

ANNUAL REPORT OF THE CHIEF OF ENGINEERS, 1928

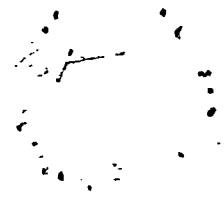
EXTRACT

REPORT UPON THE CONSTRUCTION AND  
MAINTENANCE OF ROADS, BRIDGES,  
AND TRAILS, ALASKA

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BOARD OF ROAD COMMISSIONERS  
FOR ALASKA

PART 1 - 1928



UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON  
1928



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[EXTRACT FROM THE ANNUAL REPORT OF THE CHIEF OF ENGINEERS  
TO THE SECRETARY OF WAR]

WAR DEPARTMENT,  
OFFICE OF THE CHIEF OF ENGINEERS,  
*Washington, October 2, 1928.*

\* \* \* \* \*

BOARD OF ROAD COMMISSIONERS FOR ALASKA

OFFICERS OF THE BOARD

President: Maj. James G. Steese, United States Army, retired, to October 15, 1927; Maj. Douglas H. Gillette, Corps of Engineers, United States Army, October 16, 1927, to November 8, 1927; Maj. Malcolm Elliott, Corps of Engineers, United States Army, November 9, 1927, to date.

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Engineer officer: Maj. James G. Steese, to July 11, 1927, and Maj. Douglas H. Gillette, from July 12, 1927, to date.

Secretary and disbursing officer: First Lieut. John R. Noyes, Corps of Engineers, United States Army, to March 31, 1928, and Second Lieut. Emerson L. Cummings, Corps of Engineers, United States Army, April 1, 1928, to date.

Military assistants, under the immediate orders of the president of the board: Second Lieut. Arleigh T. Bell, Corps of Engineers, United States Army, to September 28, 1927; Second Lieut. Frank A. Pettit, Corps of Engineers, United States Army, to March 27, 1928; Second Lieut. Emerson C. Itschner, Corps of Engineers, United States Army, August 22, 1927, to date; Second Lieut. Emerson L. Cummings, August 22, 1927, to March 31, 1928; First Lieut. John R. Noyes, April 1, 1928, to date; and Second Lieut. Philip R. Garges, Corps of Engineers, United States Army, April 4, 1928, to date.

*Organization and duties.*—The act of Congress approved January 27, 1905, "To provide for the construction and maintenance of roads \* \* \* in the District of Alaska, and for other purposes," was amended and supplemented, prescribes in part as follows:

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That all moneys derived from and collected for liquor licenses, occupation, or trade licenses outside of the incorporated towns in the Territory of Alaska shall be deposited in the Treasury Department of the United States, there to remain as a separate and distinct fund, to be known as the Alaska fund, and to be wholly devoted to the purposes hereinafter stated in the Territory of Alaska \* \* \* and all the residue (65 per cent of total fund) of said fund shall be devoted to the construction and maintenance of wagon roads, bridges, and trails in said Territory \* \* \*.

Sec. 2. That there shall be a board of road commissioners in said district, to be composed of an Engineer officer of the United States Army to be detailed and appointed by the Secretary of War, and two other officers of that part of the Army stationed in said district and to be designated by the Secretary of War. The said Engineer officer shall during the term of his said detail and appointment abide in said district. The said board 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 from any point on the navigable waters of said district to any town, mining or other industrial camp or settlement, or between any such towns, camps, or settlements therein, 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 or of no substantial value or importance for mining, trade, agricultural, or manufacturing purposes. \* \* \* In case no responsible and reasonable bid can be secured, then the work may be carried on with material and men procured and hired by the board. The Engineer officer of the board shall in all cases supervise the work of construction and see that the same is properly performed. \* \* \* It shall be the duty of said board, as far as practicable, to keep in proper repair all roads and trails constructed under their supervision, and the same rules as to the manner in which the work of repair shall be done, whether by contract or otherwise, shall govern as in the case of the original construction of the road or trail. The cost and expense of laying out, constructing, and repairing such roads and trails shall be paid by the Secretary of the Treasury, through the authorized disbursing officer of the board, designated by the Secretary of War, out of the road and trail portion of said "Alaska fund" upon vouchers approved and certified by said board. \* \* \* (Act of January 27, 1905, 33 Stat. 616, as amended by acts of May 14, 1906, 34 Stat. 192, and March 3, 1913, 37 Stat. 728.)

*Provided,* That hereafter the Secretary of War may, in his discretion assign suitable retired officers of the Army to active duty as members of the board of road commissioners for Alaska. (Act of March 3, 1911, 36 Stat. 1052.)

