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TERRITORY OF ALASKA  
REPORT  
OF THE  
COMMISSIONER OF MINES  
TO THE GOVERNOR  
FOR THE  
BIENNIUM ENDED DECEMBER 31, 1938

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TERRITORY OF ALASKA

REPORT

OF THE

COMMISSIONER OF MINES

TO THE GOVERNOR

FOR THE

BIENNIUM ENDED DECEMBER 31, 1938

Juneau, Alaska,  
February 23, 1939.

To the  
Honorable John W. Troy,  
Governor of Alaska.

Sir:

I have the honor to submit herewith the Report of the Commissioner of Mines for the biennium ended December 31, 1938.

Respectfully yours,

B. D. STEWART,  
Commissioner of Mines.

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## WORK OF THE DEPARTMENT OF MINES

### ADMINISTRATIVE

The expansion of the mining industry during the past biennium that is revealed in following pages of this report was reflected in the increased volume of services rendered to the public at the headquarters office of the Department of Mines. During this period the Juneau office cared for the needs of 3,740 visitors all of whom were seeking information or assistance on matters relating to the mineral industry of the Territory. Many of these visitors were prospectors seeking publications or unpublished information on districts in which they were interested, or who desired suggestions as to favorable areas for carrying on prospecting activities. Other visitors included many mining engineers and prospective investors who wished information on particular properties or suggestions as to those which might warrant financing and development.

Inquiries received by mail concerning opportunities for prospecting and mining and seeking advice as to favorable areas, methods of operation, etc., have greatly increased in number. Incoming and outgoing first class mail handled by the office during the biennium numbered 6,000 pieces.

Government reports on the Alaskan mineral industry are no longer distributed free, but must be purchased from the Superintendent of Documents, Washington, D. C. For the convenience of the local public a small stock of such of these reports as are still available has been secured and is kept on hand at Juneau for resale. The number of publications dealing with the geology, mineral resources and mining industry of the Territory distributed during the biennium was 750.

Large numbers of geologic and topographic maps were also distributed. These included many sketches prepared by the engineers of the Department of Mines that display the detailed geologic features of individual mining properties examined by them, together with development workings and the positions, widths and assay results of samples taken by them on each property. Prints of such sketches are furnished free to prospectors

and owners of the properties examined for distribution by them to interested parties.

#### FIELD WORK

A material improvement in the field services rendered the mining industry by the Department of Mines during the past biennium was made possible by the increased appropriation furnished for that purpose by the Legislature in 1937.

Every lode property in the Territory on which active work was being conducted with a crew of men was visited and examined, with the exception of three or four small mines in remote sections that were not reached.

At least 90 per cent of the placer operations of all types at which crews of five or more men were engaged were also visited in the field.

A high percentage of the work being carried on by individual prospectors and small partnership groups in both the lode and placer fields was likewise examined.

In the course of this field work consultation was had with several hundred operators and prospectors to whom technical advice and service was given by the Department engineers whenever requested.

Sampling and large scale geologic mapping of individual prospects and small properties under development was a prominent feature of the work done by the field engineers. One of the results of this branch of the work has been the opening and equipping within the past year of one new lode mine which is now producing and at which about 20 men are continuously employed, and the commencement of development work on several lode and placer properties.

Within the past two years geologic investigations have also been carried on by field engineers of the Department of Mines in several areas where no previous examinations of the kind had ever been made. Some of the results of these investigations include: The discovery of a hitherto unknown occurrence of the mineral chromite on Cleveland Peninsula near Ketchikan; the original recognition of the nature of the mineralization of deposits of zinc, lead and silver ores on Kuiu Island which may

prove to be extensive and of potential importance; the identification of hitherto unrecognized ores of manganese in another area of the same region; and indirectly in the discovery of placer gold on a stream in the Lower Kuskokwim region that prior to the geologic examination had been regarded as barren.

The mineral identifications above referred to were made possible by facilities recently installed at the Juneau office for microscopic examinations of thin sections of ore samples secured by the Department engineers. During the biennium 170 slides of such thin sections have been prepared and are on file.

During the year 1937 a complete re-examination was made of the Upper Koyukuk region, on which the most recent published report is dated 1916, in connection with which work extensive re-mapping of the area was done. Reconnaissance field examinations and mapping were also carried out in the upper drainage basin of Wild River, an area never before so mapped. An extensive typed report on the results of these investigations, together with a map of the regions covered that contains many important revisions of and additions to existing maps are on file in the office of the Commissioner of Mines. They have not been published on account of a lack of the necessary funds.

#### ASSAY OFFICES

The public assay offices at Ketchikan, College and Nome, the establishment of which was authorized by the Legislature at its session in 1937, have functioned successfully and with notably beneficial results. Funds for equipping and operating these offices did not become available for use until June 12, 1937.

By an agreement arrived at with the Director of the U. S. Geological Survey the public assay service previously carried on by the Survey in cooperation with the University of Alaska at College was relinquished on July 1, 1937, and the assayer-in-charge at that station was transferred to the Territorial Department of Mines. Under the arrangements made with the Survey the assaying equipment at the College station was made available for use by the Territory without cost. Office and working quarters, power, light and other necessary services are supplied by the University of Alaska at a fixed monthly rate.

The City of Ketchikan has cooperated most generously in

supplying quarters for the assay office there. A suitable building owned by the municipality and centrally located in the business section of the city has been made available rent free. The City also furnishes free of charge the necessary power and light facilities. The Ketchikan office was put in operation in August, 1937.

Convenient and suitable quarters for the assay office at Nome were secured in a building centrally situated on the main business street of the City. A small rental is paid for this building and power and light services are purchased from the local privately-owned power plant. The Nome office commenced operations in November, 1937. The services of the assayer-in-charge at Nome have also been utilized in conducting free field examinations and surveys of mining development for the benefit of prospectors and small operators throughout Seward Peninsula during the summer field seasons. His services have also been loaned to the University of Alaska during winter months in conducting mining classes for the instruction of prospectors.

All of the assay offices have been liberally patronized by the public and they have served as a definite stimulus to prospecting and development work in all of the regions served by them. They have also performed a very valuable function in enabling the large number of samples taken in the field by engineers of the Department of Mines to be promptly assayed and the nature of mineral specimens to be accurately determined. This has led to the recognition of new ore bodies and of the occurrence of mineralized areas of potential importance that were hitherto unknown.

During the biennium numerous assays were made for operators representing non-resident corporations, and for other operators of producing mining properties under emergency conditions. For these services fees in the total sum of \$970.50 were received by the Department of Mines. This amount was deposited with the Treasurer of Alaska and by him credited to the assay office fund.

Following is a summary of the work performed at each Territorial assay office, since the beginning of operation under the Department of Mines, up to December 31, 1938:

Substances Determined	College	Ketchikan	Nome	Total
	7-1-37 to 12-31-38	8-1-37 to 12-31-38	11-15-37 to 12-31-38	
Gold-silver .....	4,759	2,151	479	7,389
Copper .....	42	67		109
Lead .....	22	42		64
Zinc .....	23	37		60
Platinum .....	46	4		50
Molybdenum .....	26	5		31
Antimony .....	51			51
Tungsten .....	15		12	27
Tin .....	13	2	45	60
Miscellaneous (*) .....	50	41	11	102
Water analyses .....	94			94
Identifications .....	262	170	121	553
	5,403	2,519	668	8,590

(\*) Includes arsenic, iron, sulphur, chromium, calcium, magnesium, mercury, alumina, sodium, potassium, silica, nickel, cobalt, tellurium, manganese, and cadmium.

## NEEDS OF THE MINING INDUSTRY AND RECOMMENDATIONS

### TRANSPORTATION

True conservation of the mineral resources of the Territory in the sense of achieving the maximum ultimate benefit from them is closely linked with the matter of transportation facilities and costs. As operating costs are reduced toward a minimum, lower grade mineral becomes minable and reserves are built up. Thus the life of mining enterprises is prolonged and realization of the full economic value of the mineral deposits is more nearly accomplished. The Federal and Territorial road-building agencies and the airways officials are unquestionably making every effort to provide adequate transportation services to the mining industry and to lower transportation costs. The importance of encouraging and assisting these efforts is manifest. High transportation charges and regulatory obstacles to the free use of transportation routes are serious hindrances to the fullest and most beneficial development of our mineral resources and hence to their true conservation.

### PROSPECTING

Prolongation of the prosperity now being enjoyed by the Alaska mining industry is immediately dependent on the extent

to which exploratory and prospecting work serves to reveal new mineral reserves sufficient to replace the resources that are currently being extracted and depleted by productive operations.

It is vital to the industry that this fundamental requirement of adequate exploration and prospecting be provided. The problem is difficult and its solution will require cooperative effort on the part of all agencies concerned, including the Territorial Government.

Under existing conditions the random efforts of individual prospectors attempting to operate with uncertain and insufficient financial support and with inadequate training will no longer suffice to meet the situation. More advanced methods must be adopted and a better organization and direction of effort and personnel will be required. Any measures that offer promise of substantially encouraging, supporting and assisting effective prospecting activities are worthy of reasonable trial.

As a means of better directing the search for new mineral deposits there is definite need for more extensive large-scale geologic mapping of small areas and individual properties. Such maps enable the prospector to better understand the local geologic conditions with which he is dealing and to confine his search within the most likely limits. Much of this work will have to be undertaken by the Territorial Department of Mines for the reason that it falls outside the scope of mapping activities authorized by the Organic Acts of Federal agencies.

A promising field for experiment in assisting and directing both lode and placer prospecting and development is afforded by recent improvements in geophysical methods and equipment. Instruments are now available at reasonable cost by the use of which important information may be obtained concerning subsurface geologic conditions that have a bearing on the occurrence of ore deposits, both lode and placer. In the case of placers the depth to bedrock can frequently be determined quite accurately from surface observations. Thus bedrock contour lines may be mapped. Such mapping may reveal the outlines of buried bedrock channels and thus afford an indication at least of the probable location of placer deposits. The present personnel of the Department of Mines includes an engineer trained in the use of geophysical equipment. Under his direction a field party com-

posed of a few University engineering students could conduct effective investigations and possibly render very valuable services to prospectors and small operators.

Aerial photography is another field that offers very attractive possibilities for valuable assistance in revealing important geologic features, such as major fault lines, mineralized masses with distinctive coloration, ancient stream channels, and the distinguishing features that reveal whether or not a given area has been profoundly affected by the action of ancient glaciers or has escaped those effects. Thus valuable guides in the search for mineral deposits, both lode and placer, could be obtained and manifestly unfavorable areas could be avoided. Aerial photography has been thus employed with much success for many years, particularly in Canada where its use has been a factor in the discovery and development of many very important mineralized areas that are now yielding vast wealth.

Two significant experimental programs have recently been put into operation by the Government of British Columbia that are designed to assist in solving problems which are identical with those now confronting Alaska. The first of these is the equipping and operation by the Provincial Department of Mines of a sampling plant at Prince Rupert for use in handling for prospectors and small operators, especially those of the Portland Canal region, small lots of ores. Milling operations are not conducted at this plant but ore lots are sampled and determination is thus made as to whether their shipment to a smelter is justified. If so, such shipment is made at one-half the rate for fourth-class freight. These and the smelter charges are deducted from the returns received. All other service is free. Thus the prospector and small operator is assured prompt and full returns on his ore and secures funds for further development. The cost of equipping this plant was about \$16,000, and it is operated for about \$4,000 per annum. The project of providing one or more such plants in Alaska, where beneficial results sufficient to justify the cost would appear probable, is worthy of careful consideration.

