

and it can be used effectively for pulling
tag, weighing 1,200 pounds.
The following machinery in 1919:

thirty ton.

ASSISTANCE.

was complicated this year by the con-
ditions promulgated by the United
States and the scarcity of good economical cooks.
The variety and the tendency is to serve the
meal. The extreme cost of transporta-
tion of supplies be used. The bulk of
supplies late in the fall and are freighted in to
the town. Perishables are purchased in the
bids during the working season. The
cost is \$1.50 per day per man, not including
the cost of railroad or steamer delivery, or

WORK ACCOMPLISHED.

BY—J. C. HAYES, SUPERINTENDENT.

Island Road (4.1 miles road, 6.8 miles
trail) on this route consisted of replacing

Chilkat River Road (16 miles road, 14 miles
trail) Eagle River; also connects with Auk
The Mendenhall Glacier, all dairies sup-
plies, two large power houses supplying
and industries are reached by this road,
creation drive of Juneau.

a light surfacing of gravel. It is nar-
therwise is very satisfactory for auto-
mobiles. Purchased for new bridge at Salmon Creek
is now put in. Amount expended for con-
struction \$2 for maintenance.

Chilkat River Road (connects at mile 10 with Juneau-
Chilkat) the year 2½ miles were cleared and 1 mile
was constructed as follows: One 140 feet long,
two, three of 14 feet. Four culverts were
repaired. The com-
paratively increase the value of the Juneau-
Chilkat boats will then be able to anchor at Auk
made with Juneau by road. The water
at times very rough and dangerous for
navigation. Labor of 1918 was very scarce and work
was not done until June 30; \$15,174.51 was expended for
maintenance.

Route 3. Haines-Pleasant Camp Road (47.5 miles wagon road).—
Connects Fort Seward and Haines at tidewater with Pleasant Camp,
on Canadian boundary. The Porcupine Gold Mining Co. and mines
of the Glacier Creek Gold Mining Co. are reached by this road, which
also connects at Pleasant Camp with Canadian Road to Rainy Hol-
low, where a very large copper district is being developed. Klukwan,
the largest Indian village in Alaska, is located at mile 22. The loca-
tion for 24 miles follows the Chilkat Valley where numerous ranches
are located; \$8,398.73 was expended for maintenance, graveling, and
replacing bridges.

Route 14. Sitka-Indian River Road (3.4 miles).—This road runs
from Sitka to head of Jamestown Bay, passing through the Indian
River Park, set aside by the Government. A new 50-foot Howe
truss bridge was constructed and 2,000 feet of new road to reach
the bridge was provided; total cost, \$2,476.20.

Route 39. Juneau-Sheep Creek Road (3 miles).—This road con-
nects Juneau with Thane, where the extensive mill of the Alaska
Gastineau Mining Co. is located. The road has very heavy travel
between the two towns and, as it was lightly surfaced, requires con-
siderable upkeep; \$4,270.74 was expended for maintenance and im-
provement.

Route 40. Douglas-Gastineau Channel Road (2 miles).—Extends
from city limits of Douglas along Gastineau Channel. Several
ranches and homes are located along the road; \$659 expended for
maintenance and improvement of several soft places.

Route 43. Petersburg-Scow Bay Road (5 miles).—No expenditure
during past year. The road was only partially constructed and will
be completed by the United States Forestry Service and Territorial
Road Commission when funds are available.

Route 44. Skagway Valley Road (2.5 miles).—When work was
started the intention was to build from Skagway to Canadian bound-
ary, 13.5 miles. The Canadian authorities agreed to build from
boundary to White Horse, but were compelled to abandon the project
temporarily. Present road is used by several ranches; \$1,966.63 was
expended for protecting the bridge over Skagway River and for
maintenance.

Route 45. Silver Bow Basin Road (4 miles).—This road runs from
Juneau to Alaska, Juneau, and Perseverance mines, and the Ebner
mine of the United States Mining & Smelting Co. It follows the
mountain side, is narrow, and has many steep grades. The route
is much traveled and will be improved as funds and conditions will
permit; \$5,049.55 was expended for maintenance and improvements.

Stikine River Trail (10 miles).—Constructed over a formerly
impassable section between the Stikine River and tidewater. The
work was done under the supervision of the United States district
forester and in cooperation with the Bureau of Forestry; amount
expended by the Alaska Road Commission, \$1,999.72.

VALDEZ DISTRICT.—C. G. MORRISON, C. E., DISTRICT ENGINEER.

Route 4A. Donnelly-Washburn sled road (55 miles).—Miscel-
laneous bridge repairs were made and temporary winter bridges
across the several open channels of the Big Delta River were con-
structed. The temporary bridges were taken out in April, 1918, and
stored for future use; amount expended, \$1,341.50.

Route 4B. Valdez-Ernestine Road (63 miles).—As usual, the maintenance on the section between miles 10 and 18 has been extremely heavy. Annually the extreme high water in the Lowe River, caused by the bursting of glacial reservoirs, necessitates the repair and oftentimes reconstruction of sections of grades in and below Keystone Canyon. This past season has been no exception. Whenever the crews are not engaged in general maintenance they are used in surfacing the bad stretches of road with gravel. This surfacing now extends, with the exception of a few short stretches, to Beaver Dam (mile 42), making the road passable even in the worst of the spring or rainy seasons. One mile of new grade was constructed in addition to general maintenance. The work of this spring consisted of repairing damages resulting from the break-up, building new road to take the place of that destroyed, and constructing diversion spur dikes and placing fascine protection with the hope of preventing further damages and inroads from the glacier streams. It is believed that the unusually heavy maintenance cost of this section warrants relocating that portion of the road from mile 12 to mile 18, as the most of the money allotted to this route is usually expended for work in that vicinity. This change is roughly estimated to cost \$25,000; \$33,697.87 of the year's expenditure was charged to maintenance and \$20,500 to construction, a total of \$54,197.87.

Route 4C. Ernestine-Willow Creek Road (29.3 miles).—In addition to the ordinary maintenance, all graded portions of the road were dragged. One 24-foot bridge was constructed, 5 bridges and 21 culverts were rebuilt, and seven 6-foot culverts reconstructed. Numerous slides were removed and washouts filled. Approximately 700 cubic yards of gravel surfacing was placed in soft sections of the road. Two and one-fourth miles of new grade was constructed; \$7,535.18 was charged to maintenance and \$3,450 to construction.

Route 4D. Willow Creek-Gulkana Road (36 miles).—A small maintenance crew only was employed on this section during the latter part of the 1917 working season, as the road had been placed in excellent condition previous to July 1, 1917. At the end of the working season two large crews were concentrated here for a short period grading $4\frac{3}{4}$ miles just north of Copper Center. In the spring the road was dragged several times and numerous culverts reconstructed. All cribbing was repaired and drainage ditches opened up. Three and one-half miles of new grade and 880 linear feet of ditches were constructed and 18 culverts were repaired, and 6 new culverts were built. Maintenance expenditures amount to \$19,654.26, with \$7,050 for construction.

Tazlina Bridge.—Work was completed prior to June 30, 1917. Expenditure of \$956.01 made during 1918 and charged to construction, for freight on material shipped from Seattle.

Route 4E. Gulkana-Sourdough Road (21.5 miles).—In addition to general maintenance there was constructed on this section 15 miles of new grade with the accompanying clearing and grubbing, 138 new culverts, and 1,250 feet of drainage ditches. Also old culverts were rebuilt. Maintenance, \$4,064.17; construction, \$15,000.

Route 4F. Sourdough-168 Mile Road (18.2 miles).—Only light maintenance was necessary on this section during the latter part of the 1917 working season as a large crew had worked here previous to July 1. In the spring of 1918 several culverts were reconstructed

and ordinary maintenance work was done. Maintenance, \$11,517.54.