*Provided*, That hereafter, so long as the construction and maintenance of "military and post" roads in Alaska, and of other roads, bridges, and trails in that Territory shall remain under the direction of the Secretary of War, he be authorized to submit such estimates for the consideration of Congress as are in his judgment necessary for a proper prosecution of the work. (Act of July 9, 1918, 40 Stat. 843.) Hereafter when an appropriation for this purpose for any fiscal year shall not have been made prior to the 1st day of March preceding the beginning of such fiscal year, the Secretary of War may authorize the board of road commissioners to incur obligations for this purpose of not to exceed 75 per centum of the appropriation for this purpose for the fiscal year then current, payment of these obligations to be made from the appropriation for the new fiscal year when it becomes available. (Act of February 12, 1925, 43 Stat. 930.)

*Provided*, That the Secretary of War is hereby authorized to receive from the Territory of Alaska, or other source, such funds as may be contributed by them to be expended in connection with funds appropriated by the United States for any authorized work of construction, repair, and maintenance of roads, bridges, ferries, trails, and related works in the Territory of Alaska, and to cause such funds to be deposited to the credit of the Treasurer of the United States, and to expend the same in accordance with the purpose for which they were contributed. (Act of June 30, 1921, 42 Stat. 90.)

*Construction and maintenance of roads, bridges, and trails, Alaska.*—For the construction, repair, and maintenance of roads, tramways, ferries, bridges, and trails, Territory of Alaska, to be expended under the direction of the board of road commissioners described in section 2 of an act entitled "An act to provide for the construction and maintenance of roads, the establishment and maintenance of schools, and the care and support of insane persons in the District of Alaska, and for other purposes," approved January 27, 1905, as amended by the act approved May 14, 1906, and to be expended conformably to the provisions of said act as amended, \$825,000, to be immediately available. (Act of March 23, 1923.)

The board was organized May 15, 1905. War Department orders of February 15, 1913, relative to the work of the board, prescribe that the senior officer on duty, designated as president, shall have general charge of the operation, that the Engineer officer shall supervise the work of construction in the field as provided by law, and that the third officer shall act as disbursing officer of the board.

From its organization until December 29, 1917, the board reported direct to the War Department through The Adjutant General. On that date orders were issued by the Secretary of War placing the work under the general supervision of the Chief of Engineers.

*Offices of the board.*—The principal office of the board is at Juneau, Alaska. Suboffices are maintained, when required by active operations, at Valdez, Chitina, Fairbanks, Eagle, Anchorage, Seward, Takotna, and Nome, Alaska; Seattle, Wash.; and Washington, D. C.

*Location and description.*—The work thus far accomplished includes the construction of 1,523 $\frac{1}{4}$  miles of wagon road, 100 miles of tramroad, 1,375 $\frac{1}{4}$  miles of sled road, 7,044 $\frac{1}{2}$  miles of permanent trail, and 712 miles of temporary flagged trail, a total of 10,755 miles.

The Territory has an area of 590,880 square miles, which is more than twelve times the size of the State of New York, or practically one-fifth the size of the United States proper. At its southern point it is 700 miles from the northwest point of the State of Washington by the usually traveled route. Thence the southeastern Alaska Archipelago and a strip of mainland lying west of the Canadian boundary extend northwesterly for about 520 miles to the major portion of the Territory, which lies west of the one hundred and forty-first meridian and has a dimension of approximately 900 miles north and

south and 700 miles east and west, with the Alaska Peninsula and Aleutian Islands reaching out from the southwestern portion nearly 2,500 miles toward Siberia.

The topography of Alaska varies from rolling to extremely rugged, with little level area. The seaward slope, as far west as Cook Inlet, is especially rugged and subject to a heavy rain and snow fall.

The timber along the coast attains a dense growth, but in the interior is found only along the stream valleys. Spruce and hemlock form the greatest part of the timber on the coast. Hemlock is not found in the interior.

On the north slope of the Alaska range and on interior river valleys considerable areas are found frozen permanently to bedrock. The climate and topography throughout are such that in the summer time passage overland is difficult. On the seaward slope the heavy rainfall upon the blanket of decayed vegetation creates a footing almost impassable. In the interior the surface thawing of the bed of frozen gravel makes a widespread and difficult morass.

*Original condition.*—Prior to the organization of the Board of Road Commissioners for Alaska there were in the whole of the Territory less than a dozen miles of what might be called wagon road, with a few hundred miles of pioneer trail, mostly constructed by expeditions under the War Department. Travel was largely confined to the open waterways in summer and to their frozen courses overland in winter. When mining machinery and other supplies were to be transported from the coast or river landing they were in most cases hauled over the snow during the winter, with some preliminary clearing of the route when necessary. Travel across country in summer, generally speaking, was possible only on foot or with pack horses. It was difficult always, and frequently dangerous, on account of the numerous swift and deep streams, fed by the ice-cold and silt-laden waters of mountain glaciers.

