea

is closed in winter and is difficult of navigation in summer. The Board is therefore constructing a road from the Alaska Central Railroad, at mile 35, to these towns, putting them in communication with an open port at Seward.

The road was located and surveyed in 1906, as reported in the annual report for that year. Construction was begun in June, 1907, by a party under Mr. Armstrong, and continued into October. At last report, September 14, 18 miles of road had been completed. The work was fairly heavy. The final report of the work is not yet received.

Road from Seward to Bear Lake (12a).—At Bear Lake, near the town of Seward, there is a small agricultural settlement. The indifferent character of the trail between them and the town has given them great difficulty in marketing their produce and in bringing in supplies. The Board therefore constructed a portion of the road and built the necessary bridges, and the people of the community cleared out the road for the remainder of the distance. The road is reported as completed, but the detail report is not yet received.

Reconnoissance from Kenai to the Alaska Central Railroad.—Upon a petition from the people of the town of Kenai, on the east coast of Cook Inlet, for a road to the town of Seward, the Board had a reconnoissance made of the proposed route. Mr. J. B. Cameron, chief engineer of the Alaska Central Railway, kindly gave his assistance to the organization of the party. The reconnoissance was made between September 14 and September 27, 1906, by Mr. W. H. Reel, at a cost of $301.30.

The cost of construction of this route would be so great that it can not be undertaken at the present time.

Respectfully submitted.

G. B. PILLSBURY,
Captain, Corps of Engineers, Engineer Officer of the Board.

OCTOBER 18, 1907.

REPORT OF THE DISBURSING OFFICER.

The present report covers vouchers received up to October 1.

Carried on hand date of last report, November 1, 1906:	
Appropriation "Military and post roads, bridges, and trails," act June 12, 1906	$66,827.91
Alaska fund	23,079.23
Received from Treasurer United States, appropriation "Military and post roads, bridges, and trails," act March 2, 1907	175,000.00
Alaska fund	128,584.00
Sales public properties, Alaska fund	558.00
Correction vouchers	2.30
Total	394,051.44
Disbursed as per tabulated statement below	346,745.70
Balance (vouchers delayed in mail)	47,305.74

The item "offices" embraces salaries of superintendents of districts, permanent employees of the commission, expenses of members of commission and of engineers in some instances, inspection, exchange, and miscellaneous office expenses, Skagway, and suboffices of Valdez, Fair-

banks, Nome, and the small office expense at Seattle. (See distribution following tabulated statement.)

	Military and post roads, bridges, and trails (acts approved June 12, 1906, and Mar. 2, 1907).	Alaska fund.	Total.
Offices	$6,105.22	$18,075.35	$24,180.57
Care of stock	927.36	9,685.44	10,612.80
Construction barn, Fairbanks	.....	1,500.00	1,500.00
Route 1	1,861.53	18,461.95	20,323.48
Route 3	11,116.04	3,314.55	14,430.59
Unalaklik-Kaltag trail	500.00	.....	500.00
Route 4	2,564.18	5,249.52	7,813.70
Route 4a	.....	1,058.14	1,058.14
Taslina Bridge	.....	312.00	312.00
Route 5	24,911.68	3,061.77	27,973.45
Route 5a	5,175.65	2,387.94	7,563.59
Salcha Ferry	.....	757.20	757.20
Piledriver Ferry	.....	946.89	946.89
Route 5b	3,409.52	4,731.27	8,140.79
Route 6	10,743.91	8,468.96	19,212.87
Kotsina Bridge	273.22	4,329.26	4,602.48
Route 6a	7,869.51	5,214.09	13,083.60
Route 7	.....	448.50	448.50
Route 7a	4,301.19	604.00	4,905.19
Route 7b	1,383.75	462.10	1,845.85
Route 7c	8,443.91	443.50	8,887.41
Route 7d	2,002.50	425.00	2,427.50
Route 7e	2,085.75	.....	2,085.75
Route 8	124.50	1,057.45	1,181.95
Route 8a	4.55	.....	4.55
Route 9	18,750.50	2,740.38	21,490.88
Route 10	1,556.81	1,637.78	3,194.59
Route 11	33,250.12	12,273.60	45,523.72
Route 11a	.....	4,632.50	4,632.50
Route 12	3,269.18	2,232.18	5,501.36
Route 12a	634.50	.....	634.50
Route 13	1,874.11	3,717.08	5,591.19
Route 14	6.00	3,210.06	3,216.06
Route 15	8,312.95	561.75	8,874.70
Route 16	409.60	5,855.04	6,264.64
Route 17	8,569.64	6,283.56	14,853.20
Route 18	7,967.27	3,646.18	11,613.45
Route 19	8.95	125.00	133.95
Route 20	988.85	.....	988.85
Route 22	3,052.59	.....	3,052.59
Route 24	212.78	.....	212.78
Hastings Bridge	216.67	2,977.09	3,193.76
Tishou Ferry	213.80	360.60	574.40
Bonanza Ferry	112.50	318.43	430.93
Survey Kenai-Alaska Central Railway	301.30	.....	301.30
Survey Pay Streak	.....	20.00	20.00
Survey coast bridges	.....	134.34	134.34
Survey Nome Bridge	.....	11.66	11.66
Route 26	4,937.68	144.00	5,081.68
Route 27	3,169.05	103.50	3,299.55
Flagging trails	.....	1,453.37	1,453.37
Fairbanks-Council survey	.....	2,709.19	2,709.19
Route 29	28.00	.....	28.00
Route 30	2,543.90	.....	2,543.90
Route 31	286.74	1,033.55	1,320.29
Route 32	135.95	563.04	698.99
Route 33	.....	1,076.03	1,076.03
Route 34	3,290.50	.....	3,290.50
Total	197,930.91	148,814.79	346,745.70