Route 4G. 168 Mile-Delta River Road (38 miles).—Maintenance of this section was supplemented by approximately 440 cubic yards of gravel surfacing, clearing approximately 100 feet 1 mile of road which was previously blocked by drifts until late in the season, placing 123 linear feet of log culverts, and constructing 118 linear feet of log culverts, and 1.5 miles of road. The spring work on this section consisted of removal of numerous earth slides, the reconstruction of culverts, the removal of snowdrifts and glaciers from the road and culverts. The crew on its way into the interior was necessary to provide new end posts and top caps on a mile 207, which had failed on account of the weight of snow which had become frozen to it. Two new frame bridges with 10-foot span—one at mile 226 and the other at mile 230—were constructed. Heavy dikes were built upstream from the bridge to concentrate the glacier water at the bridge. Maintenance, \$9,705.16.

Route 4H. Delta River-McCarty Road (73.4 miles).—A considerable improvement was made in this road during the 1917 season. In addition to the general maintenance, 14.5 miles of new grade, one framed diversion dike in mile 208, 1,165 linear feet of diversion dike culverts. Gravel surfacing to the amount of 1,000 cubic yards placed, and 3.2 miles of road were regraded. A 65-foot framed truss bridge was constructed at mile 215 and minor damages due to the break-up were repaired. The road was opened up and slides were removed. Temporary bridges erected for the McCarty ferry, and the scow was used. Graded sections of the road were dragged. Maintenance, \$22,101.

Route 4I. McCarty-Richardson Road (20.6 miles).—In the latter part of the working season of 1917 no maintenance was done on this section, as the entire length had been placed in excellent condition prior to the 1st of July, 1917. During the 1918 working season this section was put in excellent repair, the graded sections of the road being dragged several times, and all culverts and bridges replaced by new timber. A 65-foot bridge having a total length of 117 feet replaced the old bridge at Shaw Creek. Maintenance, \$8,470; construction, \$13,630.

Route 6A. Willow Creek-Tonsina Road (24 miles).—This road had been placed in good condition over its entire length in the month of June, 1917, no further maintenance was done the remainder of the year. During the spring the road was thoroughly dragged. Maintenance, \$2,832.51.

Route 6B. Tonsina-Chitina Road (15 miles).—In the general maintenance of this section, such as the repair of bridges, cleaning out ditches, and repairs to the road, approximately 1,210 cubic yards of gravel surfacing was placed. Ordinary maintenance was continued as well as the improvement of sharp turns, placing turnouts, and opening up the road. Temporary loading bins were constructed at

63 miles).—As usual, the main-ten miles 10 and 18 has been extremely high water in the Lowe River, caused reservoirs, necessitates the repair and sections of grades in and below Key-son has been no exception. Whenever general maintenance they are used in road with gravel. This surfacing now of a few short stretches, to Beaver Dam passable even in the worst of the spring of new grade was constructed in addi-

The work of this spring consisted of from the break-up, building new road troyed, and constructing diversion spur protection with the hope of preventing ls from the glacier streams. It is be-vy maintenance cost of this section war- of the road from mile 12 to mile 18, lotted to this route is usually expended his change is roughly estimated to cost car's expenditure was charged to main- ruction, a total of \$54,197.87.

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Route 4G. 168 Mile-Delta River Road (38.8 miles).—General maintenance of this section was supplemented by placing approxi- mately 440 cubic yards of gravel surfacing, clearing to a width of 100 feet 1 mile of road which was previously blocked by deep snow- drifts until late in the season, placing 123 linear feet of corduroy, constructing 118 linear feet of log culverts, and the grading of 12½ miles of road. The spring work on this section consisted of the re- moval of numerous earth slides, the reconstruction and repair of cul- verts, the removal of snowdrifts and glaciers from the road, bridges, and culverts. The crew on its way into the interior in April found it necessary to provide new end posts and top chords for the bridge at mile 207, which had failed on account of the settling of a glacier which had become frozen to it. Two new framed truss bridges of 36 feet span—one at mile 226 and the other at mile 227—were con- structed. Heavy dikes were built upstream from these structures to concentrate the glacier water at the bridge. Maintenance, \$4,280; construction, \$9,705.16.

Route 4H. Delta River-McCarty Road (73.4 miles).—A consider- able improvement was made in this road during the latter part of the 1917 season. In addition to the general maintenance there was constructed 14.5 miles of new grade, one framed truss of 40 feet span in mile 208, 1,165 linear feet of diversion dike in mile 208, and 7 culverts. Gravel surfacing to the amount of 1,560 cubic yards was placed, and 3.2 miles of road were regraded. In the spring a new 65-foot framed truss bridge was constructed at mile 236. Washouts and minor damages due to the break-up were repaired. Snowdrifts were opened up and slides were removed. Two new towers were erected for the McCarty ferry, and the scow was recalced. Later the graded sections of the road were dragged. Maintenance, \$20,660; construction, \$22,101.

Route 4I. McCarty-Richardson Road (20.6 miles).—During the later part of the working season of 1917 no maintenance was required on this section, as the entire length had been placed in excellent condition prior to the 1st of July, 1917. During the spring of 1918 this section was put in excellent repair, the graded portions through low- lands being dragged several times, and all unsound flooring in cul- verts and bridges replaced by new timber. A new wooden truss bridge having a total length of 117 feet replaced the old structure at Shaw Creek. Maintenance, \$8,470; construction, \$2,006.83.

Route 6A. Willow Creek-Tonsina Road (24 miles).—As this road had been placed in good condition over its entire length during the month of June, 1917, no further maintenance was needed during the remainder of the year. During the spring this section was thor- oughly dragged. Maintenance, \$2,832.51.

Route 6B. Tonsina-Chitina Road (15 miles).—In addition to the general maintenance of this section, such as the repair of culverts and bridges, cleaning out ditches, and repairs to the grade, there were placed 1,210 cubic yards of gravel surfacing. In the spring of 1918 ordinary maintenance was continued as well as extensive improve- ments by placing gravel surfacing out to mile 13, widening all sharp turns, placing turnouts, and opening of two new gravel pits. Temporary loading bins were constructed at each of these pits, the

bins were filled by slip scrapers and team, material being hauled by three auto trucks. Maintenance, \$10,280.55; construction, \$13,750.

Kuskulana Bridge.—In fall of 1917, \$302.15 was expended for inspection and survey of site for proposed bridge across the Kuskulana River, about 10 miles northeast of Strelna, on the Copper River Railroad. It is understood that the territorial road commission has this bridge under construction.

YUKON DISTRICT—C. G. MORRISON, C. E., DISTRICT ENGINEER.

Route 4J. Richardson to Salchaket (30 miles) (Valdez-Fairbanks Road).—Eight miles were graded and 115 culverts were constructed at a total cost of \$22,172.98. During spring of 1918 eight men were employed removing slides, opening up ditches, bridges, and culverts. One crew of 20 men was employed 10 days on the Richardson, placing the entire section in excellent condition. Cost of maintenance, \$6,680.41.

Route 4K. Salchaket-Fairbanks (40 miles) (Valdez-Fairbanks Road).—Twenty-one and one-half miles were graded on the new location made necessary by encroachment of the Tanana River. Three 40-foot bridges and 72 culverts were constructed. Construction cost, \$43,805.71. The towers for the Munson ferry were rebuilt, and the scow was repaired. The whole section was dragged, and general maintenance work was done at a cost of \$5,400.71.

Route 5. Ester-Fort Gibbon Sled Road (148 miles).—This route is a part of the Fairbanks-Nome winter mail route. All culverts were repaired, and lakes and open country staked for the safe guidance of winter travel. Cost, \$470.08.