*Previous projects.*—See description in Annual Report of the Chief of Engineers for 1923, beginning on page 2086. A new program of operations was recommended in the Annual Report of the Chief of Engineers, 1920, pages 61 to 65. The amounts expended on previous projects prior to June 30, 1921, were \$3,727,249.69 for new work and \$2,276,812.27 for maintenance, a total of \$6,004,061.96.

*Existing project.*—A new program of operations, prepared by the board of road commissioners in cooperation with the Governor of Alaska, the Territorial Road Commission, and other interested Federal and Territorial officials, was submitted in the annual report of the board for 1920. It proposes three classes of work: First, the construction of about 700 miles of arterial or feeder highways, mainly following old routes (estimated cost, \$7,000,000); second, the construction of development roads to be constructed from time to time on locations left for future determination (estimated cost, \$1,000,000); third, the maintenance of existing road and trail system (estimated cost for the 10-year period, \$2,000,000). Total estimated cost, \$10,000,000.

The total appropriations for the first five years were less than half the estimates, and about three-fourths of the available funds were required for maintenance and repair. Construction should be speeded up so as to get the maximum benefit from the work already

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accomplished, and the 1920 program was, therefore, revised in 1924. The appropriations recommended for the second five years of the 10-year period are as follows:

(a) For maintenance and improvement of existing routes to the same standard throughout, 9,736 miles, at \$870,000 per year.....	\$4, 350, 000
(b) For completion of projects already undertaken.....	1, 735, 000
(c) For completion of projects already approved but not yet undertaken.....	1, 780, 000
(d) For completion of projects likely to arise with development during the 5 years.....	1, 135, 000
Total for 5 years.....	9, 000, 000

*Federal appropriations required each year of 5-year period of road and trail development*

1924 PROGRAM

Fiscal year	Working season	(a) Maintenance, existing routes	(b) Completion, approved projects already under way	(c) Construction, approved projects not yet under way	(d) Construction, new projects likely to develop	Total estimated	Amount actually appropriated
1927.....	1926	\$350,000	\$510,000	\$280,000		\$1,750,000	\$900,000
1928.....	1927	850,000	475,000	575,000	\$100,000	2,000,000	1,000,000
1929.....	1928	850,000	400,000	550,000	200,000	2,000,000	825,000
1930.....	1929	850,000	250,000	300,000	350,000	1,750,000	
1931.....	1930	850,000	100,000	65,000	485,000	1,500,000	
Total.....		4,350,000	1,735,000	1,780,000	1,135,000	9,000,000	2,725,000

For latest published maps see map following page 104, Part II, of the annual report of the Alaska Road Commission, fiscal year 1926, and also a wall map of Alaska published by the board of road commissioners, 1923.

*Recommended modifications of project.*—None.

*References to published articles not previously reported.*—Highway Development in Alaska, Commerce Reports, November 14, 1927, pages 379–381, illustrated by Maj. Douglas H. Gillette, Corps of Engineers, United States Army.

*Local cooperation.*—For description of development of local cooperation, authorized by the act of June 30, 1921, previously quoted, see Annual Report of the Chief of Engineers for 1924, beginning on page 2071.

Under the provisions of section 17 of the Territorial road law of April 21, 1919, Mr. Anton Eide, assistant superintendent of the board for southwestern Alaska, acted as chairman and secretary of the Territorial division road commission for the third division. Similarly, Mr. Hawley W. Sterling, superintendent of the board for the Fairbanks district, acted as chairman and secretary of the fourth divisional road commission. No Territorial road organization has been maintained since March 31, 1921.

During the fiscal year the board supervised the expenditure of \$13,975.34 by the chairman of the Territorial road commission for the third division and \$17,570.41 by the chairman of the Territorial road commission for the fourth division.

During the fiscal year it has expended directly \$17,469.56 for shelter cabins, \$127,986.65 for roads, \$21,646.83 for aviation fields, \$6,364.05



for the Valdez Dike, \$565 for marking Gastineau Channel Bar, and \$6,365.86 for telephone lines from funds contributed by the Territory, and \$17,689.15 contributed by others.

For the working season of 1928 the Territorial board has allotted to the Department of Agriculture \$53,500 and to the Federal board the following amounts:

Cooperative projects.....	\$136,385.00
Shelter cabins.....	12,530.44
Aviation fields.....	35,490.63
Telephone lines.....	3,101.74
Nome Harbor.....	2,500.00
Valdez Dike.....	3,635.95
Lowell Creek.....	10,000.00
Total.....	208,643.76
Chairman fourth division.....	2,000.00
Grand total.....	205,643.76

These funds are held subject to the call of the Federal board. The divisional funds are disbursed through local banks, but all vouchers are audited by the Federal board under the same restrictions that apply to Federal vouchers before being certified to the Territorial treasurer for payment.