Distribution of expenditures.

OFFICES.

Rents	$1,531.88
Instruments and field equipment	1,606.02
Stationery and office fixtures	2,178.33
Fuel and lights	741.89
Pay of employees	12,562.10
Travel and living expenses (subsistence), members of Board	2,748.27
Travel expenses, employees	1,865.40
Exchange	421.24
Miscellaneous, telephone, postage, cleaning material, etc	372.30
Freight, drayage, and express	153.14
Total	24,180.57

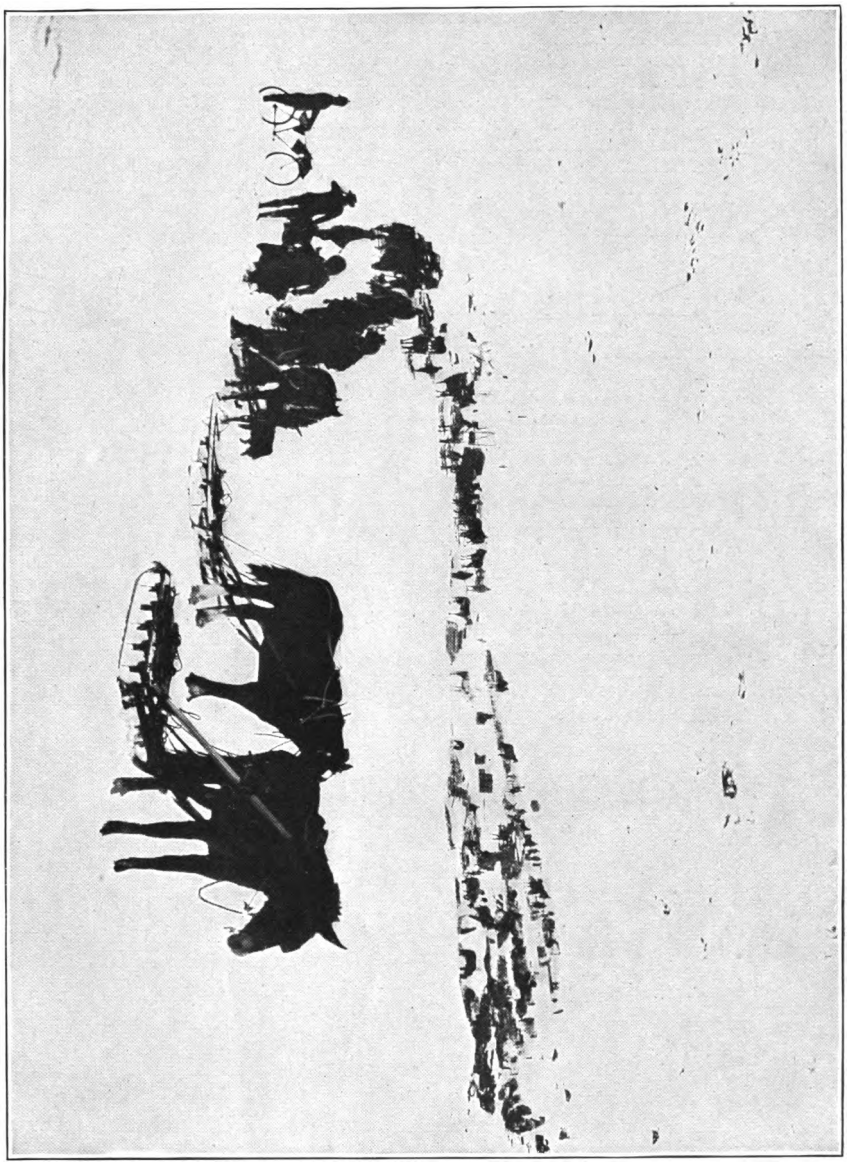
FIELD WORK.