A more ambitious and far reaching experimental project has been adopted recently by the British Columbia Government in an effort to build up a corps of trained prospectors and com-

petent miners from among the unemployed youth of the Province by establishing for the purpose training camps operated in a manner similar to our C. C. C. Camps. The expenses are met by the Labour Department from funds allotted for unemployment relief and the training work is supervised by the Provincial Department of Mines. The following brief description of this plan is extracted from the report of the Minister of Mines for the year 1937:

"The Provincial Government Department of Labour created in 1935 a plan whereby unmarried, physically fit unemployed men between the ages of 21 and 25 years were given an opportunity to learn placer-mining. In 1936 the age-limit was reduced, permitting younger men to enroll. Instruction was carried out under the direction of the Chief Mining Engineer.

In 1937 about 255 young men between the ages of 18 and 25 were given instruction in placer-mining, woodcraft, camp cooking, building cabins, whipsawing lumber, etc., during the summer months at the Nanaimo and Emory Creek camps.

After the first training period of six weeks, those who desired to prospect for gold were given their fare as well as a grub-stake and a special reduced cost on equipment, to certain areas where, in the opinion of the Department, there was a chance of discovering gold.

A large number of trainees availed themselves of this opportunity, and in the Quesnel area, where most of them went, the Department appointed an engineer-overseer familiar with the area to assist them in locating ground, etc. This scheme worked well because the results of the plan were reported to the Department by the engineer; whereas in former years, the trainees were asked to report, and very few of them took the trouble to do this.

The thorough training in outdoor work fitted these young men to apply for jobs in the mines, of any description, as well as forestry, so that the future holds considerable hope; whereas beforehand the youths had no idea of any occupation outside of city limits.

Some of the larger mining companies kindly co-operated to the extent of giving some of these young men jobs in the mines and smelters after training, which is one of the main objects of the plan."

The following additional pertinent information has courteously been furnished by the office of the Minister of Mines:

The paid personnel engaged in operating the camps includes 3 instructors; 1 bookkeeper-timekeeper; 2 cooks; and 1 first-aid attendant and sports instructor. Following completion of the six-weeks training course taught at Emory Creek during 1938 about half the trainees were sent to the Canal Forks camp for two months where they were turned loose to carry on independent prospecting work under four instructors. At this camp they do all of their own cooking. They are permitted to locate and acquire full ownership of any mineral deposit discovered by them. It is stated that two of the trainees have discovered ore bodies that have already rendered them independently wealthy. The trainees are supplied with a relief allowance of \$9.60 per month, blankets, tools and perhaps tents; and are furnished free transportation. The total cost of operating the camps and of furnishing transportation and all other items amounts roughly to \$100 per man per season.

Information obtained from the Territorial Employment Office indicates that at present there are in Alaska several hundred youths who would be eligible for similar training and assistance. The project of establishing one or more camps in the Territory is recommended as being worthy of immediate consideration.

## PROGRESS OF THE MINING INDUSTRY

### PRODUCTIVE MINING

The records that appear in the following sections and tables of this report reveal the rapid progress that has been made recently in the productive phases of the Territory's mining operations as a whole.

Within only the past two years the number of mechanized mining plants, from which much more than 90 per cent of the total output derives, the number of men employed in operating

them, and the value of the mineral wealth produced by them, have all increased by 20 per cent or more.

The total value of the mineral production of Alaska for the year 1938 has been exceeded previously only in the three years from 1915 to 1917 inclusive, during which the Kennecott copper mines were yielding their maximum output.

Measured in terms of dollar value the output of gold during the past year exceeded the previous all-time maximum annual output, which was recorded for the year 1906, by about \$1,300,000.

According to figures released by the U. S. Bureau of Mines 13 per cent of the gold output of the United States in 1938 was produced in Alaska. The Territory's gold production for the past year was exceeded only by that of California and the Philippines. It was one per cent more than that of South Dakota; it was equal to that of Colorado and Arizona combined; and within one per cent equaled that of Nevada, Utah and Montana combined.

After having increased substantially for three successive years the value of copper produced during the past year showed a decline of 40 per cent compared with that of the previous year. Owing to the permanent closing of the Kennecott group of mines in November, 1938, no further substantial output of copper in Alaska can be anticipated within the near future.

The drop in the value of copper production within the past year was nearly compensated, however, by the spectacular increase in the value of the metals of the platinum group that resulted from the operation of the mechanized placer plants, which included a new dredge, in the Goodnews Bay area. For some time to come platinum undoubtedly will stand next in importance to gold in the scale of mineral products of the Territory.

The value of silver, lead and tin produced during the year 1938 was less in the case of each of these metals than that of 1937. This reduced value was due largely to lowered market prices rather than to lessened quantity of output. The value of the output for the past biennium, however, was substantially greater in the case of each of these metals than that for the preceding biennium.

The tonnage of coal mined during the year 1938 was 11 per cent greater than that mined during any other year in the history of the Territory.

The value of the non-metallic minerals shipped from Alaska during the past biennium was 34 per cent greater than the corresponding value for the preceding biennium.

#### DEVELOPMENT WORK AND PROSPECTING

There has been a gratifying increase in the number of lode properties on which mining equipment has been placed and on which new development work has been commenced during the past biennium. Many of these operations are small and almost without exception the deposits on which the new development work is being undertaken were discovered years ago. Nevertheless this renewal of effort to further develop hitherto idle lode properties is encouraging.

There has likewise been a substantial increase in the extent to which more extensive and thorough testing of known placer areas has been carried on by means of the drill, test-pit and shaft-sinking in many widely distributed sections of the Territory. Many such enterprises have been successful, especially in revealing large reserves of placer material that is minable with the application of improved methods and equipment and with the price of gold at its present figure, but which hitherto could not be profitably mined. With few exceptions these newly proven minable reserves lie adjacent to or in the near vicinity of properties that have already been productive in the past.

The extent of prospecting for new deposits, both lode and placer, in relatively unexplored regions continues to be disturbingly inadequate. The number of trained and competent men engaged in this vital pursuit is but a pitiful fraction of what it should be. The situation demands prompt and vigorous remedial action based on an intelligent study of the causes responsible for this unhealthy condition which menaces the continued growth and prosperity of the mining industry of the Territory.

#### PRODUCTION

Progress in production from the mineral deposits of Alaska during the biennium ending December 31, 1938, was very pronounced.

According to the most reliable records at present available the increase in the value of mineral products mined during this biennium over that of the output during the preceding biennium amounted to the impressive sum of \$14,449,125\*. The increase in value of each mineral commodity during this period is shown in the subjoined table.

TABLE I

Summary of increases in the value of minerals produced in Alaska during the biennium ended December 31, 1938, as compared with the preceding biennium:

Commodity	Amount of Increase in Value
Gold .....	\$ 9,970,300
Silver .....	105,000
Copper .....	2,615,300
Lead .....	72,200
Tin .....	101,494
Antimony .....	71,129
Platinum metals .....	1,336,755
Coal .....	136,210
Marble and lime rock .....	40,737
Total increase in value .....	\$14,449,125

(\*) Statistics on production used in this report were obtained from published reports issued by the U. S. Geological Survey, U. S. Bureau of Mines, and U. S. Customs Service and from data obtained from original sources by the Territorial Department of Mines.

The recorded production of each individual mineral commodity for each year of the past two biennia is shown in Table II.

TABLE II

Value of minerals produced in Alaska during the biennia ending December 31, 1936, and December 31, 1938, respectively:

Value of All Minerals Produced	
Year	
1935 .....	\$18,836,098
1936 .....	24,085,556
Total for biennium .....	\$42,921,654
1937 .....	\$28,618,312
1938 .....	28,752,467
Total for biennium .....	57,370,779
Increase in value .....	\$14,449,125

## Amount and Value of Gold Produced

	Fine Ounces	
1935 .....	469,495	\$16,432,300
1936 .....	540,580	18,920,300
Total for biennium .....		\$35,352,600
1937 .....	627,940	\$21,977,900
1938 .....	667,000	23,345,000
Total for biennium .....		45,322,900
Increase in value .....		\$9,970,300

## Amount and Value of Silver Produced

	Fine Ounces	
1935 .....	286,600	\$206,000
1936 .....	468,000	360,000
Total for biennium .....		\$566,000
1937 .....	495,000	\$384,000
1938 .....	444,000	287,000
Total for biennium .....		671,000
Increase in value .....		\$105,000

## Amount and Value of Copper Produced

	Pounds	
1935 .....	15,056,000	\$1,249,700
1936 .....	39,740,000	3,696,000
Total for biennium .....		\$4,945,700
1937 .....	36,007,000	\$4,741,000
1938 .....	*28,780,000	2,820,000
Total for biennium .....		7,561,000
Increase in value .....		\$2,615,300

\*Figures published by U. S. Bureau of Mines

## Amount and Value of Lead Produced

	Tons	
1935 .....	815	\$65,200
1936 .....	935	85,000
Total for biennium .....		\$150,200
1937 .....	1,002	\$120,400
1938 .....	1,075	102,000
Total for biennium .....		\$222,400
Increase in value .....		\$72,200

## Amount and Value of Tin Produced

	Tons		
1935	40.1	\$ 45,300	
1936	100.0	103,000	
Total for biennium			\$148,300
1937	136.2	\$202,300	
1938	76.2	47,494	
Total for biennium			\$249,794
Increase in value			\$101,494

## Amount and Value of Antimony Produced

	Pounds		
1935	None		
1936	None		
Total for biennium			None
1937	1,060,532	\$44,700	
1938	830,000	26,429	
Total for biennium			\$71,129
Increase in value			\$71,129

## Amount and Value of Platinum Metals Produced

	Fine Ounces		
1935	8,685	\$265,000	
1936		312,000	
Total for biennium			\$577,000
1937	10,464	\$ 513,755	
1938	41,358	1,400,000 (*)	
Total for biennium			\$1,913,755
Increase in value			\$1,336,755

(\*) Approximate only. Complete returns not yet available.

## Amount and Value of Coal Produced

	Short Tons		
1935	122,000	\$501,600	
1936	137,000	562,000	
Total for biennium			\$1,063,600
1937	133,727	\$561,885	
1938	154,268	637,925	
Total for biennium			1,199,810
Increase in value			\$136,210

## Amount and Value of Marble and Lime Rock Produced

	Tons		
1935	127,418	\$ 70,998	
1936	89,078	47,256	
Total for biennium			\$118,254
1937	129,544	\$ 72,372	
1938	102,707	86,619	
Total for biennium			\$158,991
Increase in value			\$40,737

## MINING OPERATIONS

The marked increase in the production of the several types of mineral products above recorded was attended by a correspondingly pronounced expansion of operations carried on in the various fields of production throughout the Territory.

*Lode Mining:*

During the past biennium productive mining was carried on at 57 lode properties. The number of men in the crews thus employed totalled 1,878.

Producing lode properties and the crews employed were distributed as follows during the past two biennia:

	Biennium 1935-1936		Biennium 1937-1938	
	Mines	Men	Mines	Men
First Judicial Division	12	1,122	12	1,172
Second Judicial Division	None	None	1	3
Third Judicial Division	14	436	28	551
Fourth Judicial Division	15	85	16	152
Totals	41	1,643	57	1,878

In connection with these producing lode properties there were in operation a total of 39 milling plants—an increase of 14 plants over the number in operation during the preceding

biennium. Of the above, 37 plants were operating on gold ores, one on copper-silver ore and one on palladium-copper ore. In addition to the active mills there were noted during the biennium several small plants that were operated only intermittently, and 11 mills that were at least temporarily idle.