Cooperation with the Territory has been continued in connection with the purchase, rehabilitation, and operation of two tramroads, one extending from Nome to Shelton on the Seward Peninsula, a distance of about 87 miles, and the other situated in the Tolovana district about 50 miles northwesterly from Fairbanks and extending from the town of Brooks about 13 miles southerly to the head of navigation on the Tolovana River.

The Nome-Shelton tramroad was purchased on October 3, 1922, for \$24,014. During the fiscal year \$10,184 was spent on its rehabilitation.

The Tolovana tramroad was purchased on June 11, 1924, for \$6,425. During the fiscal year \$12,263 was spent on its rehabilitation.

During the year the board assumed responsibility for the construction and maintenance of 48 aviation fields and the repair and maintenance of 736 miles of telephone lines for the Territory.

The 1919 Territorial road act released cooperative national forest funds of the Department of Agriculture which had been accumulating for several years. Until July 1, 1920, Maj. William H. Waugh, engineer, United States Army, a former engineer of the Bureau of Public Roads and up to that date a member of the Board of Road Commissioners for Alaska, served also as the representative of the Department of Agriculture in charge of national-forest road construction.

On July 1, 1920, the Department of Agriculture created a separate organization to handle its work and took over a few of the board's projects. The department funds were inadequate to handle all of the projects in the national forests that were under construction under the board.

When greatly increased funds for the national forests became available in 1922 the board offered its services to handle all forest-road construction in accordance with the requirements of the Forest Service, but the Department of Agriculture decided to increase its

own organization. Since May 1, 1922, it has assumed responsibility for all former projects of the board within or partly within the national forests. The funds of this board formerly absorbed in these projects are thereby available for use in other parts of the Territory.

The general road and trail system of the board ties into the Alaska Railroad, operated by the Secretary of the Interior, at 27 different stations. These highway and trail feeders to the Government railroad are an important factor in increasing business for the railroad, and thereby reducing its present operating deficit.

Since April 1, 1922, the board, under an agreement with the Secretary of the Interior, has handled road and trail work in the Territory for the National Park Service, including the construction and maintenance of the Mount McKinley National Park Highway, authorized by the act of Congress approved April 9, 1924.

*Consolidation of road work under the board.*—From the foregoing it will be noted that all road and trail work in the Territory of Alaska, including work supported by appropriations of the Territory, of the War Department, and of the Department of the Interior, but excluding the former projects of the board in the national forests now supported by appropriations of the Department of Agriculture, is consolidated under the direction of the board.

*Effect of improvement.*—The roads and trails constructed by the board have not only opened up to development nearly all sections of the Territory but have effected large savings in freight charges. The major portion of this freight would not have been transported without the roads, and the indirect loss that would have been occasioned by the restriction on output and development if the roads did not exist can not be estimated.

The use of automobiles is increasing rapidly. Approximately 90 per cent of the traffic on the main wagon roads is handled by motor, which has greatly increased the cost of road maintenance. The use of tractors for drawing freight, particularly on the sled roads of the interior, is a valuable new development.

*Operations and results during fiscal year.*—The work in the last fiscal year was largely directed to extending the general rehabilitation begun in 1920 to trails and roads in remote portions of the Territory. This gradual rehabilitation started on the more important projects and has now reached trails extending to all inhabited parts of the Territory.

The work accomplished during the fiscal year may be summarized as follows:

New construction: 67 $\frac{1}{4}$  miles wagon road, 96 miles sled road, 171 $\frac{1}{2}$  miles trail, 240 linear feet of bridges of 60-foot span and over, 20 airplane landing fields, and 32 shelter cabins.

Improvement: 80 miles wagon road reconstructed, 83 $\frac{1}{4}$  miles wagon road graveled, 2 miles Tolovana tramway rebuilt, and numerous small bridges and culverts rebuilt.

Maintenance: 1,069 $\frac{1}{2}$  miles wagon road, 98 miles tramway, 826 miles sled road, 4,857 miles permanent trail, 308 miles temporary flagged trail, 736 miles telephone lines, 10 airplane landing fields, and 18 shelter cabins. Total for all classes of work, 7,658 $\frac{1}{2}$  miles, consisting of 1,300 miles of wagon road, 100 miles of tramway, 922 miles

of sled road, 5,028½ miles of permanent trail, and 308 miles of temporary flagged trail.

The more important roads upon which new construction was performed were the McCarthy-Nizina, Chatanika-Circle, Mount McKinley National Park, Gulkana-Chistochina, Long-Poorman, Ophir-Takotna, Wiseman-Nolan, Wiseman-Hammond, Kodiak-Abberts, Homer Spit, and Kotsina. The more important structures upon which new construction or extensive repairs were performed included bridges across Valdez Glacier Stream, Stewart Creek, Tonsina, Tazlina, McCarthy Creek, Little Susitna, Buskin River, and Indian River.