Route 7D. Ester Creek Road (5½ miles).—Connects Ester Creek with Route 5 and forms part of winter mail route between Fairbanks and Nome. Road also runs from Fairbanks to the Department of Agriculture Experimental Farm. The road was entirely regraded, about 2 miles being on a new location; 25 culverts were constructed, and 2,740 linear feet of corduroy was laid. Total cost of construction was \$10,535.91.

Route 9. Rampart-Eureka Road (6½ miles road, 21½ miles sled road).—Fourteen bridges and 24 culverts were rebuilt or repaired. Other work consisted of general maintenance. Total cost, \$1,434.

Route 11A. Eagle-O'Brien Creek-Forty Mile Road (17 miles road, 30 miles sled road).—From Eagle, on the Yukon River, to mines on Forty Mile Creek. The work consisted in rebuilding and repairing bridges and culverts, clearing slides, widening grades, and general maintenance. Total cost, \$1,614.

Route 11E. Eagle-Seventy Mile sled road (20 miles).—From Eagle, on Yukon River, to mines on Seventy Mile Creek. General repair and maintenance work was done to the amount of \$386.

Route 15. Circle-Miller House Road (49 miles).—From Circle, on Yukon River, to Miller Road House. In addition to general maintenance, 1 mile of road was reditched and graded and 89 culverts were rebuilt or repaired. Foot travelers now cross Birch Creek on a new overhead cable car. Total expended for maintenance, \$5,066.

Route 16. Chatanika Miller House sled road (81 miles).—All culverts were repaired, slides were removed, and general maintenance work was carried on. Cost, \$700.

Route 17. Fort Gibbon-Kaltag Trail (257 miles).—Fairbanks-Nome winter-mail trail, connecting the Fort Gibbon with Kaltag, both places being on the trail. Three small bridges were built by contract for \$10. Work consisted of temporarily staking open sections.

Route 22. Hot Springs-Sullivan Creek Road (10 miles).—Hot Springs, on the Tanana River, to mining district. Work consisted of general maintenance, and culverts. Cost of maintenance, \$1,352.82.

Route 29. Fort Gibbon-Koyukuk Trail (146 miles).—Fort Gibbon, on the Yukon River, to Artic City, on the Tanana River. General maintenance from Fort Gibbon to mile 38. From mile 75 a new trail was cleared and a 75-foot bridge was constructed. Through open country the trail was marked by 4-inch stakes 10 feet high. The open country has been very dangerous and has caused much hardship during blizzards. Total cost for maintenance, \$330.22.

Route 30. Hot Springs Landing-Eureka Creek Road (100 miles).—From Hot Springs Landing to Eureka mining district. Work was chiefly confined to the section between Hot Springs and Hot Springs Station, distance 2 miles. Four bridges were repaired, four new culverts built, 665 feet of corduroy covered, and 2,100 feet of side ditches were cut. Maintenance work was done on the entire section. During the spring of 1918 the Tanana River overflowed and several bridges were destroyed. These will be replaced during the next season. Cost of maintenance, \$1,678.88.

Route 38A. Ruby Long Road (28.25 miles).—From Ruby, on Yukon River, to the Long Creek mining district. 2,000 tons of freight were handled over this road. General maintenance work was done on first 19 miles. Cost, \$6,868.78. Nine miles of new road were constructed for \$37,217.70.

Fairbanks Bridge.—During the fall of 1917 the bridge was given two coats of paint and the amount, \$1,448.25, was expended on construction.

SOUTHWESTERN DISTRICT—ANTON EIDE, SUPERVISOR.

Route 24. Moose Pass Road (29.5 miles).—From Moose Pass, Alaska Northern Railroad, to connection with the Yukon and Hope, on Turnagain Arm. This section has a considerable amount of gold and much ground has a known amount of mines are not operating extensively, on account of conditions and high cost of supplies. For these reasons work consisted of widening the road and righting places, ditching, and general maintenance. In addition, a cloudburst did considerable damage and about 10 miles of work had to be done over; \$6,480.21 expended.

Route 10. Seward-Kenai Lake Road (7.75 miles).—In excellent condition until the heavy rains of September carried away entire section of road and damaged other bridges. In addition to construction

scrapers and team, material being hauled by maintenance, \$10,280.55; construction, \$13,750. In fall of 1917, \$302.15 was expended for site for proposed bridge across the Kuskulana northeast of Strelna, on the Copper River Railroad that the territorial road commission has this

C. G. MORRISON, C. E., DISTRICT ENGINEER.

to Salchaket (30 miles) (Valdez-Fairbanks) were graded and 115 culverts were constructed during spring of 1918 eight men were employed, opening up ditches, bridges, and culverts was employed 10 days on the Richardson. The section in excellent condition. Cost of main-

et-Fairbanks (40 miles) (Valdez-Fairbanks) and one-half miles were graded on the new location by encroachment of the Tanana River. Three culverts were constructed. Construction cost, \$72.98. During spring of 1918 eight men were employed, opening up ditches, bridges, and culverts was employed 10 days on the Richardson. The section in excellent condition. Cost of main-

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Eureka Road (6½ miles road, 21½ miles sled road) and 24 culverts were rebuilt or repaired. Cost of general maintenance. Total cost, \$1,434.

O'Brien Creek-Forty Mile Road (17 miles road).—From Eagle, on the Yukon River, to mines on the Tanana River. The work consisted in rebuilding and repairing bridges, clearing slides, widening grades, and general maintenance. Total cost, \$1,614.

Seventy Mile sled road (20 miles).—From Eagle, Alaska, to mines on Seventy Mile Creek. General repair work was done to the amount of \$386.

Miller House Road (49 miles).—From Circle, on the Tanana River, to Miller House. In addition to general maintenance the road was reditched and graded and 89 culverts were constructed. Foot travelers now cross Birch Creek on a new bridge. Total expended for maintenance, \$5,066.

Miller House sled road (81 miles).—All culverts were removed, and general maintenance was done. Total cost, \$700.

Route 17. Fort Gibbon-Kaltag Trail (257 miles).—A part of the Fairbanks-Nome winter-mail trail, connecting the Army post at Fort Gibbon with Kaltag, both places being on the Yukon River. Three small bridges were built by contract for \$105. Maintenance work consisted of temporarily staking open sections, at a cost of \$328.

Route 22. Hot Springs-Sullivan Creek Road (9 miles).—From Hot Springs, on the Tanana River, to mining district at Sullivan Creek. Work consisted of general maintenance, repairing bridges and culverts. Cost of maintenance, \$1,352.82.

Route 29. Fort Gibbon-Koyukuk Trail (146 miles).—From Fort Gibbon, on the Yukon River, to Artic City, on the Koyukuk River. General maintenance from Fort Gibbon to mile 38. From this point to mile 75 a new trail was cleared and a 75-foot bridge at mile 48 was constructed. Through open country the trail was marked every 100 feet by 4-inch stakes 10 feet high. The open country has heretofore been very dangerous and has caused much hardship to travelers during blizzards. Total cost for maintenance, \$330.98; construction, \$2,669.02.

Route 30. Hot Springs Landing-Eureka Creek Road (32 miles).—From Hot Springs Landing to Eureka mining district. Work done was chiefly confined to the section between Hot Springs Landing and Hot Springs Station, distance 2 miles. Four bridges were repaired, four new culverts built, 665 feet of corduroy was laid and covered, and 2,100 feet of side ditches were cut. General maintenance work was done on the entire section. During the high water in the spring of 1918 the Tanana River overflowed and washed out several bridges. These will be replaced during the 1918 working season. Cost of maintenance, \$1,678.88.

Route 38A. Ruby Long Road (28.25 miles).—From Ruby, on the Yukon River, to the Long Creek mining district. Approximately 2,000 tons of freight were handled over this road during the year. General maintenance work was done on first 19 miles, at a cost of \$6,868.78. Nine miles of new road were constructed during the year for \$37,217.70.