Besides the productive operations above listed active development work was being conducted with mine crews and mechanical equipment at 31 other lode properties during the past biennium as compared with 17 properties during the preceding one. The total number of men engaged was approximately the same.

These developing but non-producing properties were distributed during the past two biennia as follows:

	Biennium 1935-1936		Biennium 1937-1938	
	Properties	Men	Properties	Men
First Judicial Division	5	60	10	40
Second Judicial Division	None	None	4	7
Third Judicial Division	10	87	11	94
Fourth Judicial Division	2	17	6	20
Totals	17	164	31	161

#### Quarries:

The only quarry in operation during the biennium was that of the Superior Portland Cement, Inc., at View Cove on Dall Island. A crew of approximately 22 men is employed seasonally at this quarry, which supplies raw material for important cement plants situated in Seattle.

The quarry of the Vermont Marble Co. at Tokeen on the northwest coast of Prince of Wales Island has remained idle. During the summer of 1938 a crew of 10 men was employed at the quarry for a short period. This temporary crew was engaged in maintenance and repair work. Some marble was shipped that had been mined during previous years. When in operation this quarry furnishes employment to a crew of from 40 to 70 men.

#### Coal Mining:

Productive operations were carried on during the biennium at four coal mines, three of which are in the Matanuska bituminous field and one in the Healy River section of the Nenana subbituminous field. Intermittent development work on a small scale was also carried on at a fifth property in the vicinity of Houston, in the western section of the Matanuska field, in the course of which a few carloads of coal was produced.

The mine explosion that occurred in the Jonesville mine of the Evan Jones Coal Co. in October, 1937, which disaster is discussed in the accident section of this report, rendered that mine idle from the date of the explosion until the latter part of March, 1938. In the meantime the neighboring Government-owned Eska mine was intensively developed from a new adit entry, with a crew of about 30 miners. The resulting production served to furnish the coal supply necessary for the operation of The Alaska Railroad. A portion of the output was also diverted to the domestic market where it scantily served an emergency need. An augmented output from the Healy River mine that was delivered at a financial sacrifice in the market area normally supplied by the Matanuska mines served during the crisis materially to alleviate the serious shortage that might otherwise have occurred in the winter supply of coal for domestic use.

#### Drilling for Oil:

During the biennium the intensive program of drilling for oil commenced during 1936 by the Iniskin Drilling Company was continued at their exploratory well on Fitz Creek, a stream that flows into Chinitna Bay on the west side of Cook Inlet just south of Iliamna Peak. Operations ceased for the winter late in the fall of 1938, at which time the well is reported to have attained a depth in excess of 7,100 feet. It is also reported that the results of this deep drilling have been encouraging and that operations will be resumed in the spring.

Another important exploratory drilling enterprise was that launched during 1938 by the Standard Oil Company of California on the Alaska Peninsula approximately 125 miles west of Kodiak. A ship-load of equipment for road-building, camp

construction and drilling operations, together with large quantities of supplies was lightered ashore early in the spring at the head of Jute Bay, a small exposed harbor that lies about midway between Cold Bay and Wide Bay. From this landing place the cargo was transported a distance of about 3 miles over a road constructed for the purpose across a low divide to the drilling site near the head of Salmon Creek, which is a stream that flows into the southerly end of Becharof Lake which in turn drains into Bristol Bay. During the summer a commodious camp was erected at the drilling site that includes comfortable living quarters for the 60-man crew, office space and warehouse facilities. A modern rotary drilling rig capable of reaching a depth of 10,000 feet or more was erected and before the season closed early in November the hole had reached a depth of approximately 3,000 feet. Elaborate preparations were made by the Company to control the flow of well-water under pressure that might be encountered in order to avoid pollution of Salmon Creek and Becharof Lake, which are very important salmon-breeding waters. Material is on hand for laying a 7,000-foot pipe line which will carry the well water across the low divide at the head of Salmon Creek and deliver it directly into the ocean at the head of Jute Bay.

#### Placer Mining:

The most pronounced expansion in mining operations, equipment and employment during the biennium occurred in the field of mechanized placer mining. As compared with the preceding biennium the number of dredges in use increased by four and the number of men employed at dredges was greater by 223. The number of mechanical plants of other types, principally dragline operations, increased within the same period from 22 to 99 and the number of men employed thereat increased from 340 to 909.

This expansion in mechanized mining was attended by a substantial decrease in ordinary hydraulic operations that employed 5 or more men each, the number of which within the corresponding period decreased from 95 plants to 53 and the number of men engaged from 610 to 486. Small placer operations that were carried on with crews of less than 5 men each increased in

number from 330 to 357 and the total number of men so engaged rose from 600 to 792.

The distribution of the plants that operated in the various types of placer mining during the past two biennia was as follows:

Dredges	Biennium 1935-1936		Biennium 1937-1938	
	Dredges	Crew	Dredges	Crew
Second Judicial Division	21	332	22	526
Fourth Judicial Division	20	738	23	757
Totals	41	1,070	45	1,283
Dragline and Other Mechanical Operations	Biennium 1935-1936		Biennium 1937-1938	
	Plants	Men	Plants	Men
Second Judicial Division	4	91	22	202
Third Judicial Division	1	20	4	37
Fourth Judicial Division	17	229	73	670
Totals	22	340	99	909
Hydraulic Operations	Biennium 1935-1936		Biennium 1937-1938	
	Plants	Men	Plants	Men
Second Judicial Division	21	136	13	119
Third Judicial Division	25	207	14	128
Fourth Judicial Division	49	267	26	239
Totals	95	610	53	486

#### EMPLOYMENT AT MINES

Within the 25-year period just ended employment in the mining industry reached its lowest ebb during the year 1933, when the number of men in the crews engaged at mines of all types aggregated 3,377. Since that year there has been a steady increase in employment and during the past year the men engaged in the industry numbered 5,759. Of this number placer mining operations engaged the services of 60 per cent, lode mines (including two quarries) engaged 36 per cent, coal mines 2 per cent and oil operations nearly 2 per cent.

The importance of the major operating companies in the matter of employment is evident from the fact that of the total number of men employed at lode mines the crew of the Alaska Juneau Gold Mining Company represents slightly less than one-half, and of the total number of men engaged in placer operations the crews of the U. S. Smelting, Refining and Mining Company at Fairbanks and Nome represent nearly one-fifth.

The trend of employment in the mining industry during the past 25 years is exhibited fully in Table III below. This Table shows a greater number of men employed in mining for the year 1938 than for any year since 1917.

More complete details regarding the distribution of employment at mines will be found in the sections of this report that deal with the progress of mining operations and with accidents at mines, respectively; and in the lists of mining operations of various types that are appended hereto.

TABLE III

Employment at Mines, 1914 to 1938, Inclusive

Year	Number of Men Employed at:			Totals
	Placers	Lode Mines and Milling Plants	Coal and Other Mines	
1914	4,400	3,500	140	8,040
1915	4,400	3,850	160	8,410
1916	4,050	4,200	340	8,590
1917	3,550	3,220	270	7,040
1918	3,000	1,897	400	5,297
1919	2,180	1,757	310	4,247
1920	1,990	1,880	360	4,230
1921	2,150	1,681	400	4,231
1922	2,198	1,623	280	4,101
1923	2,080	1,500	270	3,851
1924	2,500	1,978	175	4,653
1925	2,700	1,745	116	4,561
1926	2,332	1,663	108	4,103
1927	2,325	1,930	114	4,141
1928	2,234	1,668	109	4,011
1929	2,354	1,605	89	4,048
1930	2,220	1,502	98	3,820
1931	2,163	1,323	78	3,564
1932	2,180	1,496	78	3,754
1933	2,063	1,246	68	3,377
1934	2,195	1,451	79	3,725
1935	2,323	1,665	89	4,077
1936	2,605	1,867	105	4,577
1937	3,136	1,957	92	5,185
1938	3,470	2,071	218	5,759

## LABOR CONDITIONS

On the whole labor conditions in the mining industry throughout the Territory have been very satisfactory during the past biennium.

Employment has steadily increased in the industry at the rate of from 500 to 600 men per year during the past four years. The total number of men employed in the various branches of mining during the year 1935 is estimated to have been about 4,100. During the year 1938 this number had risen to a total of approximately 5,800, which is the largest number listed in any year since 1917.

The new Territorial Employment Service is to be credited with a substantial number of placements of unemployed miners in gainful positions during the short period within which its offices have been in operation.

Wage scales for miners have remained at satisfactory levels throughout the Territory. Generally speaking, rates of pay have been well adjusted to the varying costs of living that obtain in the many sections of the Territory where mining operations are being carried on.

Living conditions provided by employers to their workmen at mining camps in Alaska are, with few exceptions, all that could be expected. The food served in the average mine camp mess hall is excellent both as to quality and quantity, as well as preparation and service. Living quarters at some remote and isolated camps occasionally are necessarily crude, but they are usually comfortable and satisfactorily adapted to the conditions that obtain.

Relationships between employers and employees at some of the large mining plants appear to have improved within the past biennium as compared with the preceding one. No strikes have occurred to interrupt the orderly progress of operations and this has been a substantial factor in maintaining production at a high level. Intermittent labor disturbances in connection with Pacific Coast maritime operations have continued to seriously affect shipments of mining equipment and supplies to Alaska and have thus hampered mining operations and development in the Territory.

## ACCIDENTS AT MINES

The method that has been adopted by the U. S. Bureau of Mines in preparing statistics of accidents that will afford a true comparison of the frequency of accident occurrences at various mines and at groups of mines in various regions is by use of the accident frequency rate. This is the rate at which fatal and non-fatal accidents are determined to have occurred per million "man-hours" of employment.

In Table IV, below, the accident frequency rate for all metal and non-metal mines in Alaska (including placers but not coal) is exhibited for each year of the 4-year period just past. There is also inserted for comparison the corresponding rates and accompanying data for all similar mines in the United States for the years 1935 and 1936, which are based on the most recent figures available, as published by the U. S. Bureau of Mines.

In Table V similar data for the past six years are presented covering the accident record of lode gold mines only in Alaska.

The existence of pronounced hazards in operations at gold lode mines in comparison with those at mines of other types is clearly revealed by a study of the data recorded in Tables IV and V. These tables show that although employment at lode gold mines in terms of man-hours worked during the past four years constituted only 37.7 per cent of the total for all mines in the Territory included in Table IV, approximately 69 per cent of the fatalities and over 64 per cent of the non-fatal injuries occurred in operations conducted at lode gold properties.

Table VI displays for each year during which records have been kept the extent of employment, in terms of man-shifts worked; the number of fatal and non-fatal accidents; and the results of non-fatal accidents in terms of days of time lost from their occupations by the injured persons; at placer, lode and coal mines, respectively.

It will be noted that records of employment, and those covering the occurrence of non-fatal accidents and time lost are incomplete for the earlier years included in the table. This table affords, however, a good basis for the study of the relative frequency and the severity of accidents in the several types of mining that are conducted in Alaska.

In the report of this office to the Governor covering the biennium ended December 31, 1936 attention was drawn to the splendid safety record theretofore made by the coal-mine operators of Alaska during the 22-year period within which coal-mining had been carried on in the Territory. Within that period only 2 fatalities and a total of 138 lost-time accidents had occurred in connection with the operation of coal-mines. On the date of the report 9 continuous years had elapsed without the occurrence of a single fatality. The fatality rate during the period named was 0.870 per million tons of coal mined. The average corresponding rate for all coal mines in the United States during the ten-year period 1927-1936 was 5.648. (\*)

(\*) U. S. Bureau of Mines.