The important Richardson Highway, which was reopened in 1921, was maintained open during the entire season. Improvement to new standard on the 3-year program for completion was continued and at least one-third of this program was accomplished during the year. As a result of the rapid improvement, travel has continued to increase over this route. During the 1928 season tourist travel began in June.

Construction of the extension of the Richardson Highway from Chatanika to Circle on the 3-year program was continued. Well over one-third of this program was accomplished during the year.

A late spring in 1927 somewhat retarded opening up work. An exceptionally dry summer, however, made it possible to catch up with the program, and satisfactory progress was made.

The total expenditures during the fiscal year amounted to \$1,253,668.18, of which \$430,923.16 was for new construction and \$822,745.02 was for maintenance and improvement.

*Condition at end of fiscal year.*—The work of maintenance and rehabilitation has been pushed, and the roads and trails under the jurisdiction of the board are in better shape than ever before. Work was performed upon 7,658½ miles of the system during the fiscal year.

The 410-mile Valdez-Chitina-Fairbanks road received special attention. This season should see this important overland route completed to a fairly uniform standard and given a gravel surface practically throughout. Over 120 miles of the 165-mile extension from Fairbanks to Circle, on the upper Yukon, are now passable for automobiles and the entire route is passable for wagons.

The total expenditures to the end of the fiscal year, June 30, 1928, amounted to \$12,258,369.83, not including outstanding liabilities or contributed funds, of which \$6,948,803.56 was expended for new construction and \$5,309,566.27 for maintenance and improvement.

*Proposed operations.*—Eight hundred and twenty-five thousand dollars was provided by the act of March 23, 1928. These funds will be expended on maintenance and some improvement of the existing system. Preliminary construction will be completed on the Fairbanks-Circle project but little other new work can be accomplished. Unless much greater annual appropriations are made, little can be done to meet the pressing need for improvements and extensions of the system, especially in providing urgently needed highway and trail feeders to the Government railroad (the Alaska Railroad) now completed. For the fiscal year 1928 Congress provided for a maintenance and operation deficit on the Alaska Railroad of approximately \$800,000.

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The annual maintenance of the road and trail system after completion, as nearly as can be estimated at the present time, will cost about \$550,000.

Amount that can be profitably expended during the fiscal year ending June 30, 1930.—An appropriation of \$2,000,000 can be profitably expended on the work during the fiscal year ending June 30, 1930. This sum is based on the 1924 program. The estimate therein for the fiscal year 1930 was \$1,750,000, but the total of the appropriations for the fiscal years 1927, 1928, and 1929 was \$3,025,000 less than the amounts asked in the 1924 program for those years. More money for the fiscal year 1930 is therefore now required in order to accomplish the program of the existing estimate.

These funds will be distributed approximately as follows:

District	Maintenance of existing projects						
	Mileage of existing system			(a) Repair and improvement	Average per mile		
	Sled roads	Roads	Trails		Roads	Sled roads	Trails
Southeastern.....	66½		20	33,475	500		10
Bethel.....		26	988	8,000		40	8
Eagle.....	29	174½	388	21,000	460	30	7
Valdez.....	105½			84,200	800		
Chitina.....	239		483	143,400	590		5
Fairbanks.....	601½	879½	1,132	341,225	520	20	10
Southwestern.....	221½	192	426	83,400	350	20	5
Kuskokwim.....	84	53½	1,175½	40,550	400	20	5
Nome.....	276	50	1,144	93,850	280	30	5
Total.....	1,623½	1,375½	7,756½	850,000	480	22	6

District	New construction				Grand total of estimates (a), (b), (c), and (d)
	(b) Approved projects already under way	(c) Approved projects not yet started	(d) New projects likely to develop	Total (b), (c), and (d)	
Southeastern.....			\$20,000	\$20,000	\$53,475
Bethel.....			20,000	20,000	28,900
Eagle.....	\$40,000			40,000	61,000
Valdez.....			25,000	25,000	109,200
Chitina.....	80,000	\$100,000	110,000	290,000	433,400
Fairbanks.....	200,000	130,000		330,000	671,225
Southwestern.....	180,000	100,000		280,000	363,400
Kuskokwim.....			25,000	25,000	65,550
Nome.....		120,000		120,000	213,850
Total.....	500,000	450,000	200,000	1,150,000	2,000,000

<sup>1</sup> Includes 712 miles temporary flagged trails.