Fairbanks Bridge.—During the fall of 1917 the entire bridge was given two coats of paint and the amount, \$1,448.03, was charged to construction.

SOUTHWESTERN DISTRICT—ANTON EIDE, SUPERINTENDENT.

Route 24. Moose Pass Road (29.5 miles).—From mile 29, on Alaska Northern Railroad, to connection with Route 12 to Sunrise and Hope, on Turnagain Arm. This section has produced a considerable amount of gold and much ground has a known value, but the mines are not operating extensively, on account of present labor conditions and high cost of supplies. For these reasons travel is light. Work consisted of widening the road and right of way in many places, ditching, and general maintenance. In September, 1917, a cloudburst did considerable damage and about half of the season's work had to be done over; \$6,480.21 expended.

Route 10. Seward-Kenai Lake Road (7.75 miles).—This road was in excellent condition until the heavy rains of September, 1917. The flood carried away entire section of road and several bridges and damaged other bridges. In addition to constructing two new 80-foot

Howe truss bridges at mile $3\frac{1}{2}$, other bridges were repaired and damaged sections of road were rebuilt. Expenditures for maintenance and repair amounted to \$8,295.34, and the cost of the new bridge was \$2,281.75, a total of \$10,577.09.

Route 12. Mile 34, Alaska Northern Railroad-Hope Road (31 miles wagon road, 9 miles sled road).—Work embraced widening road and right of way, replacing small bridges and culverts, and cutting out windfalls. Two miles of completely washed-out road were repaired and general maintenance performed, at a total cost of \$5,972.19.

Route 35. Knik-Willow Creek Road (34 miles).—From Knik, on Knik Arm, to crossing of Government railroad at Wasilla, thence to Willow Creek mining district. Reaches a most promising quartz-mining district, producing about \$250,000 per year, with strong indications of great increase and long life. Value of ore per ton is high, and although there is a shortage of labor and cost of supplies is high, these conditions are not as serious as in the low-grade districts. The last year was very wet, and road work was expensive. Twenty-eight acres of grubbing was done, in widening right of way, bridges and culverts were repaired, 4 miles were regraded, and gravel surfacing was placed on 2 miles. One new 35-foot frame bent bridge was constructed at mile 19 and a 14 by 16 warehouse was erected at Wasilla. A total of \$22,696.39 was expended, \$1,275 of which was for construction and the balance for maintenance and improvement.

Route 35A. Archangel extension (3 miles).—Connects with Knik-Willow Creek Road at mile 32. The road is entirely above timber line and all culvert and bridge material is hauled a long distance. Several culverts were constructed and material for a bridge over Archangel Creek was delivered. One and one-half miles of road was graded and one-half mile was lightly graveled, 300 linear feet of corduroy was laid, and several culverts were built; \$733.35 expended for maintenance and \$1,534 for construction; total, \$2,267.35.

Talkeetna-Cache Creek Road (42 miles sled road and summer trail).—From point on United States Government railroad location at Talkeetna to the Cache Creek mining district. A good winter road, which is also passable for pack animals in summer, was constructed during the year. The Cache Creek district is one of large area and promises to be very productive. The production justifies improving the route for wagon traffic, and it is hoped to start this improvement within the next two years. Expenditures were \$4,634.50, all for construction.

Palmer-Mile 26 $\frac{1}{2}$ Road (8 miles).—From Palmer, on Government railroad, to mile 26, on the Knik-Willow Creek Road. Six miles of right of way was cleared, material for 1,500 feet of corduroy and timber for culverts was delivered. The clearing and grubbing was heavy, costing \$345 per acre. The road will be completed as a winter sled road during the coming fiscal year. Further improvement will not be warranted until the farming country shows more development. Cost of work, \$7,906.69.

Iliamna Bay Road (10 miles).—From Iliamna Bay to Iliamna Village, on Iliamna Lake, where water connection is made with Bristol Bay. Eight miles of trail were built. The season closed before work was completed, and 2 miles remain to be constructed. Work was greatly damaged by storms in September, 1917, but was repaired. Approximately \$3,000 will be required to finish the road, as the bal-



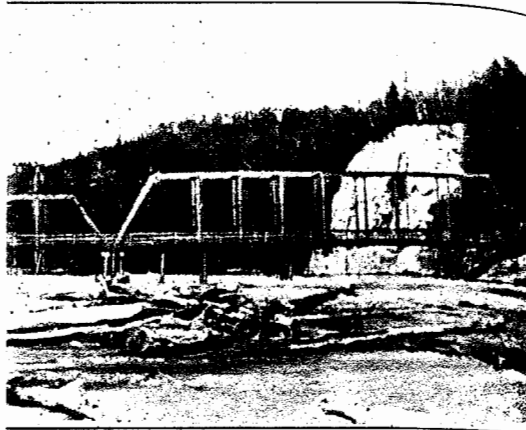
VALDEZ-FAIRBANKS ROAD. THOMPSON
ELEVATION 2,745 FEET. JULY



SEWARD RADIO RO



1.0 MILE 1 ON VALDEZ-FAIRBANKS ROAD.



3E. THROUGH SPANS, 100 FEET AND 150 FEET, CONSTRUCTED 1918.



SEWARD-KENAI LAKE ROAD.

ance of allotment and available funds were not sufficient to complete the project. Amount expended, \$6,781.52.

Matanuska Bridge (over Palmer Canyon).—This bridge was erected to provide an outlet to the Government railroad for a farming community on the east side of the Matanuska River. It consists of one 150-foot combination span, one 100-foot combination span, and 190 feet of trestle approach. The season for construction was unfavorable, on account of deep frost, running ice, and high water. All material except piling was shipped from Seattle. The cost of construction was as follows:

Freight on material from Palmer to bridge site.....	\$834.00
Piles and crib timbers, delivered.....	885.82
Driving piles (3,780 linear feet).....	2,050.00
Overhauling iron and refitting timbers.....	450.00
Raising trusses.....	776.48
Putting on decking and hand rails.....	316.00
Building piers and abutments.....	366.60
Filling piers.....	499.00
General supervision.....	600.00
Material from Alaska Engineering Commission.....	300.00
Material from Seattle and freight on same.....	15,224.25
Total.....	22,252.15

Palmer-Matanuska Bridge Road (1.5 miles).—Connects Palmer Station on Government railroad with the new Matanuska Bridge. The work consisted in clearing and grubbing 500 feet of corduroy for wet sections, and light grading. Total cost, \$2,489.71.

Kahiltna Bridge.—The September, 1917, storm carried away a part of the approach, which was replaced, and other repairs were made, at a total cost of \$347.10.

Seward-Radio Road (1¼ miles).—Connects at Mile 2 with Seward-Kenai Lake Road and runs to United States naval radio station. Work was started June 8 at the request of the Secretary of the Navy, the cost, estimated at \$6,500, to be reimbursed by the Navy Department. One mile was cleared and grubbed, 500 feet lightly surfaced with gravel, 18 piles for bridges have been driven, and bridge material is being delivered. Total cost to June 30, 1918, \$2,589.15.

Route 20D. Tacotna-Ophir Road (23.5 miles, 7.4 miles constructed).—One and six-tenths miles were constructed on the Tacotna end and right of way cleared to mile 2.8; 5.8 miles were constructed on the Ophir end. The two camps produce approximately \$100,000 per year in gold. It is hoped that funds will become available so the two ends can be connected by a cleared right of way and necessary bridges and culverts provided. Total amount expended was \$19,949.52.

Route 20A. Knik-Susitna Trail (30 miles).—Ordinary maintenance cost \$253.59.

Route 20B. Susitna-Rainy Pass Trail (127 miles).—Maintenance \$253.59.

Route 20C. Rainy Pass-Tacotna Trail (130 miles).—Maintenance, \$263.79.