Surveys	$27,666.66
Labor of construction	156,592.34
Subsistence of employees	37,994.61
Transportation, men and supplies	11,055.38
Purchase of animals	4,247.20
Hire of teams	24,545.40
Forage, veterinary supplies, and care of horses	18,946.51
Tools, wagons, and pack equipment	7,633.17
Construction material	9,690.77
Camp equipment, stationery, etc	1,815.12
Staking roads and trails	1,553.37
Inspection, exchange, and repairs equipment	485.05
Telegrams, photo material, and ammunition	40.80
Contracts and agreements	3,450.00
Bridges and ferries	10,505.66
Miscellaneous, not segregated Eagle-Seventymile Canyon Creek-Walkers Fork	6,343.09
Total	322,565.13

Respectfully submitted.

SAM. C. ORCHARD,
First Lieutenant, Third Infantry,
Disbursing Officer of the Board.

OCTOBER 1, 1907.

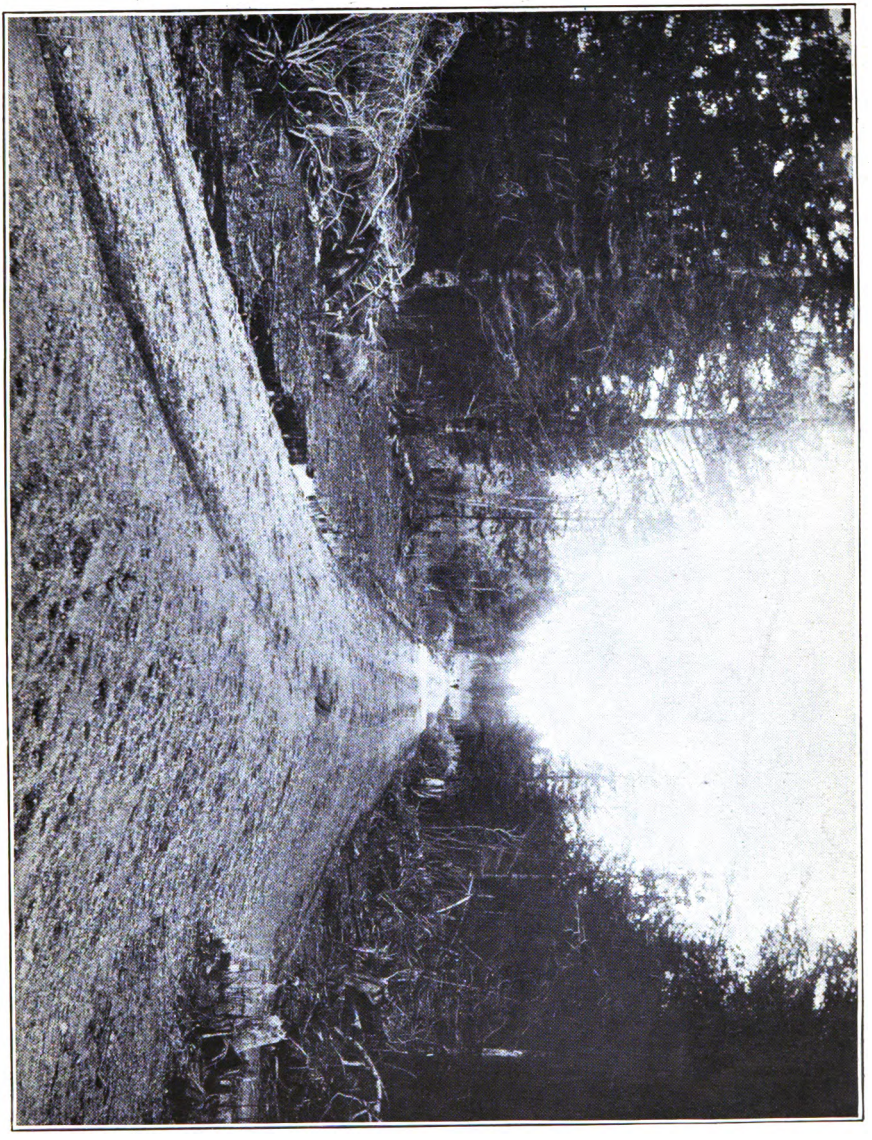


FREIGHT AT SUMMIT OF THOMPSON'S PASS, ROUTE 4.

SLED ROAD, FAIRBANKS TO WASHBURN.

SLED ROAD BETWEEN VALDEZ AND COPPER CENTER.

HAINES CHILCAT ROAD, ROUTE NO. 3.



HAINES CHILCAT ROAD, ROUTE NO. 3.