COMMERCIAL STATISTICS

Total commerce of Alaska for the calendar year 1927:

IMPORTS

Merchandise from the United States.....	\$35,604,008
Merchandise from foreign ports.....	766,302
Silver and gold from foreign ports.....	6,060
Total imports.....	<u>36,376,370</u>

## EXPORTS

Merchandise to the United States.....	\$51,323,950
Merchandise, gold, and silver to foreign ports.....	483,651
Domestic gold and silver to the United States.....	5,744,839
Foreign gold and silver to the United States.....	9,180
<b>Total exports</b> .....	<b>57,561,619</b>
<b>Grand total, exports and imports</b> .....	<b>93,937,989</b>

This is a decrease of \$19,657,696, or 17 per cent, under the corresponding figure for 1926. This decrease was almost entirely due to reduction in the exports of canned salmon, caused by the short run of fish last season and the resulting small pack. Imports show an increase of \$4,215,336, or 13 per cent, over the corresponding figure for 1926.

The value of Alaska's mineral output in 1927 was \$14,445,000, as compared with \$17,664,800 in 1926.

Minerals are being produced in the following order of value: Copper, gold, coal, silver, lead, petroleum, marble, tin, and platinum.

While the total value of the mineral output for 1927 shows a marked decrease compared to the preceding year, this decrease in value is by no means to be attributed solely to decreased mining activity. The most important reduction is in the value of copper produced. The decrease in the market price of this metal alone would account for a decrease in value of \$500,000. This decrease in the market price also indirectly affects the curtailment of production.

There are still large areas in Alaska that have not been adequately prospected, and many promising properties are now lying idle because of lack of capital for the necessary equipment. The shortage of enterprising prospectors is a serious drawback that has resulted because wages for comparable work are actually lower in Alaska than in the States, though expenses are higher. As a consequence Alaska does not attract or hold the class of prospectors it formerly did.

Quoting from Dr. A. H. Brooks, late chief Alaskan geologist of the United States Geological Survey:

The Alaska gold miner shares with his colleagues in the rest of the world the disability produced by the disrupted economic conditions, which cause very high operation costs, while the value of his produce remains fixed. Were it not for the improvement in transportation furnished by the railroads and wagon roads, that in certain districts have reduced costs, Alaska gold output would have been far less than it has been.

The production of coal showed a slight increase in 1927 over that of the preceding year. The output was furnished mainly by the Evan Jones, Premier, and Alaska-Matanuska mines in the Matanuska region and the Suntrana mine in the Healy River field.

In 1927, as in the past, all the petroleum produced in Alaska was obtained from about a dozen small wells in the Katalla field, on the only patented tract of oil land in the Territory. These wells and a small refinery are operated by the Chilkat Oil Co., which sells its gasoline and distillate in the local market. Drilling in the Yakataga

region by the General Petroleum Co. was discontinued after the hole had reached a depth of 2,005 feet.

The 1927 production of canned salmon was the smallest for years, being 46 per cent less than the 1926 production and 19 per cent less than the previous five-year average. This was due entirely to short runs of fish and is considered as a temporary fluctuation comparable to that which takes place in fishing activities everywhere from time to time.

The relative value of the chief fish products exported in 1927 is as follows: Canned salmon, fresh and frozen halibut, cured or preserved salmon, cured or preserved herring, fish oil, fresh or frozen salmon, fish meal, cured or preserved cod, shrimps, and clams.

*Additional duties of the board.*—The president of the board is also district engineer for the Juneau, Alaska, river and harbor district. The other two members of the board are placed under the immediate orders of the district engineer and the secretary and disbursing officer of the board is disbursing officer for the district.

The president of the board, in addition to his other duties, has under the provisions of acts of Congress approved June 17, 1910, and June 15, 1917, been detailed for consultation or to superintend the construction or repair of any aid to navigation authorized by Congress in the sixteenth (includes Territory of Alaska) lighthouse district and reported by letter to the Secretary of Commerce.

By informal agreement with the Territorial board of road commissioners this board has agreed, under the terms of the Territorial act of April 21, 1919, to permit its assistant superintendent for the southwestern district and its superintendent for the Fairbanks district to be appointed chairmen and secretaries of the third and fourth Territorial road districts, respectively, to supervise their operations and to certify vouchers to the Territorial treasurer for payment, following the same general procedure as for Federal vouchers. Expenditures, \$31,545.75.

Effective November 14, 1921, the president of the board was appointed consulting engineer for the Territory and assumed direct charge of all Territorial public works. In May, 1923, he was appointed director of public works for the Territory. Expenditures, \$198,089.34.

By informal arrangement, effective April 1, 1922, the president of the board has agreed to act for the National Park Service, Department of the Interior, on certain matters relating to the improvement of the Sitka National Monument and the development of Mount McKinley National Park. Expenditures, \$60,706.76.