Work consisted of reblazing trees, erecting tripod markers where required, clearing away windfalls, and repairing three bridges. Expended for maintenance, \$567.83.

NOME DISTRICT.—DANIEL A. JONES, SUPERINTENDENT.

*Route 8. Nome-Council Road (82 miles: 60 miles constructed).—*Nome-Fort Davis section (3½ miles). Work consisted of general maintenance, blasting out ice and opening channels under bridges in the spring, and graveling 4,800 feet of road.

*Fort Davis-Cape Nome (9 miles).—*This section was turned over to Territorial road commission, who constructed 2½ miles at a cost of approximately \$19,000.

*Cape Nome section (2 miles).—*General maintenance expenditures, \$228.

*Solomon-East Fork (15 miles).—*Connects Bonanza Ferry, the landing place for boats, with East Fork-Council Road. During open season traffic amounts to about 8 tons per day. General maintenance work was performed.

*East Fork to Fox River (25 miles).—*Connects Solomon-East Fork Road with Council Corduroy. Combination road and trail. Its improvement has been taken over by the Territorial road commission.

*Council-Corduroy (5½ miles).—*Connects Fox River with Council City. Territorial road commission is improving this section and spent a total of \$5,300 during past year. The Safety and Bonanza ferries were maintained on this route at a cost of \$906. Total expenditures for maintenance, Route 8, by Alaska road commission, \$5,262.58.

*Route 13A. Nome-Bessie Road (3.29 miles).—*Connects Nome with the Third Beach line. It serves to supply districts north of Nome. It is estimated that 30 tons of freight are hauled over this road daily, throughout the year. One thousand yards of gravel were hauled and spread by auto truck at a cost of 90 cents per cubic yard, the average haul being 1½ miles. The crib piers of the Dry Creek Bridge were undermined by the spring freshet and had to be replaced by pile bents and the bridge generally overhauled at a total cost of \$798.40. The fill crossing Dry Creek was widened 2 feet for a distance of approximately 300 feet, and a stone wall approximately 4 feet high and 300 feet long was built on the upstream side. The cost of maintenance during the break-up was \$375. Work consisted of opening culverts, clearing ditches, and opening the channels under the Dry and Bourbon Creek bridges. Total maintenance cost, \$3,935.71.

*Route 13B. Bessie-Banner Road (3.46 miles).—*Connects the Bessie with Banner station. It serves to supply Anvil and Glacier Creeks and all upper Snake River points. It is estimated that 4 tons per day are hauled during the open season. Work consisted of surfacing 7,515 feet with gravel, 1,671 cubic yards of gravel and rock having been hauled at a cost of \$1.28 per cubic yard, average haul one-fourth mile. Twelve culverts cost \$11 each; 2,100 feet of ditch was dug at a cost of 9 cents per foot. The entire road was rolled with a road roller drawn by auto truck, at a cost of \$62.50. Maintenance, \$3,038.52; construction, \$2,200.

*Route 13C. Bessie-Little Creek Road (1.25 miles).—*Connects Nome-Bessie Road with Little Creek. Supplies the Third Beach line west of the Bessie and Little Creek. It is estimated that 10 tons daily are hauled over this road. During past year 2,600 feet of road

was surfaced, 691 cubic yards of gravel having been hauled at \$1.06 per cubic yard, average haul one-fourth mile. Total cost of maintenance, \$849.17.

*Route 13D. Bessie-Dry Creek Road (1.25 miles).—*Connects Nome-Dexter Road with the Nome-Osborne Road. Supplies the camps on the Third Beach Line between Bessie and Dry Creek. It is estimated that 100 tons of freight were hauled over this road during the year. Maintenance, \$202.20.

*Route 13E. Dry Creek-Newton Road (0.33 of a mile).—*Connects the Bessie-Dry Creek with the Dry Creek-Osborne Road. Maintenance expenditure during the past year and no freight hauled.

*Route 13F. Nome-Osborne Road (4 miles).—*Connects the Dry Creek-Newton Road with Osborne Creek. Supplies the camps and vicinity. Estimated 2½ tons hauled daily. Work consisted of general maintenance; 250 cubic yards of gravel hauled at \$1.73 per yard, average haul one-half mile. Road resurfaced; 5,310 feet of ditch made at 3 cents per foot. Culverts taken out, repaired, and lowered at \$30.00. Maintenance, \$824.41; construction, \$85.30.

*Route 13G. Grass Gulch (1.75 miles).—*Connects the Dry Creek-Newton Road with King Mountain, and supplies mines on Grass Mountain and King Mountain. No expenditures during year.

*Route 13H. Center Creek Road (1.37 miles).—*Connects the Nome-Bessie with Center Creek camps. No expenditures during year.

*Route 13I. Nome River Extension (5 miles).—*Connects the Dry Creek with upper Nome River camps and supplies the camps. Five hundred and thirty linear feet surfacing with gravel, costing 80 cents per cubic yard. Other work consisted of maintenance during year. Maintenance, \$195.85.

*Route 13J. Wonder-Flat Creek (2 miles).—*Connects the Little Creek Road with Wonder and Flat Creeks. Supplies the camps on Wonder and Flat Creeks and lower Little Creek. It is estimated that 100 tons of freight hauled over road during year. Work consisted of material for a dredge which was used to dredge Flat Creek; 2,050 linear feet was resurfaced with gravel, average haul one-fourth mile. Maintenance, \$4,090.39; construction, \$6,315.47.

*Route 13K. Bessie-Buster (5 miles).—*Connects the Nome-Bessie with Dexter and Buster Creeks. It is estimated that 4 tons per day are hauled over route; 19,750 linear feet was surfaced with gravel having been hauled at \$1.06 per cubic yard, average haul one-fourth mile; 9,500 feet of ditch cost 8 cents per foot. Four 2 by 2 culverts were built at a cost of \$4,090.39; construction, \$6,315.47.

*Route 18. Kaltag-Solomon Trail (248 miles).—*Connects the Yukon River to Solomon on the Nome Council District line. General maintenance cost \$328.

*Route 21. Unalaklik-St. Michael Trail (65 miles).—*Connects the Yukon River to St. Michael. Maintenance cost \$21.50.

—DANIEL A. JONES, SUPERINTENDENT.

il Road (82 miles: 60 miles constructed).—
n (3½ miles). Work consisted of general
it ice and opening channels under bridges
ing 4,800 feet of road.

° (9 miles).—This section was turned over
ission, who constructed 2½ miles at a cost
).

miles).—General maintenance expenditures,

5 miles).—Connects Bonanza Ferry, the
, with East Fork-Council Road. During
nts to about 8 tons per day. General main-
ned.

r (25 miles).—Connects Solomon-East Fork
duroy. Combination road and trail. Its
taken over by the Territorial road com-

miles).—Connects Fox River with Council
commission is improving this section and
during past year. The Safety and Bonanza
on this route at a cost of \$906. Total ex-
nce, Route 8, by Alaska road commission,

ie Road (3.29 miles).—Connects Nome with
t serves to supply districts north of Nome.
tons of freight are hauled over this road
year. One thousand yards of gravel were
to truck at a cost of 90 cents per cubic yard,
1½ miles. The crib piers of the Dry Creek
by the spring freshet and had to be replaced
bridge generally overhauled at a total cost
ossing Dry Creek was widened 2 feet for a
ly 300 feet, and a stone wall approximately
long was built on the upstream side. The
ng the break-up was \$375. Work consisted
ing ditches, and opening the channels under
Creek bridges. Total maintenance cost,

ner Road (3.46 miles).—Connects the Bes-
. It serves to supply Anvil and Glacier
ke River points. It is estimated that 4 tons
g the open season. Work consisted of sur-
avel, 1,671 cubic yards of gravel and rock
cost of \$1.28 per cubic yard, average haul
culverts cost \$11 each; 2,100 feet of ditch
cents per foot. The entire road was rolled
by auto truck, at a cost of \$62.50. Main-
ruction, \$2,200.

ittle Creek Road (1.25 miles).—Connects
Little Creek. Supplies the Third Beach
ad Little Creek. It is estimated that 10 tons
is road. During past year 2,600 feet of road

was surfaced, 691 cubic yards of gravel having been hauled at \$1.52
per cubic yard, average haul one-fourth mile. The road was rolled
with a road roller drawn by an auto truck, at a cost of \$30. Main-
tenance, \$849.17.