### THE JONESVILLE MINE DISASTER

Unfortunately this really remarkable record, which had been unequalled in any coal mining region in the United States, was sadly marred by the underground explosion that occurred in the Jonesville Mine of the Evan Jones Coal Co., in the Matanuska Field on October 26, 1937, and which took a toll of 14 lives.

A thorough investigation of the causes of this explosion was made by the Commissioner of Mines as soon as possible after the occurrence. A complete physical examination of the mine was conducted by the Commissioner in conjunction with H. B. Humphrey, Safety Engineer of the U. S. Bureau of Mines in Alaska, and Geo. H. Miller, who formerly served for a number of years in a similar capacity. Other members of the examining party were three of the most experienced and dependable coal miners of the district who were employed at the property at the time the explosion occurred. This examination was supplemented by exhaustive questioning of the survivors of the disaster and members of the rescue parties, which were made up of miners employed at Jonesville who were off shift at the time of the explosion, as well as officials and miners from the neighboring Eska and Black Diamond coal mines. Affidavits were secured from as many as possible of these witnesses.

From the evidence thus obtained it was determined that the immediate cause of the explosion was the ignition of a body of inflammable gas in the near vicinity of the face of the gang-

way by a match used by one of the miners in lighting a cigarette. This miner was among those killed.

A contributing cause of the explosion was found to be negligence on the part of the mine officials in their failure to properly test the mine atmosphere and thus to recognize the presence of inflammable gas; and in their failure to prevent the miners from carrying smoking materials and matches into the mine.

Inflammable gas and explosive coal dust was found to be present in dangerous quantities in the new workings of the inner section of the mine between Chute No. 40 and the gangway face. These workings had been opened and developed only within a few weeks prior to the explosion and were separated from the extensive older non-gassy workings by a fault by which the coal seam was off-set a horizontal distance of about 50 feet.

Following the explosion, authorization for the officials then in charge of the mine to continue to serve in their respective capacities was withdrawn by the Commissioner of Mines. The mine remained closed down until approval for its reopening was granted on March 23, 1938, when a new set of mine officials with acceptable credentials was placed in full charge of underground operations. Written guarantees were also given by the mine owners that stipulated safeguards to the lives and health of the miners, and other necessary improvements in working conditions would be provided by them.

On June 2, 1938, following an examination of the mine, orders were issued by the Commissioner of Mines for mining operations again to cease in the new inner section of the mine where a potentially highly explosive atmosphere was found still to persist. On this occasion failure on the part of the owners properly to fulfil the guarantees above referred to was also noted. Reopening of the closed section of the mine was later authorized after a system of water sprays that had been ordered installed for allaying the explosive coal dust were in operation.

The mine has been in continuous operation since that time. Gas and dust continue to be present in the new workings.

SUMMARY OF MINE ACCIDENTS THAT OCCURRED  
DURING 1937

Number of Mines	Group	Number of Men Employed	Number Shifts Worked	Results of Accidents			Total Time Lost (Days)
				Fatal	Serious	Slight	
<b>Placer Mines:</b>							
41	Dredges	1,265	283,928	1	32	95	1,643
34	Draglines	554	99,720	0	2	0	90
140	Hydraulic	669	66,900	1	0	0	0
261	Others	648	97,200	0	0	0	0
476		3,136	547,748	2	34	95	1,733
<b>Coal Mines:</b>							
3	Underground	64	17,156	15	10	2	307
	Surface	28	8,111	1	2	0	100
3		92	25,267	16	12	2	407
<b>Lode Mines:</b>							
46	Gold	1,391	383,476	1	74	156	4,198
1	Copper	85	30,885	1	11	17	508
1	Non-metal	25	4,175	0	0	3	9
48		1,501	418,536	2	85	176	4,715
<b>Mills:</b>							
33	Gold	345	90,468	0	6	29	286
1	Copper	111	39,925	0	0	2	6
34		456	130,393	0	6	31	292
561		5,185	1,121,944	20	137	304	7,147

SUMMARY OF MINE ACCIDENTS THAT OCCURRED  
DURING 1938

Number of Mines	Group	Number of Men Employed	Number Shifts Worked	Results of Accidents			Total Time Lost (Days)
				Fatal	Serious	Slight	
<b>Placer Mines:</b>							
44	Dredges	1,283	299,484	0	27	79	1,164
50	Draglines	633	113,940	0	0	0	0
162	Hydraulic	778	77,800	1	3	2	141
297	Others	776	116,400	1	1	0	60
553		3,470	607,624	2	31	81	1,365
<b>Coal Mines:</b>							
5	Underground	89	19,347	0	7	11	394
	Surface	34	8,397	0	1	1	29
5		123	27,744	0	8	12	423
2	Oil Drilling	95	19,000	0	0	0	0

Lode Mines:							
47	Gold	1,482	430,536	5	84	212	4,282
1	Copper	93	27,900	0	11	11	479
2	Non-metal	32	4,530	0	1	0	14
50		1,807	462,996	5	96	223	4,775
Mills:							
38	Gold	365	102,824	0	6	25	297
1	Copper	99	29,7000	0	1	0	19
39		464	132,524	0	7	25	316
649		5,759	1,249,888	7	142	341	6,879

## FATALITIES AT MINES

## Year 1937:

During the year 1937 there were 20 fatalities that resulted from accidents at mines in Alaska, one of which occurred at a gold lode mine, one at a copper lode, two at placer operations, and sixteen at coal mines. In addition to these 20 fatalities, 6 men were killed by a snowslide while working on a ditch line near Canyon Creek in the Moose Pass district for Eureka Placer, Inc. These fatalities have not been recorded as mine accidents for the reason that no feature of mining operations was responsible for the calamity.

The causes of the above fatalities and the properties at which they occurred are as follows:

1. Drowned when tractor fell through ice—Fairbanks Exploration Department, U. S. S. R. & M. Company ..... 1
2. Run over by moving coal train—Healy River Coal Corporation ..... 1
3. Suffocated by run of ore and muck—Kennecott Copper Corporation ..... 1
4. Struck by run-away locomotive—New Black Diamond Coal Company ..... 1
5. Blown to bits by dynamite explosion—Hydraulic operation of Patrick Savage near Flat ..... 1
6. Slipped and fell through oreway—Alaska Juneau Mine ..... 1

7. Gas and dust explosion—Evan Jones Coal Co. ....	14
Total .....	20

## Year 1938:

During the year 1938 there were seven fatalities that resulted from accidents at mines in Alaska, five of which occurred at a gold lode mine and two at placer operations. In addition to these fatalities, one man was killed by falling down a placer shaft when the hoisting cable broke. He was not employed at the operation, being on his way down the shaft for a visit, and for that reason this fatality is not charged to mine accidents.

The causes of the above fatalities and the properties at which they occurred are as follows:

1. Falls down oreways—Alaska Juneau Mine ..... 3
2. Fall out of bucket to bottom of placer shaft—Placer drift operation of J. H. Livengood and Henry Spall in the Tolovana district ..... 1
3. Struck by rock from collar of chute and knocked through grizzly into oreway—Alaska Juneau Mine 1
4. Crushed between ore cars—Alaska Juneau Mine ... 1
5. Caught by caving bank in hydraulic pit—Partnership lease of Frank Rahn and Peter Sather on Anvil Creek near Nome ..... 1
| Total ..... | 7 |

**TABLE IV**  
**Summary of Accidents at All Metal Mines (Including Placers, But Not Ore Mills)**  
**During the Period January 1, 1935 to December 31, 1938**

Year	Men Employed	Man-shifts Worked	Man-hours Worked	Accidents		Accident Frequency Rates		Time Lost (Days)
				Fatal	Non-fatal	Fatal	Non-fatal	
<b>1935: Alaska</b>								
Placers .....	2,323	499,765	4,497,885	2	116	0.44	25.79	1,250
Lodes .....	1,280	361,898	2,895,184	6	249	2.07	86.00	4,161
Non-metal .....	26	4,555	36,440	0	0	0	0	0
Total .....	3,629	866,218	7,429,509	8	365	1.08	49.13	5,411
<b>1935: United States (All metal mines, not including ore mills)</b>								
	92,314	20,352,372	161,302,671	164	10,206	1.02	63.27	
<b>1936: Alaska</b>								
Placers .....	2,605	496,370	4,467,330	2	89	0.45	19.92	1,014
Lodes .....	1,437	389,088	3,112,704	8	257	2.57	82.56	3,508
Non-metal .....	24	2,353	18,824	0	2	0	108.55	51
Total .....	4,066	887,811	7,598,858	10	348	1.32	45.80	4,573
<b>1936: United States</b>								
	100,932	25,209,905	202,358,725	199	14,650	0.98	72.40	
<b>1937: Alaska</b>								
Placers .....	3,136	547,748	4,929,732	2	129	0.41	26.17	1,733
Lodes .....	1,476	414,361	3,314,888	2	258	0.60	77.83	4,706
Non-metal .....	25	4,175	33,400	0	3	0	89.82	9
Total .....	4,637	966,284	8,278,020	4	390	0.48	47.11	6,448
<b>1938: Alaska</b>								
Placers .....	3,470	607,624	5,468,616	2	112	0.37	20.48	1,365
Lodes .....	1,575	458,436	3,667,483	5	318	1.36	86.71	4,761
Non-metal .....	32	4,560	36,480	0	1	0	27.41	14
Total .....	5,077	1,070,620	9,172,584	7	431	0.76	46.99	6,140

**TABLE V**

**Summary of Accidents at Lode-Gold Mines**  
**During the Period January 1, 1933 to December 31, 1938**

Year	Men Employed	Man-shifts Worked	Accidents		Accident Frequency Rates		Time Lost (Days)
			Fatal	Non-Fatal	Fatal	Non-Fatal	
1933 .....	1,011	323,594	7	156	2.70	60.23	2,170
1934 .....	1,203	363,478	6	207	2.06	71.13	3,621
1935 .....	1,222	348,723	6	233	2.15	83.51	3,870
1936 .....	1,362	367,411	8	232	2.72	78.93	3,192
1937 .....	1,391	383,476	1	230	0.33	74.97	4,198
1938 .....	1,482	430,536	5	296	1.45	85.94	4,282

TABLE VI

## Summary of Man-shifts Worked, Fatal and Non-Fatal Accidents, and Time Lost in All Mines in Alaska

Year	Man-shifts Placer Mines	Worked at Lode Mines and Mills	Coal Mines	Fatalities			Non-Fatal Accidents				Time Lost (Days)						
				Placer Mines	Lode Mines and Mills	Mines and Mills	Coal Mines	Placer Mines	Lode Mines and Mills	Mines and Mills	Coal Mines	Placer Mines	Lode Mines and Mills	Mines and Mills	Coal Mines		
1912				6		6											
1913				10		15											
1914				5		14											
1915				4		19											
1916				7		22			27		736						
1917				9		24			11		705						
1918				1		12			0		199						
1919				0		13			5		350	5					
1920				0		9			0		302					2,831	
1921		568,615	103,389	0		12			0		249					3,519	471
1922		537,180	55,309	0		5	0		0		252					4,344	250
1923	84,948	618,359	66,927	2		9	0		7		230	42	394		3,991	673	
1924	117,545	468,890	51,398	0		16	0		30		327	6	560		4,882	75	
1925	405,000	592,326	34,353	0		6	0		0		303	5	No report		5,639	109	
1926	418,744	563,992	51,398	1		6	1		90		365	10	1,042		5,308	75	
1927	418,235	555,155	34,915	2		7	1		178		259	13	3,267		4,819	445	
1928	445,707	559,081	32,766	3		6	0		152		302	2	2,048		5,981	19	
1929	420,249	524,836	25,525	5		9	0		142		255	6	1,657		4,301	197	
1930	484,301	486,515	30,101	0		7	0		123		271	7	1,096		3,979	221	
1931	437,573	425,201	22,129	0		6	0		92		167	5	1,251		2,668	101	
1932	441,335	445,876	22,267	0		5	0		67		163	14	765		2,630	250	
1933	437,267	403,021	19,805	1		7	0		90		177	2	1,077		2,381	9	
1934	478,908	443,265	20,514	0		6	0		95		220	7	1,313		3,784	201	
1935	499,765	458,440	23,571	2		6	0		116		266	12	1,250		4,372	291	
1936	496,370	515,105	27,285	2		8	0		89		284	8	1,014		3,780	149	
1937	547,748	548,929	25,267	2		2	16		129		298	14	1,733		5,007	407	
1938	607,624	595,520	27,744	2		5	0		112		351	20	1,365		5,091	423	

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## MINE SAFETY TRAINING

Safety training under an instructor of the U. S. Bureau of Mines, which was resumed in 1935 under arrangement made by the Territorial Commissioner of Mines, has been continued in 1937 and 1938. Courses in first aid to the injured, mine rescue work, and safe practices in mining operations were given in most sections of the Territory where mining operations are being conducted, and will be continued.