At the request of the Quartermaster General of the Army, the board has agreed to assume charge of the administration of the Sitka National Cemetery, created by Executive order of June 12, 1924. Expenditures, \$792.83.

By direction of the Secretary of War the board has undertaken the regulation of Lowell Creek, Alaska, for the protection of Government property adjacent thereto, as provided in act of Congress approved March 23, 1928. Necessary surveys and plans have been made and contract awarded.

*Financial summary*

Amount expended on all projects to June 30, 1928, including receipts from sales, etc.:	
During fiscal years 1905-1920.....	\$5,234,085.63
During fiscal years 1921-1927.....	5,968,705.36
During fiscal year 1928.....	1,055,578.84
	\$12,258,369.83
Alaska special fund, 1920.....	101,184.56
Alaska special fund, 1921-1927.....	724,363.87
Alaska special fund, 1928 (exclusive of reimbursements, \$3,296.69).....	198,089.34
	1,023,637.77
	<u>13,282,007.60</u>
Total for new work.....	7,459,865.98
Total for maintenance and improvement....	5,822,141.62
	13,282,007.60
Total expended.....	941,707.52
Balance unexpended.....	
	<u>14,223,715.12</u>
Grand total, to be accounted for.....	

**Appropriations to June 30, 1928:**

Construction and maintenance of military and post roads, bridges, and trails, Alaska.....	9,350,600.00
Wagon roads, bridges, and trails, Alaska fund.....	3,229,680.16
Construction of wharf at Juneau.....	22,500.00
Flood control of Lowell Creek.....	100,000.00
Contributions for flood control of Lowell Creek.....	25,000.00
Increase of compensation, War Department.....	95,059.50
National cemeteries.....	2,202.17
Roads and trails, national parks.....	206,000.00
Funds contributed by Territory of Alaska and others for public roads, bridges, trails, and ferries, Alaska special fund.....	1,030,748.18
Refunds to War Department appropriations.....	19,262.52
Sales, refunds, etc., Alaska fund to June 30, 1920.....	50,910.77
Sales, refunds, etc., Alaska fund since June 30, 1920.....	68,884.02
Sales, refunds, etc., to accrue to Alaska fund, June 30, 1928.....	8,372.11
Refunds to increase of compensation.....	16.95
Refunds to roads and trails, national parks.....	20.94
Refunds to contributed funds.....	10,481.61
Reimbursement from Navy Department.....	3,976.19
Total.....	14,223,715.12

Fiscal year ending June 30	1924	1925	1926	1927	1928
Expended for new work <sup>1</sup> .....	\$490,360.53	\$728,040.04	\$823,045.38	\$706,792.46	\$490,923.16
Expended for maintenance and improvement.....	445,747.12	410,307.60	483,272.31	510,374.43	822,745.02
Total expended (net).....	936,107.65	1,138,347.64	1,311,317.69	1,217,166.89	1,253,668.18
Appropriated by War Department acts.....	725,600.00	955,000.00	900,000.00	1,022,500.00	825,000.00
Allocated from Alaska fund.....	115,803.20	123,871.33	137,431.66	142,905.28	73,653.64
Contributed by Territory of Alaska and others.....	110,865.35	79,861.57	136,318.11	93,772.39	210,882.74
Flood control of Lowell Creek.....					100,000.00
Funds contributed for flood control of Lowell Creek.....					25,000.00
National cemeteries.....		300.00	302.17	800.00	800.00
Roads and trails, national parks.....		80,000.00	50,000.00	16,000.00	60,000.00
Increase of compensation, War Department.....	58,958.95	1,835.54			
Total.....	1,011,227.50	1,240,868.44	1,224,061.94	1,275,977.67	1,295,306.38

<sup>1</sup> From 1924 to 1927, inclusive, the figures shown include certain improvements classed as "New work," which in 1928 are included under "Maintenance and improvement."