Route 13D. Bessie-Dry Creek Road (1.25 miles).—Connects the
Nome-Dexter Road with the Nome-Osborne Road. Supplies all
camps on the Third Beach Line between Bessie and Dry Creeks. It
is estimated that 100 tons of freight were hauled during year. Main-
tenance, \$202.20.

Route 13E. Dry Creek-Newton Road (0.33 of a mile).—Connects
the Bessie-Dry Creek with the Dry Creek-Osborne Roads. No ex-
penditure during the past year and no freight hauled.

Route 13F. Nome-Osborne Road (4 miles).—Connects the Dry
Creek-Newton Road with Osborne Creek. Supplies Osborne Creek
and vicinity. Estimated 2½ tons hauled daily during open season.
Work consisted of general maintenance; 250 cubic yards of gravel
hauled at \$1.73 per yard, average haul one-half mile; 2,680 feet were
resurfaced; 5,310 feet of ditch made at 3 cents per running foot; five
culverts taken out, repaired, and lowered at \$3 each. Maintenance
\$824.41; construction, \$85.30.

Route 13G. Grass Gulch (1.75 miles).—Connects the Nome-Bessie
with King Mountain, and supplies mines on Grass and Deer Gulches,
and King Mountain. No expenditures during year.

Route 13H. Center Creek Road (1.37 miles).—Connects the
Nome-Bessie with Center Creek camps. No expenditure during the
year.

Route 13I. Nome River Extension (5 miles).—Connects Dexter
Creek with upper Nome River camps and supplies upper Nome River
points. Five hundred and thirty linear feet surfaced with 142 cubic
yards of gravel, costing 80 cents per cubic yard to haul and spread.
Other work consisted of maintenance during spring break-up.
Maintenance, \$195.85.

Route 13J. Wonder-Flat Creek (2 miles).—Connects the Bessie-
Little Creek Road with Wonder and Flat Creeks. It supplies the
camps on Wonder and Flat Creeks and lower Little Creek. Thirteen
hundred tons of freight hauled over road during past year, most of
which consisted of material for a dredge which was constructed on
Flat Creek; 2,050 linear feet was resurfaced with gravel at \$1.18 per
cubic yard, average haul one-fourth mile. Maintenance, \$849.96.

Route 13K. Bessie-Buster (5 miles).—Connects the Bessie with
Dexter and Buster Creeks. It is estimated that 40 tons per month are
hauled over route; 19,750 linear feet was surfaced, 3,615 cubic yards
of gravel having been hauled at \$1.06 per cubic yard, average haul
one-fourth mile; 9,500 feet of ditch cost 8 cents per foot. Twenty-
four 2 by 2 culverts were built at a cost of \$108. Maintenance,
\$4,090.39; construction, \$6,315.47.

Route 18. Kaltag-Solomon Trail (248 miles).—From Kaltag on
Yukon River to Solomon on the Nome Council Road. Staking and
general maintenance cost \$328.

Route 21. Unalaklik-St. Michael Trail (65 miles).—Maintenance
\$21.50.

Route 25. Sinrock Ferry.—The expense of maintaining this ferry consisted of the salary of the ferryman, employed for five months at a monthly salary of \$50, or \$250.

Route 25A. Cripple River Road (12 miles).—Connects the coast with Cripple River. No expenditures were made on this road during the past year.

Route 25B. Penny River Road (17 miles).—Connects the coast at mouth of Penny River with Oregon Creek. It is a combination road and trail. No expenditures.

Route 25C. Nome Wireless Road (800 feet).—Connects Nome with the wireless station. No expenditures.

Route 25D. Mouth of Center Creek Road (225 miles).—Connects Nome with the mouth of Center Creek. Supplies Lower Snake River and Lower Center Creek camps. An average of 3 tons daily hauled; 3,000 feet surfaced with gravel at \$1.26 per cubic yard; average haul 2,000 feet. Maintenance, \$846.33.

Route 25E. Submarine Paystreak Road (3 miles).—Connects Nome with the Submarine paystreak which parallels the coast west of Nome. Hauling estimated at 7 tons per day. Twenty-three culverts, 2 feet square and 16 feet long, were constructed at \$14.16 each; 1,888 cubic yards of gravel hauled at \$1.06 per yard; 2,030 feet of road constructed with grading machine and slip scrapers, costing forty-nine cents per linear foot; 5,000 feet of ditch, averaging 18 inches on the bottom and 2 feet deep, were constructed for 7 cents per foot. Construction, \$3,867.63.

Route 25F. Anvil-Glacier Road (3 miles).—Connects Bessie-Banner Road with the Snake River Road. Supplies Glacier Creek and all Snake River points. Hauling estimated at 5 tons per day; 4,870 linear feet was surfaced with gravel at \$1.59 per yard, average haul one-fourth mile; 655 feet of road was constructed, using slip scrapers and material from tailing piles, for \$151.80. Six thousand feet of ditch cost 9 cents per foot. Maintenance, \$530; construction, \$2,648.24.

Route 25G. Snake River Extension Road (3 miles).—Connects Anvil-Glacier with Snake River and its tributaries. Three tons per day are hauled over this road. Work consisted of general maintenance, and cost \$125.06.

Route 25H. Otter Creek Road (1.25 miles).—Connects Nome-Fort Davis Road with Otter Creek and vicinity. Has not been used for three years and no work done.

Route 25. Bull Creek Bridge.—Crossing Bull Creek, which is on the trail from the coast to Sunset Creek. Cost of repairs, \$68.25.

Route 25. Snake River Bridge.—Work consisted of hauling and placing 40 cubic yards of rock around center pier; \$99.38.

Route 26. Candle-Candle Creek Road (9 miles).—Connects Candle with Candle Creek camps. Estimated 1,000 tons hauled during summer and winter. Work consisted of laying 10,150 feet of willow corduroy, which was covered with material plowed and scraped from near the road bed, at 28 cents per linear foot. In addition, 1,005 cubic yards of gravel were hauled at \$1.67 per cubic yard; 7,540 feet of ditch was constructed at 2 cents per foot; twenty-five 2 by 2

feet culverts 16 feet long were constructed for \$13 bundles of willows were bound in bundles of 10 pounds each and delivered along the right of way \$849.91; construction, \$5,013.65.

Route 27. Deering-Inmachuck Road (25 miles).—Connects Deering with Inmachuck River points and supplies the 1 and its tributaries. Approximately 800 tons were hauled during the year. Road turned over to Terri mission, who expended \$1,500 during the past year.

Route 28. Dahl Creek-Candle Trail (140 miles).—Connects Dahl Creek with Candle Creek in the territory. Recently staked trail running from Dahl Creek in the territory to Candle, a distance of 140 miles. The work consisted of straightening and replacing broken and missing stakes; \$150.

Route 42. St. Michael-Kotlik Trail (70 miles).—Connects St. Michael with Kotlik. General maintenance; \$350.

Route 49. Davidsons Landing-Taylor Creek Road (10 miles).—This road runs from Davidsons Landing to Taylor Creek. It is estimated that 1,000 tons are hauled over this road yearly. No work was made during the year.