During 1937 first aid instruction was given to 1170 persons in 24 localities, and in 1938 there were 747 instructed in 24 localities. Mine rescue training was given to 75 miners in 7 different localities during 1938. In 1937 contests between first aid teams were held in Juneau by the Alaska Juneau Gold Mining Company, and in Fairbanks by the U. S. Smelting, Refining and Mining Company.

The Territorial Commissioner of Mines has cooperated in this work by supplying assistance in clerical work and in arranging for carrying on training at various operations.

**LIST OF LODE MINING OPERATORS AND PROPERTIES**

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Acme Mining Co., Chisana	Sulzer, Horsfeld, White River	White River	Diamond Drilling	7
Adams and Erickson, Hollis	Puyallup or Hope Hollis Mine Prince of Wales Island	Ketchikan	Gold Lode development, small mill	2
Adler and Creavy, Fairbanks	Royal Flush, Ester Dome	Fairbanks	Gold Lode Development	3
Admiralty Alaska Gold Mining Co., Funter Bay	Peckovich property, Funter Bay	Juneau	Gold lode with mill	Idle
Alaska Chichagof Mining Co., Chichagof	Bez property, Klag Bay	Sitka	Gold lode	Idle
Alaska Consolidated Mining and Smelting Co., Sulzer	Jumbo Mine, Sulzer, Prince of Wales I.	Ketchikan	Former producer of copper	Idle
Alaska Dano Mines Co., Funter	Nowell-Otterson Group, Admiralty Island	Juneau	Intermittent development of gold lode	Idle
Alaska Empire Gold Mining Co., Juneau	C. Williams property, Hawk Inlet, Admiralty Island	Juneau	Gold quartz with milling equipment	17
Alaska Enterprise, Inc., Fishhook Creek, Wasilla	Rae Wallace or Rosenthal, Fishhook Creek	Knik	Gold lode development	3
Alaska Exploration and Mining Co., Inc., Talkeetna	Denali and Timberline Prospects, Valdez Creek	Chitina	Intermittent gold lode development	10
Alaska Finley Co., Valdez	Ramsay-Rutherford Mine, Valdez Glacier	Valdez	Gold lode with mill	Idle
Alaska Gold and Metals Co., Ketchikan	Salt Chuck or Goodro Mine, Ketchikan, Kasaan Bay	Ketchikan	Palladium and copper lode with mill	8
Alaska Gold King Mines, Ltd., McCarthy	Williams Peak property, Dan Creek	McCarthy	Intermittent development of Antimony Gold lode	3

**LIST OF LODE MINING OPERATORS AND PROPERTIES**

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Alaska Gold Mountain Mines, Ltd., Ketchikan	Smuggler Cove property, Cleveland Peninsula	Ketchikan	Gold Lode	Idle
Alaska Gypsum Co., Juneau	Gypsum-Camel Group, Iyou-keen Cove, Chichagof I.	Sitka	Development of gypsum lodes	Idle
Alaska Handy Gold Mining Co., Juneau	Alaska Handy Property, Chichagof Island, Klag Bay	Sitka	Gold lode	Idle
Alaska Hills Mines Corp., Seward	Alaska Hills property, Nuka Bay	Kenai	Gold lode with mill	2
Alaska Homestake Mining Co., Nome	Megan and Sommerville property, Bluff	Cape Nome	Gold lode development	Idle
Alaska Juneau Gold Mining Co., Juneau	Alaska Juneau Mine, Juneau	Juneau	Gold lode with mill	980
Alaska-Kensington Gold Mines, Inc., Juneau	Kensington and Comet Mines, Berners Bay	Juneau	Gold lode	Idle
Alaska Mayfield Mines, Inc., Cordova	Mayfield Mine, Columbia Glacier, Shoup Bay	Valdez	Gold lode with mill	3
Alaska Mining and Development Co., Inc., Fairbanks	Wyoming Mine, Cleary Creek	Fairbanks	Gold lode with mill	5
Alaska - Pacific Consolidated Mining Co., Anchorage	Independence, Free Gold and Jap properties, Willow Cr.	Knik	Gold lodes with mills	100
Alaska Willow Creek Mines, Inc., Anchorage	Lucky Strike, Yellowstone, Homestake and Opal groups, Reed and Archangel Creeks	Knik	Gold lode development	9
Alaska-Windham Gold Mining Co., Windham Bay	Windham Bay properties, Windham Bay	Juneau	Gold lode with mill	Idle

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
American Gold Mining Co., Juneau	McKallick properties, Klag Bay, Chichagof Island	Sitka	Gold lode development	2
Apex-El Nido Mining Co., Juneau	Apex-El Nido Mine, Lisianski Inlet, Chichagof Island	Sitka	Gold lode with mill	9
Aurora Nickel Co., Juneau	Sea Level and Snipe Bay properties Chichagof and Baranof Islands	Sitka	Intermittent development of nickel lodes	Idle
Baranof Mining Co., Ketchikan	Halleck I. property	Sitka	Gold lode development	5
Bartholomae Oil Corp., Fairbanks	Ryan Lode, Ester Dome, Fairbanks	Fairbanks	Gold lode development with mill	13
Bittner, P., Fairbanks	Hirshy Mine, Palmer Creek, Kenai Peninsula	Kenai	Gold lode development with mill	4
Black Brothers, Wasilla	Ready Bullion Mine, Craigie Creek	Knik	Gold lode development with small mill	3
Boland, Metzgar and Farvin, Fairbanks	Bluebird Mine, Ester Dome, Fairbanks	Fairbanks	Gold lode	6
Bremner Gold Mining Co., McCarthy	Bremner Mine, Bremner district	McCarthy	Gold lode with mill	Idle
Brown, C., Valdez	C. Ellis property, Boulder Creek, Tiekel	Valdez	Gold lode development with mill	2
Cameron-Johnson Mine, Valdez	Cameron - Johnson property, Shoup Glacier, Shoup Bay	Valdez	Gold lode with mill	5
Case and Sande, Moose Pass	Case and Sande property, Moose Pass-Hope Highway	Kenai	Gold lode development with mill	2

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Century Mines, Inc., Hyder	Daly Alaska property, Salmon Creek, Hyder	Hyder	Gold lode development	Idle
Chandalar Gold Mines, Inc., Chandalar	Sulzer property, Chandalar district	Chandalar	Intermittent gold lode development	Idle
Chatham Mining Co., Fairbanks	Burns property, Chatham Creek, Fairbanks	Fairbanks	Gold lode development with mill	3
Chichagoff Mining Co., Chichagof	DeGross and Mills property, Klag Bay, Chichagof Island	Sitka	Gold lode with mill	80
Cleary Hill Mines, Inc., Fairbanks	Rhoads-Hall or Free Gold Mine, Cleary Creek	Fairbanks	Gold lode with mill	16
Cliff Gold Mines, Inc., Valdez	Cliff Mine, Valdez Bay	Valdez	Gold lode with mill	10
Cobol Mines, Inc., Chichagof	Slocum Grunter property, Slocum Arm, Chichagof I.	Sitka	Gold lode development	5
Conwest Exploration Co., The, Luckyshot (See Willow Creek Mines)	Willow Creek Mines, Craigie Creek	Knik	Gold lodes	
Crow Creek Gold Corp., Anchorage	Monarch and Jewel Mines, Crow Creek, Girdwood	Knik	Gold lode with mill	10
Crown Mines Syndicate, Seward	Primrose Mine, near Seward	Kenai	Gold lode development, old property	Idle
Crown Point Mining Co., Seward	Kenai-Alaska property, Kenai Lake	Kenai	Gold lode with mill	5
Culross Island Mining and Milling Co., Valdez	Culross Island property, Culross Island	Valdez	Gold lode development	Idle

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Ebner Gold Mining Co., Juneau	Ebner property, Gold Creek	Juneau	Intermittent gold lode development	Idle
El Primero Mining and Milling Co., Valdez	Granite Mine, Port Wells	Valdez	Gold lode, with mill	Idle
Fairbanks Exploration Company (see U.S. Smelting, Refining and Mng. Co.)				
Fern Gold Mining Co., Wasilla	Fern Mine, Willow Creek district	Knik	Mine under lease to Fern Gold Leasing Co.	
Fern Gold Leasing Co., Wasilla	Fern Mine, Willow Creek district	Knik	Gold lode, with mill	37
Flagstaff Mining Co., Ketchikan	Treasure Group, Karta Bay, Prince of Wales Island	Ketchikan	Gold lode development, with mill	12
Folwarzny, J. and Associates, Ketchikan	Gold Standard, Helm Bay	Ketchikan	Gold lode, with mill	3
Freeburn Development Co., Ketchikan	Bugge-Rogers property	Ketchikan	Gold lode development	Idle
Giant Gold Mining Co., Anchorage	Marmot Group, Archangel Creek	Knik	Gold lode development	Idle
Gold Cord Development Co., Wasilla	Gold Cord Mine, Fishhook Creek (Willow Cr. Dist.)	Knik	Gold lode, with mills	12
Gold Cord Mining, Milling and Power Co., Wasilla	Gold Cord Mine, Fishhook Creek (Willow Cr. Dist.)	Knik	Property under lease to Gold Cord Dev. Co.	
Golden Zone Mine, Inc., Anchorage	Golden Zone Mine, Broad Pass	Talkeetna	Gold lode development, Mill under construction	38