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July 1, 1927, available balance.....	\$888,399.68
Amount appropriated by War Department, act approved Mar. 23, 1928.....	825,000.00
Amount appropriated by War Department, act approved Mar. 23, 1928, for flood control, Lowell Creek, Alaska.....	100,000.00
Contribution for flood control, Lowell Creek, Alaska.....	25,000.00
Amount accrued to Alaska fund during fiscal year 1928.....	73,653.64
Amount contributed by Territory of Alaska and others.....	210,852.74
Refunds, all appropriations.....	61.16
Receipts from sales, etc., during fiscal year 1928.....	11,608.48
National cemeteries, 1928.....	800.00
Roads and trails, national parks, 1923-29.....	60,000.00
<b>Total resources.....</b>	<b>2,195,375.70</b>
June 30, 1928, amount expended during fiscal year, including receipts from sales, etc.:	
New construction.....	\$430,923.16
Maintenance and improvement.....	822,745.02
	<b>1,253,668.18</b>
July 1, 1928, balance unexpended.....	941,707.52
July 1, 1928, outstanding liabilities.....	358,944.80
July 1, 1928, balance unobligated.....	582,702.72
Amount available from War Department, act approved Mar. 23, 1928.....	727,577.27
Amount available from War Department, act approved Mar. 23, 1928, for flood control, Lowell Creek, Alaska.....	100,000.00
Contribution for flood control, Lowell Creek, Alaska.....	25,000.00
Amount available from Alaska fund on June 30, 1928.....	55,517.80
Wharf, Juneau, Alaska.....	7,641.15
Sales to accrue to Alaska fund on June 30, 1928.....	8,372.11
National cemeteries.....	7.17
Amount available from funds contributed on June 30, 1928.....	17,592.02
Amount available for fiscal year ending June 30, 1929.....	941,707.52
Amount (estimated) required to be appropriated for completion of existing projects.....	6,275,000.00
Amount that can be profitably expended in fiscal year ending June 30, 1930:	
New construction.....	1,150,000.00
Maintenance and improvement.....	850,000.00
Total.....	<b><sup>1</sup>2,000,000.00</b>

APPROPRIATIONS

1. Construction and maintenance of military and post roads, bridges, and trails, Alaska:	
Total amount appropriated to June 30, 1920 (see detailed statement on p. 2105, Annual Report of the Chief of Engineers, 1920).....	\$3,370,000.00
Act of—	
June 30, 1906.....	<sup>2</sup> 35,000.00
June 30, 1921.....	425,000.00
June 30, 1922.....	465,000.00
Mar. 2, 1923.....	<sup>3</sup> 650,600.00
June 7, 1924.....	725,000.00

<sup>1</sup> Exclusive of available funds.

<sup>2</sup> For Fairbanks-Council survey.

<sup>3</sup> Includes \$600 for survey of Juneau wharf.



## 1. Construction and maintenance of military and post roads, etc.—Continued.

## Act of—

Dec. 6, 1924.....	\$55,000.00
Feb. 12, 1925.....	900,000.00
Apr. 15, 1926.....	900,000.00
Feb. 23, 1927.....	<sup>1</sup> 1,022,500.00
Mar. 23, 1928.....	825,000.00
Mar. 23, 1928, Flood control, Lowell Creek.....	100,000.00

Total..... \$9,473,100.00

## 2. Construction and maintenance of wagon roads, bridges, and trails, Alaska fund, act of Congress approved Jan. 27, 1905, as amended by an act approved May 14, 1906:

Total receipts to June 30, 1920 (see detailed statement on p. 2106, Annual Report of the Chief of Engineers, 1920).....

2,128,569.89

## Fiscal year—

1920 (supplementary).....	153,805.19
1921.....	98,437.82
1922.....	135,975.05
1923.....	119,227.10
1924.....	115,803.20
1925.....	123,871.33
1926.....	137,431.66
1927.....	142,905.28
1928.....	73,653.64

Total..... 3,229,680.16

## 3. Increase of compensation, War Department:

## Fiscal year—

1918.....	145.20
1919.....	
1920.....	
1921.....	940.00
1922.....	4,322.09
1923.....	32,846.67
1924.....	56,805.54

95,059.50

## 4. National cemeteries:

## Fiscal year—

1925.....	302.17
1926.....	300.00
1927.....	800.00
1928.....	800.00

2,202.17

## 5. Roads and trails, national parks:

## Act of—

Mar. 3, 1925.....	\$80,000.00
May 10, 1926.....	50,000.00
Jan. 12, 1927.....	16,000.00
Mar. 7, 1928.....	60,000.00

Total..... 206,000.00

Total Federal appropriations..... 13,006,041.83

<sup>1</sup> Deficiency to cover increase of compensation, 1925.

<sup>2</sup> Includes \$22,500 for Juneau wharf.

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CONTRIBUTED FUNDS

[Act of Congress approved June 30, 1921, Alaska special fund]

1. By the Territory of Alaska:

Fiscal year—

1920.....	\$115,517.94
1921.....	113,746.61
1922.....	54,737.28
1923.....	112,012.88
1924.....	106,325.35
1925.....	78,978.45
1926.....	133,499.10
1927.....	88,015.76
1928.....	191,363.59

Total..... \$994,196.96

2. By others:

Fiscal year—

1922.....	1,683.77
1923.....	1,379.54
1924.....	4,540.00
1925.....	883.12
1926.....	2,819.01
1927.....	5,756.63
1928.....	19,489.15

Total..... 36,551.22

3. Funds contributed for the control of Lowell  
Creek, Alaska.....

25,000.00

Total..... 25,000.00

Total, contributed funds..... 1,055,748.18

Grand total, all funds..... 14,061,790.01

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