Fortuna Ledge, or Marshall City Road (4 1/2 miles).—This road is used by boats of lighter draft a distance of 12 miles to the landing at Fortuna Ledge. The road is constructed from the landing to Wilkes-Barre. Four hundred tons of freight were hauled over the road during the year. The sum of \$4,662.50 was expended by the commission in the spring of 1917, the work being completed that year. The work consisted of getting out a trail of right of way 9,000 poles and 1,000 stringers for construction. This work was later turned over to and completed by the Terri mission, at a cost of \$10,232.44.

Flagging trails.—Each year approximately 550 miles of trails, in addition to those permanently marked, are staked and then fallen. This is necessary for the guidance and travel. About 100 miles of trail to different camps are staked by freighters and interested parties with the commission. These lath trails vary each year and are kept going on in the different localities. The work during the past winter, including expenses of the superintendent, was \$4,490.70.

Nome office.—The sum of \$249.50 was expended during the year. The work consisted of raising and levelling the floor, painting, and the purchase of linoleum for the floor.

STATEMENT OF RECEIPTS AND DISBURS

This report covers vouchers received and paid including June 30, 1918:

y.—The expense of maintaining this ferry the ferryman, employed for five months at or \$250.

River Road (12 miles).—Connects the coast expenditures were made on this road during

River Road (17 miles).—Connects the coast er with Oregon Creek. It is a combination expenditures.

less Road (800 feet).—Connects Nome with o expenditures.

Center Creek Road (225 miles).—Connects of Center Creek. Supplies Lower Snake r Creek camps. An average of 3 tons daily aced with gravel at \$1.26 per cubic yard. Maintenance, \$846.33.

e Paystreak Road (3 miles).—Connects Nome aystreak which parallels the coast west of ated at 7 tons per day. Twenty-three cul- 16 feet long, were constructed at \$14.16 each; gravel hauled at \$1.06 per yard; 2,030 feet of grading machine and slip scrapers, costing near foot; 5,000 feet of ditch, averaging 18 d 2 feet deep, were constructed for 7 cents per 1,867.63.

Glacier Road (3 miles).—Connects Bessie- e Snake River Road. Supplies Glacier Creek oints. Hauling estimated at 5 tons per day; urfaced with gravel at \$1.59 per yard, average 655 feet of road was constructed, using slip from tailing piles, for \$151.80. Six thousand its per foot. Maintenance, \$530; construction.

River Extension Road (3 miles).—Connects ake River and its tributaries. Three tons per this road. Work consisted of general mainte- 36.

Creek Road (1.25 miles).—Connects Nome- a Otter Creek and vicinity. Has not been used o work done.

ek Bridge.—Crossing Bull Creek, which is on ast to Sunset Creek. Cost of repairs, \$68.25.

River Bridge.—Work consisted of hauling and s of rock around center pier; \$99.38.

Candle Creek Road (9 miles).—Connects Candle mp. Estimated 1,000 tons hauled during sum- ork consisted of laying 10,150 feet of willow covered with material plowed and scraped from at 28 cents per linear foot. In addition, 1,000 l were hauled at \$1.67 per cubic yard; 7,540 feet ucted at 2 cents per foot; twenty-five 2 by 2

feet culverts 16 feet long were constructed for \$13.70 each; 3,382 bundles of willows were bound in bundles of approximately 50 pounds each and delivered along the right of way. Maintenance, \$849.91; construction, \$5,013.65.

Route 27. Deering-Inmachuck Road (25 miles).—Connects Deering with Inmachuck River points and supplies the Inmachuck River and its tributaries. Approximately 800 tons were hauled over this road during the year. Road turned over to Territorial road commission, who expended \$1,500 during the past year for maintenance.

Route 28. Dahl Creek-Candle Trail (140 miles).—This is a permanently staked trail running from Dahl Creek in the Kougarok district to Candle, a distance of 140 miles. The work consisted of straightening and replacing broken and missing stakes at a cost of \$150.

Route 42. St. Michael-Kotlik Trail (70 miles).—Follows along coast between St. Michael and Kotlik. General maintenance cost \$350.

Route 49. Davidsons Landing-Taylor Creek Road (40 miles, 24 constructed).—This road runs from Davidsons Landing, the end of water navigation, to Taylor Creek. It is estimated that from 800 to 1,000 tons are hauled over this road yearly. No expenditures were made during the year.

Fortuna Ledge, or Marshall City Road (4½ miles).—Freight is landed from river steamers at Fortuna Ledge and transferred by boats of lighter draft a distance of 12 miles to the upper landing. The road is constructed from the landing to Willow Creek mines. Four hundred tons of freight were hauled over road during the past year. The sum of \$4,662.50 was expended by the Alaska road commission in the spring of 1917, the work being paid for in July of that year. The work consisted of getting out and piling on the right of way 9,000 poles and 1,000 stringers for corduroy. The road was later turned over to and completed by the Territorial road commission, at a cost of \$10,232.44.

Flagging trails.—Each year approximately 550 miles of trail, in addition to those permanently marked, are staked after snow has fallen. This is necessary for the guidance and safety of winter travel. About 100 miles of trail to different camps and creeks are staked by freighters and interested parties with flag lath furnished by the commission. These lath trails vary each year according to the work going on in the different localities. The total cost of work during the past winter, including expenses of inspection trips by superintendent, was \$4,490.70.

Nome office.—The sum of \$249.50 was expended on the office building. The work consisted of raising and levelling building, papering, painting, and the purchase of linoleum for the floor.

STATEMENT OF RECEIPTS AND DISBURSEMENTS.

This report covers vouchers received and placed in the account including June 30, 1918:

22 REPORT OF CHIEF OF ENGINEERS, U. S. ARMY, 1918.

MILITARY AND POST ROADS, ETC., A

Balance on hand July 1, 1917.....	\$29,797.53
Received from Treasurer of the United States:	
Appropriation "Construction and maintenance of military and post roads, bridges and trails, Alaska, 1918-19".....	325,000.00
Alaska fund.....	256,000.00
Correction of vouchers:	
Alaska fund.....	10
Special appropriation.....	28.11
Sales of property, Alaska fund.....	5,308.26
Total.....	616,133.97
Deposited to credit Treasurer of the United States.....	28.11
Disbursed as per tabulated statement below.....	616,105.88
Balance on hand.....	597,020.18
Total.....	19,085.70

EXPENDITURES IN DETAIL.

	Construction.	Maintenance.	Total.
Offices.....	\$7,108.20	\$8,055.14	\$13,163.34
Route 1.....		88.50	88.50
Route 2.....	7,910.00	4,290.52	12,200.52
Route 2A.....	1,290.00	15,174.51	16,374.51
Route 3.....		8,398.73	8,398.73
Route 4A.....		1,341.50	1,341.50
Route 4B, first section.....			16,864.66
Route 4B, second section.....	20,500.00	33,697.87	54,197.87
Route 4B, third section.....			18,800.00
Route 4C.....			18,532.21
Route 4D, first section.....	3,450.00	7,535.18	10,985.18
Route 4D, section section.....	7,050.00	19,654.26	26,704.26
Route 4E.....	15,000.00	4,064.17	19,064.17
Route 4F.....		11,517.54	11,517.54
Route 4G.....	9,705.16	4,280.00	13,985.16
Route 4H, first section.....			14,200.31
Route 4H, second section.....	22,101.00	20,660.00	42,761.00
Route 4H, third section.....			13,900.00
Route 4I.....			14,660.69
Route 4J, first section.....	2,006.83	8,470.00	10,476.83
Route 4J, second section.....			13,903.13
Route 4K, first section.....	22,172.98	6,680.41	28,853.39
Route 4K, second section.....			14,950.26
Route 4K, third section.....			15,330.65
Tazlina Bridge.....	43,805.71	5,400.71	49,206.42
Route 5.....	956.01		956.01
Route 6A.....		470.08	470.08
Route 6B, first section.....		2,832.51	2,832.51
Route 6B, second section.....	13,750.00	10,280.55	24,030.55
Route 7D.....	10,535.91		10,535.91
Route 8.....		5,262.58	5,262.58
Route 9.....		1,434.00	1,434.00
Route 10.....		8,295.34	8,295.34
Route 11B.....	2,281.75		2,281.75
Route 11E.....		1,900.50	1,900.50
Route 12.....		99.50	99.50
Route 13A.....		5,972.19	5,972.19
Route 13B.....		3,935.71	3,935.71
Route 13C.....	2,200.00	3,038.52	5,238.52
Route 13D.....		849.19	849.19
Route 13F.....		202.20	202.20
Route 13I.....	85.30	824.41	909.71
Route 13J.....		195.85	195.85
Route 13K.....		849.96	849.96
Route 14.....	6,315.47	4,090.39	10,405.86
Route 15.....	2,476.20		2,476.20
Route 16.....		5,066.00	5,066.00
Route 17.....		700.00	700.00
Route 18.....		405.00	405.00
Route 20A.....		328.00	328.00
Route 20B.....		253.59	253.59