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Grant and Mutchler, Fairbanks	Happy Creek Mine, Ester Dome, Fairbanks	Fairbanks	Gold lode	Idle
Greenback Mining Co., Girdwood	Brenner property, Crow Creek, Girdwood	Knik	Gold lode development, with mill	Idle
Hammond Consolidated Gold-fields (see U.S. Smelting, Refining and Mng. Co.)				
Hawkins, Cliff M., Fairbanks	Soo Mine, Fairbanks	Fairbanks	Gold lode, with mill	13
High Grade Gold Mining Corp., Anchorage	High Grade Mine, Fishhook Creek, Wasilla	Knik	Gold lode development, with mill	2
Hirst Chichagof Mining Co., Kimshan Cove	Hirst Chichagof Mine, Kimshan Cove, Chichagof I.	Sitka	Gold lode with mill	48
Hi Yu Mining Co., Fairbanks	Hi Yu Mine, Fairbanks Creek	Fairbanks	Gold lode with mill	16
Husky Mining Co., Juneau	Husky property, Canyon Cr.	Juneau	Gold lode, with mill	4
Inspiration Point Mining Co., Skagway	Inspiration Point property White Pass	Skagway	Intermittent development of galena lode	Idle
Johnson, Gustus and Associates, Flat	Golden Horn Mine, Otter Creek, Flat	Otter	Intermittent development of gold lode	Idle
Johnson, Ted., Valdez	Venus Group, Mineral Creek	Valdez	Gold lode, with mill	2
Kasaan Gold Co., Ketchikan	Julia, Dunton or Harris Creek Mine, Harris Creek	Ketchikan	Gold lode, with mill under lease	3
Kelly Gold Mines Corp., Wasilla	Milo Kelly property, Willow Creek, Wasilla	Knik	Gold lode development with mill	3

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Kennecott Copper Corp., Kennecott	Kennecott, Mother Lode, Jumbo and Erie Mines, Kennecott	McCarthy	Copper lodes with milling plant	192
Knights Island Copper Co., Valdez	Hubbard-Elliott property, Knight Island	Valdez	Intermittent development of copper lode	Idle
Konechney, Joe, Nyac	Mission Creek, Russian Mountains	Wade Hampton	Intermittent development copper-gold lode	Idle
Lane Investment Co., Nome	Big Hurrah Mines, Solomon River, Nome	Nome	Gold lode, with mill	Idle
Libe, Bert., Ketchikan	Portland Group, Helm Bay	Ketchikan	Gold lode development	3
Lindeman, E., Kasaan	Shepard Mine, Kasaan Bay Prince of Wales Island	Ketchikan	Shipping ore from copper-gold lode	3
Lindsay, G., Moose Pass	Oracle Extension, Moose Pass-Hope Highway	Kenai	Gold lode development with mill	2
Lisianski Mining Co., Juneau	Lucky Strike, Lisianski Inlet, Chichagof Island	Sitka	Gold lode development	2
Mabel Mining, Milling and Power Co., Anchorage	Mabel Mine, Reed Creek (Willow Creek district)	Knik	Gold lode with mill optioned to Mabel Mines, Inc.	
Mabel Mines, Inc., Anchorage	Mabel Mine, Reed Creek (Willow Creek district)	Knik	Gold lode, with mill	20
Marion Twin Gold Mining Co., Wasilla	Marion Twin and Gold Mint properties, Little Susitna and Craigie Creeks	Knik	Gold lode, with mills	11
McDuffy, R. and Associates, Nome	Silver Creek, tributary to Snake River, Nome	Cape Nome	Gold lode development, prospect mill	3

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
McGowan and Lind, Medfra	McGowan-Mespelt property, Nixon Fork, Kuskokwim R.	Mt. McKinley	Development of gold and copper lode	2
McKinley Lake property, McKinley Lake, Cordova	McKinley Lake Gold Mines, Inc., Cordova	Cordova	Gold lode development	4
Merrill Mining Co., Valdez	Merrill property, Bettles Bay, Port Wells	Valdez	Gold lode development, with mill	3
Mespelt and Co., Medfra	Nixon Fork Mine, Nixon Fork of Kuskokwim River	Mt. McKinley	Gold lode, with mill	7
Mohawk Mining Co., Fairbanks	Henderson Mine, Ester Dome	Fairbanks	Gold lode, with mill	9
Moira Copper Co., Ketchikan	Moira Sound, Prince of Wales Island	Ketchikan	Copper lode	Idle
Monarch Mining Co., Anchorage	Monarch Mine, Crow Creek, Girdwood	Knik	Property under lease to Crow Creek Mining Co., Lode with mill	
Mother Lode Coalition Mines Co., Kennecott	Mother Lode Mines, Kennecott	McCarthy	Copper lode, operated by Kennecott Copper Corp.	
Mount Andrew Mining Co., Ketchikan	Mount Andrew Mine, Kasaan Pen., Prince of Wales Island	Ketchikan	Copper lode, (formerly productive)	Idle
Mountain View Gold Mining Co., Ketchikan	Mountain View property, Fish Creek, near Hyder	Hyder	Gold lode development	Idle
Nabesna Mining Corp., Chitina	Nabesna Mine, Whitham Group, Nabesna River	Chitina	Gold lode, with mill	36
National Nickel Corp., Juneau	Bohemia and Tasmania Groups, Yakobi Island	Sitka	Nickeliferous lode development	Idle

LIST OF LODE MINING OPERATORS AND PROPERTIES

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Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Nelson and Tift, Ketchikan	McLean Arm, Prince of Wales Island	Ketchikan	Gold lode development	4
New Chichagof Mining Syndicate, Juneau	New Chichagof property, Pinta Bay, Chichagof Island	Sitka	Gold lode development	Idle
New Hope, Inc., Seward	R. Hatcher property, Palmer Creek, Hope	Kenai	Gold lode development	5
Nickaloff Mines, Inc., Fairbanks	Elmes, or Nickaloff property, Happy Creek, Ester Dome	Fairbanks	Gold lode, with mill	3
Nukalaska Mining Co., Seward	Nukalaska Mine, Nuka Bay	Kenai	Gold lode, with mill	19
Oracle Mine, Moose Pass	Oracle property, Moose Pass	Kenai	Gold lode, with mill	7
Patsy Association, Anchorage	Patsy property, Archangel Creek	Knik	Gold lode development	3
Peterson, Wixon and Arwick, Ketchikan	Black Bear property, Bear Lake, Union Bay	Ketchikan	Gold lode, with mill	Idle
Point Astley Mining Corp., Juneau	Ahrensted property, Point Astley, Snettisham	Juneau	Copper, silver, gold lode development	Idle
Portage Gold Mines, Ltd., Valdez	Dominick Vietti property, Poe Bay, Port Wells	Valdez	Gold lode, with mill	10
Prospect Mining Co., Nenana	California Creek, Bonnifield District	Fairbanks	Silver, gold, copper lode development	Idle
Rae Wallace Mining Co., Wasilla	Rae Wallace or Rosenthal property, Fishhook Creek	Knik	Gold lode development, under lease	
Rapp and Till, Luckyshot	Gold Bullion, Craigie Creek, Willow Creek district	Knik	Cyanide plant, tailings from Gold Bullion Mine	9

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Ready Bullion Mining Corp., Fairbanks	Eva Quartz, Hudson or Borovich and Stevens Mine, Ester Dome, Fairbanks	Fairbanks	Gold lode with mill. Under option to Bartholomae Oil Corp.	
Red Top Mining Co., Fairbanks	J. Quigley property, Friday Creek, Kantishna	Fairbanks	Gold lode, with mill	14
Rogers and Bugge, Ketchikan	Free Gold property, Helm Bay	Ketchikan	Gold lode development	Idle
Ruff and Tuff Gold Mining Co., Valdez	Ruff and Tuff property, Columbia Glacier, Shoup Bay	Valdez	Gold lode, with mill	10
San Antonio Metals Co., Wrangell	Galvin property, Baker Island	Ketchikan	Molybdenum and gold lode development	Idle
Sanford, Jess, Fairbanks	Ester Dome, Fairbanks	Fairbanks	Gold Lode development	
Short, Frank, Mine, Fairbanks	Eva Creek or Liberty Bell Mine, Eva Creek, Ferry	Fairbanks	Gold Lode, with mill	Idle
Shotter, Mork and Ronning, Lisianski	Paramount property, Lisianski Inlet, Chichagof Island	Sitka	Gold lode development, with mill	3
Silver, R. W., Nome	Shamrock Mines, Solomon River, Nome district	Cape Nome	Gold lode development	3
Sleeping Beauty Mining Co., Ketchikan	Stensland or Beat Lode, Helm Bay, Cleveland Pen.	Ketchikan	Gold lode development	3
Smith, E. M. and Associates, Fairbanks	Billy Sunday and Fair Chance properties, Ester Dome, Fairbanks	Fairbanks	Gold lode development	Idle
Smith, Herb. C., Fairbanks	Ester Dome, Fairbanks	Fairbanks	Gold lode with mill	8

REPORT OF THE COMMISSIONER OF MINES

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LIST OF LODE MINING OPERATORS AND PROPERTIES

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Solar Development Co., Ltd., Juneau	None at present		Operating subsidiary of Consolidated Mining and Smelting Company of Canada	
Solo Mining Co., Ketchikan	Electrum Group, Hyder district	Hyder	Gold lode development	3
Sonny Fox Mining Co., Seward	Babcock and Downey, Nuka Bay	Kenai	Gold lode, with mill	4
Southeastern Alaska Mining Corp., Juneau	Jualin Mine, Berners Bay	Juneau	Gold lode (Formerly productive)	Idle
Stay, Sam., Fairbanks	Little Eva, First Chance, etc., Ester Dome, Fairbanks	Fairbanks	Gold lodes, intermittent development	
Strong and Black, Hyder	Riverside Mine, Salmon R.	Hyder	Lead, silver, gold lode with mill	Idle
Superior Mine, Inc. The, Valdez	Little Giant, Rose, Star, Big Four, and Blue Fox, Mineral Creek	Valdez	Gold lode, with mill	10
Texas Creek Gold Mining Co., Hyder	Texas Creek Mine, Texas Creek	Hyder	Silver, lead lode	Idle
Thorpe, C., Wasilla	Thorpe property, Grubstake Creek	Knik	Gold lode, with mill	3
Tolovana Mining and Milling Co., Fairbanks	Tolovana Mine, Pedro Dome, Fairbanks	Fairbanks	Gold lode, with mill. Intermittent	
Treadwell Yukon Co. Ltd., Juneau	None at present			

LIST OF LODE MINING OPERATORS AND PROPERTIES

Name and Address of Operator	Precinct	Type of Operation	Approx. Crew	
Threeman Mining Co., Valdez	Dickey property, Rua property, Knight Island	Valdez	Intermittent development of copper lode	Idle
United Mining and Development Co., Moose Pass	Gilpatrick property, Slate Creek, Moose Pass	Kenai	Gold lode development	
U. S. S. R. and M. Co., Fairbanks Fairbanks Department (Formerly Fairbanks Exploration Company)	Henry Ford Mine, Fairbanks Creek (L. J. McCarty property)	Fairbanks	Gold lode, with mill	20
Whalen, E. M., Medfra	Whalen Mine, Nixon Fork, Kuskokwim River	McKinley	Gold lode development	2
Willow Creek Mines, Luckyshot	Luckyshot, War Baby and Gold Bullion properties, Craigie Creek (Willow Creek District)	Knik	Gold lodes with mills	42
Wycoda Mining Co., Ketchikan (Formerly The Evis Mining Co.)	Goo Goo and Sea Level properties, Thorne Arm	Ketchikan	Gold lode development	10
Yellow Band Gold Mines, Inc., Chitina	Yellow Band, Chick Nelson and Bremner	McCarthy	Gold lode development	10

REPORT OF COMMISSIONER OF MINES

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LIST OF NON-METALLIC MINERAL OPERATIONS

Name and Address of Operator	Name & Location of Property	Precinct	Type of Operation	Approx. Crew
<b>QUARRIES</b>				
Superior Portland Cement, Inc., View Cove	View Cove quarry, Dall Island	Ketchikan	Limestone quarry, supplying cement plant in Seattle (Seasonal)	22
Vermont Marble Co., Tokeen	Tokeen Quarry, Prince of Wales Island	Ketchikan	Marble quarry (operations intermittent) (Seasonal)	
<b>COAL MINES</b>				
Alaska Railroad, Anchorage	Eska Mine, Eska	Knik	Bituminous coal	23
Evan Jones Coal Co., Anchorage	Evan Jones Mine, Jonesville	Knik	Bituminous coal, with washery	40
Healy River Coal Corp., Healy Fork	Suntrana Mine, Healy River	Nenana	Sub-bituminous coal, with screening plant	45
Houston Coal Co., Anchorage	Houston	Knik	Bituminous coal	3
Moose Creek Coal Co., Anchorage	Rawson, or Wishbone Hill Property, Moose Creek	Knik	Bituminous coal with washery	8-10
<b>OIL OPERATIONS</b>				
Iniskin Drilling Co., Anchorage	Iniskin Bay, Cook Inlet	Iliamna	Drilling, construction work, etc.	35
Standard Oil Co. of California, Jute Bay	Jute Bay operation, Alaska Peninsula	Kodiak	Drilling, construction work, etc.	25

LIST OF ACTIVE DREDGING OPERATIONS

Name and Address of Operator	Location of Operation	Precinct	Number of Operations	Approx. Crew
Alaska Sunset Mines, Inc., Nome	Sunset Creek	Cape Nome	1	14
Alluvial Golds, Inc., Fairbanks	Woodchopper Creek	Circle	1	25
American Creek Operating Co., Fairbanks	American Creek (Tofty)	Hot Springs	1	30
Arctic Circle Exploration, Inc., Nome	Candle Creek	Fairhaven	2	132
Bartholomae Oil Corp., Nome	Gold Run Creek (Teller Dist)	Port Clarence	1	15
Berry, C. J. Dredging Co., Circle Springs	Mastodon Creek	Circle	1	28
Boundary Dredging Co., Jack Wade	Canyon Creek	Fortymile	1	15
Bristol Bay Mining Co., Goodnews	Wattamus Creek	Bethel	1	10
Casa de Paga Gold Co., Nome	Monument Creek	Cape Nome	1	10
Council Dredging Co., Inc., Nome	Niukluk River	Cape Nome	1	9
Deadwood Mining Co., Fairbanks	Deadwook Creek	Circle	1	11
Dime Creek Dredging Co., (Valentine and Porter) Haycock	Dime Creek	Koyuk	1	6
Dry Creek Dredging Co., Nome	Dry Creek	Cape Nome	1	9
Forsgren Dredging Co., Deering	Inmachuk River	Fairhaven	1	15
Fox Bar Dredging Co., Nome	Upper Kougarok River	Cape Nome	1	18

LIST OF ACTIVE DREDGING OPERATIONS

Name and Address of Operator	Location of Operation	Precinct	Number of Operations	Approx. Crew
Glass Dredging Co., Council	Melsing Creek	Council	1	6
Gold Placers, Inc., Fairbanks	Coal Creek	Circle	1	42
Goodnews Bay Mining Co., Platinium	Salmon River	Bethel	1	15
Holky Dredging Co., Takotna	Ganes Creek	Innoko	1	16
Inland Dredging Co., Nome	Fish Creek	Council	1	9
Kougarok Consolidated Gold Placers, Inc., Nome	Kougarok River	Cape Nome	1	30
Lee Brothers, Nome	Solomon River	Cape Nome	1	18
Matheson and Savage, Takotna	Upper Ganes Creek	Innoko	1	8
New York Alaska Gold Dredging Corp., Nyac	Tuluksak River	Bethel	2	37
North American Gold Dredging Co., Flat	Otter Creek	Otter	1	20
North American Mines, Inc., Jack Wade	Wade Creek	Fortymile	1	32
North Star Dredging Co., (Gumm, Mebes and Steiner) Council	Niukluk River below Ophir Creek	Council	1	9
Osborn Creek Dredging Co., Nome	Osborn Creek	Cape Nome	1	6
Puntilla, Waino F., Takotna	Little Creek	Innoko	1	9
Riley Investment Co., Flat	Otter Creek	Otter	1	16

LIST OF ACTIVE DREDGING OPERATIONS

Name and Address of Operator	Location of Operation	Precinct	Number of Operations	Approx. Crew
Shaw and Cook, Bonanza	Ungalik River	St. Michael	1	10
Tweet, N. B. and Sons, Teller	Dese Creek	Port Clarence	1	10
Ungalik Syndicate, Bonanza	Ungalik River	St. Michael	1	9
United States Smelting, Refining and Mining Co. (Fairbanks Dept.) (Nome Dept.)	Vicinity of Fairbanks Vicinity of Nome	Fairbanks Cape Nome	6 3	413 80-300
Vibe, N. J., Takotna	Yankee Creek	Innoko	1	9

LIST OF INACTIVE DREDGING OPERATIONS

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Name and Address of Operator	Location of Operation	Precinct	Number of Operations
Alaska Gold Dredging Corp., Chicken	Mosquito Fork	Fortymile	1
Ophir Gold Dredging Co., Coun- cil	Ophir Creek	Council	1
Walkers Fork Gold Corp., Jack Wade	Walkers Fork	Fortymile	1

REPORT OF COMMISSIONER OF MINES

LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Alaska Exploration and Mining Co., Talkeetna	Bird Creek	Talkeetna	Hydraulic	14
Alaska-Sunshine Gold Mining Co., Haines	Kleheni River	Skagway	Placer development	
Alaska Taylor Mines, Taylor	Kougarok River	Cape Nome	Pumping plant; dragline	15
American Tinfields, Inc., Tin City	Tin City	Port Clarence	Mechanical and Mills	25
Anderson and Peterson, Fair- banks	Livengood Creek	Tolovana	Drifting from shaft	11
Arctic Circle Exploration Co., Candle	Candle Creek	Fairhaven	Hydraulic with dragline for tails	
Arctic Creek Mining Association, Nome	Arctic Creek (Kougarok)	Cape Nome	Bulldozer and pumping plant	6
Arctic Mines, Inc., Teller	Sunset Creek	Port Clarence	Hydraulic, pump and scraper	7
Awe and DuRand, Flat	Marvel Creek	Bethel	Dragline with washing plant	
Awe Mining Company, Flat	Flat Creek	Otter	Dragline with washing plant	12
Bany, A., Fairbanks	Livengood Creek	Tolovana	Drift mining	5
Bartlett, Ida, Miller House	Independence Creek	Circle	Hydraulic	7
Bauer, R., Nation	Eagle District	Eagle		5

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LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
C. J. Berry Dredging Co., Circle Springs	Mastodon Creek	Circle	Hydraulic	8
Berry Holding Co., Circle Springs	Eagle Creek Mastodon Forks	Circle Circle	Hydraulic Hydraulic	9 12
Blake and Larson, Chatanika	Chatanika River	Fairbanks	Drift Mining	9
Bock, Adolf, Tofty	Deep Creek	Hot Springs	Drift Mining	11
Bodis, George, Nome	Dick Creek (Kougarok)	Cape Nome	Hydraulic	8
Bostrom and Co., Fairbanks	Fish Creek	Fairbanks	Drift Mining	6
Bower, R., Eagle	Fourth of July Creek	Eagle	Hydraulic	6
Buck and Sjoberg, Cantwell	Valdez Creek	Chitina	Hydraulic	7
Butte Creek Mining Co., Miller House	Butte Creek	Circle	Hydraulic, dragline and bulldozer	5
Cache Creek Mining Co., Anchorage	Nugget Creek	Talkeetna	Hydraulic	12
Carlson, J. E., Gulkana	Valdez Creek	Chitina	Hydraulic and drift mining	23
Carlson and Co., Nome	Iron Creek	Cape Nome	Pumping plant	6
Central Development Co., Jack Wade	Wade Creek	Fortymile	Hydraulic and bulldozing	10
Chicken Creek Mining Co., Flat	Chicken Creek	Otter	Hydraulic and bulldozer	16
Chicken Hill Mining Co., Chicken	Lost Chicken Creek	Fortymile	Hydraulic and bulldozer	5

LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Chititu Mines, McCarthy	Rex and Chititu Creeks	McCarthy	Hydraulic	18
Circle Mining Co., Circle Springs	Portage Creek	Circle	Dragline	12
Clara Creek Mining Co., Anchorage	Clara Creek (Goodnews Bay)	Bethel	Dragline with washing plant	18
Clark Brothers, Hope	Palmer and Resurrection Creeks	Kenai	Two Hydraulic Camps	8
Cleary Hills Mines Co., Fairbanks	Sullivan Creek (Tofty)	Hot Springs	Drag scraper with washing plant	15
Coffee Creek Mining Co., Nome	Coffee Creek (Kougarok)	Cape Nome	Bulldozer, pump and hydraulic elevator	10
Coyle, Dennis, Ruby	Poorman Creek	Nulato	Drift mining	5
Cripple Creek Mining Co., Anchorage	Cripple Creek (Folger)	Innoko	Dragline with washing plant	29
Dahl Creek Mining Co., Nome	Dahl Creek (Kougarok)	Cape Nome	Pumping plant	6
Deadwood Mining Co., Fairbanks	Deadwood Creek	Circle	Dragline	14
DeVault and Hamberg Assoc., Talkeetna	Camp Creek	Talkeetna	Hydraulic	12
Dora Gold Mining Co., Fairbanks	Nugget Creek	Fairbanks	2 Draglines and washing plants	16
Dutch Creek Mining Co., Talkeetna	First and Dutch Creeks	Talkeetna	Hydraulic	8

REPORT OF COMMISSIONER OF MINES

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LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Ellingen, Casper, Fairbanks	Fourth of July Creek	Eagle	Hydraulic	6
Ellington and Co., Wiseman	Myrtle Creek	Koyukuk	Shoveling-in	5
Enstrom Bros. Mining Co., Circle Springs	Ketchum Creek	Circle	Dragline	10
Erickson, A. S., Girdwood	Crow Creek	Knik	Hydraulic	7
Erickson and Bennett, Marshall	Nelson Creek (Marshall)	Wade-Hampton	Hydraulic with washing plant	15
Faith Creek Mining Co., Fairbanks	Faith Creek	Fairbanks	Hydraulic	7
Falls, Bentley, Livengood	Ruth Creek Lillian Creek	Tolovana Tolovana	Hydraulic Hydraulic	5 3
Fisher and Fisher, Fairbanks	Grant Creek	Fort Gibbon	Hydraulic and dragline	6
Forno, Theobaldo, Poorman	Poorman Creek	Nulato	Drift mining	7
Frank, J. R., and Co., Hot Springs	Pioneer Creek	Hot Springs	Hydraulic	7
Frasca, John and Co., Circle Springs	Independence Creek	Circle	Hydraulic	8
Gilmore Mining Co., Inc., Fairbanks	Gilmore Creek	Fairbanks	Dragline and bulldozer	15
Glen Gulch Mining Co., Fairbanks	Gertrude Creek, (Livengood District)	Tolovana	Hydraulic and bulldozer	9

LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Godfrey, Cooper and Clough, Nome	Henry Creek (Kougarok)	Cape Nome	Bulldozer, scraper and pumping plant	10
Gold King Mining Co., Fairbanks	Gold King Creek	Nenana	Hydraulic	6
Goodnews Bay Mining Co., Platinum	Platinum and Fox Creeks	Bethel	2 draglines and washing plants	45
Gregan, W., Poorman	Poorman Creek	Nulato	Drift mining	7
Gustaffson and Sweedman, Nome	Oregon Creek	Cape Nome	Hydraulic	5
Half Dollar Mining Co., Circle Springs	Half Dollar and Bottom Dollar Creek	Circle	Hydraulic elevator	5
Hard, Uotilla and Hanson, Taikotna	Bear Creek	Innoko	Dragline, bulldozer and washing plant	14
Harris Creek Mining Co., Teller	Harris Creek (Kougarok)	Cape Nome	Bulldozer and pumping plant	7
Harrison Creek Mining Co., Miller House	North Fork of Harrison Creek	Circle	Hydraulic	5
Hogendorn, R., Deering	Inmachuck River	Fairhaven	Hydraulic	5
Hope Mining Co., Seward	Resurrection Creek	Kenai	Hydraulic	7
Hudson, N. R., Livengood	Olive Creek	Tolovana	Dragline and washing plant	12
Huff, J., Platinum	Butte Creek	Bethel	Hydraulic, bulldozer	6

LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Iditarod Mining Co., Flat.	Willow Creek	Otter	Dragline, hydraulic and washing plant	15
Independence Mining Co., Circle Springs	Independence Creek	Circle	Hydraulic and slack-line scraper	9
Johnston and Blondo, Fairbanks	North Fork of Harrison Cr.	Circle	Dragline	8
Johnson and Hard, Takotna	Ophir Creek	Innoko	High-line scraper	8
Johnson, Helmer, Fairbanks	Cleary Creek	Fairbanks	High-line scraper	5
Johnson and Johnson, Hot Springs	Glen Gulch	Hot Springs	Hydraulic	8
Jones, Ray, Koyukuk	Koyukuk River	Koyukuk	Pumping plant	5
Kanari, Laurin and Carey, Nome	Kougarok River	Cape Nome	Pumping plant	6
Keenan, J. and Co., Nome	Kougarok River	Cape Nome	Bulldozer, pump and dragline	15
Kelliher, J. and Son, Taylor	Kougarok River	Cape Nome	Hydraulic	6
Kelly, J. F., Miller House	Miller Creek	Circle	Hydraulic bulldozer	5
Ketchum Creek Mining Co., Circle Springs.	Ketchum Creek	Circle	Hydraulic and slack-line excavator	6
Klery Placers, Inc., Kiana	Klery Creek	Noatak-Kobuk	Dragline scraper with washing plant	25
Kokomo Mining Co., Fairbanks	Kokomo Creek	Fairbanks	Cableway excavator and hydraulic	9

LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Kow Kow Mining Co., Platinum	Kow Kow Creek	Bethel	Dragline, washing plant, bulldozer	15
Lammers and Fitzpatrick, Nome	Buzzard Creek (Kougarok)	Cape Nome	Bulldozer and pumping plant	5
Laurin Brothers, Taylor	MacMillan Creek (Kougarok)	Cape Nome	Hydraulic and bulldozer	8
Lilliedale and Co.	Gold King Creek	Nenana	Hydraulic	5
Livengood, J. H., Livengood	Livengood Creek	Tolovana	Drift Mining	8
Loche and Co., Chatanika	Chatanika River	Fairbanks	Drift Mining	5
Long Creek Mining Co., Fairbanks	Long Creek (Ruby)	Nulato	Dragline	13
Lowe, Grace, Livengood	Gertrude Creek	Tolovana	Bulldozer, Hydraulic	10
Mahon, W. G., Livengood	Livengood Creek	Tolovana	Drift Mining	10
Martin, Charles,	Jack Wade Creek	Fortymile	Hydraulic	5
Mastodon Mining Co., Miller House	Mastodon Creek	Circle	Dragline	15
McGee, L.,	Indian River (Koyukuk)	Koyukuk	Dragline	12
Miscovich and Rodman, Flat	Julian Creek	Otter	Hydraulic	8
Miscovich, P., Flat	Otter Creek	Otter	Trencheau, hydraulic and bulldozer	12

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LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Montana Mining Co., Hot Springs	Omega & Alpha Creek	Hot Springs	Dragline, hydraulic	15
Moose Pass Placers, Inc., Juneau	Mills Creek	Kenai	Hydraulic, bulldozer	9
Nelson Mining Co., Chisana	Bonanza Creek	White River	Hydraulic, bulldozer	6
Nicolai Placer Mines, McCarthy	Dan Creek	McCarthy	Hydraulic	18
Northland Development Co., Flat	Willow Creek	Otter	Dragline and washing plants	5
Olsen and Co., Flat	Happy Creek	Otter	2 draglines, washing plants	12
Ostness and Johnson, Marshall	Willow Creek	Wade-Hampton	Dragline	7
Parker and Son, Fairbanks	Crane Creek	Fairbanks	Hydraulic, bulldozer	5
Paulson, S. R., Ophir	Colorado Creek	Innoko	Hydraulic, bulldozer	10
Polson, A., Nome	Center Creek	Cape Nome	Drifting from shaft	7
Porcupine Mining Co., Miller House	Porcupine Creek	Circle	Dragline, hydraulic	6
Powers, J. B., Fortymile	Dome Creek	Fortymile	Hydraulic	5
Pyne Creek Min. Co., Fairbanks	Palmer Creek	Fairbanks	Hydraulic	7
Quigley, E. W., Solomon	Solomon River	Cape Nome	Hydraulic	8
Rainbow Mining Co., Nome	Black Cr. (Kougarok)	Cape Nome	Pumping plant	5

LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Rainey Creek Placers, Anchorage	Rainey Creek	Bethel	Placer development	5
Randall, Juneau	Silva Creek	Juneau	Placer development	12
Roberts, C. O., Nome	Hurrah Creek	Cape Nome	Pump and mechanical	7
Ryan, Lee, Jack Wade	Wade Creek	Fortymile	Ground-sluicing	5
Savage and Matheson, Takotna	Spruce Creek	Innoko	Dragline, Washing plant	
Scannell, T. C., Ruby	Long Creek	Nulato	Drift mining	14
Schropshire and Anderson, Poorman	Moose Creek	Nulato	Drift mining	10
Seward Mining Co., Hope	Resurrection Creek	Kenai	Hydraulic	6
Seward Mining Develop. Synd., Nome	Mascot Gulch (Kougarok)	Cape Nome	Bulldozer and pumping plant	8
Shaw, T. J., Council	Ophir Creek	Council	Hydraulic	8
Shield, C. F. and Co., Fairbanks	No Grub Creek	Fairbanks	Hydraulic, bulldozer	10
Skain Mining Co., Nome	Wonder Creek	Cape Nome	Drifting from shaft	15
Slate Creek Placers, Inc., Valdez	Slate Creek	Chitina	2 hydraulic operations	32
Spokane Peters Creek, Inc., Talkeetna	Peters and Cache Creeks	Talkeetna	Dragline, washing plant bulldozer	24
Stevens, Dick, Poorman	Timber Creek	Nulato	Drift mining	5
Stewart and Woods, Circle Springs	Deadwood Creek	Circle	Hydraulic	5

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LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES, WITH CREWS OF FIVE OR MORE MEN

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REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Strandberg and Sons, Anchorage	Candle Creek (Takotna)	Innoko	Dragline, washing plant and bulldozer	14
Stuyahok Mining Co., Marshall	Flat Creek	Wade-Hampton	2 operations, draglines and bulldozers	30
Tacoma Placer Mining Co.	Butte Creek	Fairbanks	Dragline	
Taylor, Carstens and Taylor, Circle Springs	Ketchum Creek	Circle	Dragline and hydraulic	5
Thomason, Quam and Anderson, Hot Springs	Boulder Creek	Hot Springs	Hydraulic	5
Three Miners, Inc.	Esperanto Creek	Innoko	Dragline, washing plant	15
Topkok Chief Mines Co., Bluff	Daniels Creek	Cape Nome	Slackline cableway	25
Torrence, L. E., Poorman	Flat Creek	Nulato	Drift mining	6
Triple X Mining Co., Ferry	Moose Creek	Nenana	Hydraulic, dragline pumping plant	13
United States Smelting, Refining and Mining Co., Fairbanks Operation	Cripple Creek	Fairbanks	Dragline, washing plant	
Uotilla and Hard, Takotna	Ophir Creek	Innoko	Dragline, washing plant	12
Uotilla and Ogriz, Flat	Slate Creek	Otter	Dragline, washing plant	12
Uotilla, Ogriz and Keturia, Flat	Moore Creek	Otter	Dragline, washing plant and bulldozer	11
Van Hook, I. H.	Lost Chicken Creek	Fortymile	Hydraulic	5

LIST OF ACTIVE PLACER OPERATIONS, OTHER THAN DREDGES WITH CREWS OF FIVE OR MORE MEN

REPORT OF COMMISSIONER OF MINES

Name and Address of Operator	Location of Plant	Precinct	Type of Operation	Approx. Crew
Vibe and Schwaesdall, Takotna	Spaulding Creek	Innoko	Dragline, washing plant	8
Vuicich, W., Poorman	Flat Creek	Nulato	Drift mining	7
Ward, Hanson and Keating, Chatanika	Chatanika River	Fairbanks	Drift mining	5
Warwick, A., Livengood	Wilbur Creek	Tolovana	Hydraulic, bulldozer	8
Westenvik, Lars, Miller House	Bonanza Creek	Circle	Hydraulic	6
Whitehead and Co., Hot Springs	Pioneer Creek	Hot Springs	Hydraulic, bulldozer	5
Wickersham Bros., Cantwell	Valdez Creek	Chitina	Hydraulic	5
Willow Creek Mining Co., Marshall	Willow Creek	Wade-Hampton	Dragline scraper	14
Wilson Creek Mining Co., Anchorage	Wilson Creek	Wade-Hampton	Dragline and washing plant	14
Windish, Bergman & Isaacson, Hot Springs	Eureka Creek	Hot Springs	Hydraulic	5
Wolf Creek Mining Co., Fairbanks	Wolf Creek	Fairbanks	Dragline	
Yukon Mining Co., Marshall	Kako Creek	Wade-Hampton	Dragline and washing plant	15
Zimmerman, A. A., Fairbanks	Sourdough Creek	Fairbanks	Hydraulic with slack-line scraper	5

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## SMALL PLACER OPERATIONS

Miscellaneous unlisted placer operations of various types, with crews of less than 5 men; including small hydraulic, shoveling in, groundsluicing plants, etc.:

Precinct	Number of Operations	Approximate Number of Men
Bethel .....	8	18
Cape Nome .....	32	70
Chandalar .....	3	8
Chitina .....	2	7
Circle .....	7	16
Eagle .....	8	18
Fairbanks .....	22	50
Fairhaven .....	8	19
Fortymile .....	11	25
Hot Springs .....	21	50
Innoko .....	9	21
Kenai .....	10	22
Koyuk .....	6	14
Koyukuk .....	37	82
McCarthy .....	3	7
Mt. McKinley .....	4	8
Noatak-Kobuk .....	1	3
Nome Beach .....	60	60
Nulato .....	15	30
Otter .....	6	13
Port Clarence .....	2	5
Rampart .....	7	15
Talkeetna .....	12	23
Tolovana .....	7	15
Valdez .....	1	2
Wade-Hampton .....	4	9
White River .....	6	13
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	312	623

Type of Operation	Number of Operations	Approximate Number of Men
Hydraulic .....	87	195
Ground Sluice .....	49	109
Drift Mining .....	36	80
Mechanical .....	28	63
Shoveling-In .....	52	116
Beach Mining .....	60	60
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	312	623

There are about 40 placer prospecting ventures not herewith included.