EXPENDITURES IN DETAIL—continued

	Construction
Route 20C.....	
Route 20D.....	\$19,949.51
Route 21.....	
Route 22.....	
Route 24.....	
Route 25D.....	
Route 25E.....	3,867.63
Route 25F.....	2,648.24
Route 25G.....	
Sinrock Ferry.....	
Bull Creek Bridge.....	
Snake River Bridge.....	
Route 26.....	5,013.67
Route 28.....	
Route 29.....	2,669.02
Route 30.....	
Route 35, first section.....	300.00
Route 35, second section.....	975.00
Route 38A, first section.....	
Route 38A, second section.....	37,217.70
Route 38A, third section.....	
Route 38B.....	
Route 39.....	
Route 40.....	
Route 42.....	
Route 44.....	
Route 43.....	
Fairbanks Bridge.....	1,448.00
Flagging Trails.....	
Kahiltna Bridge.....	
Mile 26½ Road.....	7,900.00
Archangel Road.....	1,134.00
Marshall Road.....	4,682.50
Iliamna Road.....	6,781.50
Matanuska Bridge.....	20,471.30
Kuskulana Bridge.....	302.10
Stikine River Trail.....	1,999.70
Talkeetna-Cache Creek Trail.....	4,634.50
Total.....	322,591.70

DISTRIBUTION OF EXPENDITURES.

Salaries (superintendents and clerks).....	
Wages (all other labor).....	
Transportation (persons).....	
Transportation (freight).....	
Hire of animals (horses and dogs).....	
Subsistence (person, meals, and beds).....	
Provisions (all food supplies).....	
Forage and care of animals (horseshoeing, veterinary supplies).....	
Telegraph, telephone, and postage.....	
Fuel (coal and wood) and light.....	
Construction material.....	
Equipment, tools, camp equipage, wagons, harness, etc.....	
Stationery and drafting supplies, maps, printing, cleaning articles.....	
Rents (offices, post-office boxes, barns, or equipment).....	
Motor vehicles, repairs, gas, operation, maintenance.....	
Miscellaneous.....	
Total.....	

EXPENDITURES IN DETAIL—continued.

United States:	\$29,797.58
tion and maintenance of military and post	325,000.00
s, Alaska, 1915-19	256,000.00
d.	28.11
	5,308.23
of the United States	616,133.97
	28.11
atement below	616,105.86
	597,020.18
	19,085.72

EXPENDITURES IN DETAIL.

	Construction.	Maintenance.	Total.
	\$7,108.20	\$8,055.14	\$15,163.34
	7,910.00	4,290.52	12,200.52
	1,200.00	15,174.51	16,374.51
		8,398.73	8,398.73
		1,341.50	1,341.50
	20,500.00	33,697.87	54,197.87
	3,450.00	7,535.18	10,985.18
	7,050.00	19,654.26	26,704.26
	15,000.00	4,064.17	19,064.17
		11,517.54	11,517.54
	9,705.16	4,280.00	13,985.16
	22,101.00	20,660.00	42,761.00
	2,006.83	8,470.00	10,476.83
	22,172.98	6,680.41	28,853.39
	43,805.71	5,400.71	49,206.42
	956.01	470.08	1,426.09
		2,832.51	2,832.51
	13,750.00	10,280.55	24,030.55
	10,535.91		10,535.91
		5,262.58	5,262.58
		1,434.00	1,434.00
	2,281.75	8,295.34	10,577.09
		1,900.50	1,900.50
		99.50	99.50
		5,972.19	5,972.19
		3,935.71	3,935.71
	2,200.00	3,038.52	5,238.52
		849.19	849.19
		202.20	202.20
	85.30	824.41	909.71
		195.85	195.85
		849.98	849.98
	6,315.47	4,090.39	10,405.86
	2,476.20		2,476.20
		5,068.00	5,068.00
		700.00	700.00
		405.00	405.00
		328.00	328.00
		253.59	253.59
		253.59	253.59

	Construction.	Maintenance.	Total.
Route 20C	\$19,949.52	\$263.79	19,949.52
Route 20D		21.50	21.50
Route 21		1,352.82	1,352.82
Route 22		6,480.21	6,480.21
Route 24		846.33	846.33
Route 25D	3,867.63		3,867.63
Route 25E	2,648.24	530.00	3,178.24
Route 25F		75.06	75.06
Route 25G		265.40	265.40
Shrock Ferry		68.25	68.25
Bull Creek Bridge		99.38	99.38
Snake River Bridge	5,013.65	\$49.91	5,863.56
Route 26		150.00	150.00
Route 28	2,609.02	330.98	3,000.00
Route 29		1,678.88	1,678.88
Route 33, first section	300.00	11,398.46	11,698.46
Route 35, second section	975.00	10,022.93	10,997.93
Route 38A, first section			12,140.51
Route 38A, second section	37,217.70	6,868.78	44,086.48
Route 38A, third section			14,500.00
Route 38B		10.00	10.00
Route 39		4,270.74	4,270.74
Route 40		659.00	659.00
Route 42		350.00	350.00
Route 44		1,966.63	1,966.63
Route 45		5,049.55	5,049.55
Fairbanks Bridge	1,448.03		1,448.03
Flagging Trails		4,490.70	4,490.70
Kahiltna Bridge		347.10	347.10
Mile 264 Road	7,906.69		7,906.69
Archangel Road	1,134.00	1,133.35	2,267.35
Marshall Road	4,662.50		4,662.50
Marmna Road	6,781.52		6,781.52
Matanuska Bridge	20,471.32		20,471.32
Kuskulana Bridge	302.15		302.15
Stikine River Trail	1,999.72		1,999.72
Taikeetna-Cache Creek Trail	4,634.52		4,634.52
Total	322,591.73	274,428.45	597,020.18

DISTRIBUTION OF EXPENDITURES.

Salaries (superintendents and clerks)	\$25,325.07
Wages (all other labor)	305,222.10
Transportation (persons)	3,423.17
Transportation (freight)	15,730.79
Hire of animals (horses and dogs)	41,700.06
Subsistence (person, meals, and beds)	16,898.73
Provisions (all food supplies)	57,470.36
Forage and care of animals (horseshoeing, veterinary supplies)	41,105.42
Telegraph, telephone, and postage	943.02
Fuel (coal and wood) and light	1,742.99
Construction material	28,789.78
Equipment, tools, camp equipage, wagons, harness, etc.	25,239.24
Stationery and drafting supplies, maps, printing, cleaning, and toilet articles	662.85
Rents (offices, post-office boxes, barns, or equipment)	2,434.51
Motor vehicles, repairs, gas, operation, maintenance	28,750.71
Miscellaneous	1,581.38
Total	597,020.18