TERRITORY OF ALASKA
DEPARTMENT OF MINES

Report

of the

Commissioner of Mines

for the

BIENNIUM ENDED DECEMBER 31, 1946

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THE DEPARTMENT OF MINES

Administrative and General Information

The activities of the Territorial Department of Mines, including the operation of the four public assay and field offices, situated at Ketchikan, Anchorage, College and Nome, are administered under the direction of the Commissioner of Mines at the headquarters office at Juneau. The Commissioner of Mines also acts as district mining supervisor for the Interior Department in connection with the supervision of mining on coal leases and permits. Stockpiles of strategic minerals that were purchased by the Commissioner of Mines, as purchasing agent for Metals Reserve Company during the period beginning in the summer of 1942 and ending December 31, 1944, were shipped to treatment plants designated by Metals Reserve Company during 1945, with the exception of chrome ore which remains stored at Jakolof Bay on the west shore of Kenai Peninsula. The restrictive order on gold mining, L-208, that became effective October 8, 1942, was revoked as of June 30, 1945. After that date the Commissioner of Mines was no longer called upon to act as coordinator of Mines for the War Production Board, in which capacity he acted in the period during which the restrictive order was in effect.

At headquarters and field offices information on matters relating to mining and mineral resources is disseminated by means of personal interviews and by correspondence. Extensive files of reports by field engineers on individual mining properties, prospects and small areas, together with a complete library of publications on Alaska issued by the U. S. Geological Survey and U. S. Bureau of Mines, are the basis for the information that is disseminated. Consulting service is also available to the various local departments and agencies of the Federal Government and of the Territory. The importance to the industrial growth of Alaska of minerals that have heretofore received little attention is stressed in a booklet entitled "Industrial Minerals as a Field for Prospecting in Alaska" by A. E. Glover. This booklet was originally issued in March 1945, but due to unforeseen demand it was necessary to reprint it in May 1946, to which date it was also revised. Results of investigations in the asbestos-jade area were published in May 1945 as Pamphlet No. 3, "Asbestos and Jade Occurrences in the Kobuk River Region" by Eskil Anderson. The demand for this pamphlet also exceeded expectations and it was revised and reprinted as of December 1945. Results of investigations during 1945 of limestone deposits in southeastern Alaska were published in March 1946 as pamphlet No. 6, "Some High Calcium Limestone Deposits in Southeastern Alaska" by J. C. Roehm. Requests received during the biennium for authentic general information on the mining industry and mineral resources exceeded by far the supply of publications of this

nature. It was therefore necessary to reprint in 1946 the report of the Commissioner of Mines for the biennium ended December 31, 1944 and the pamphlet on prospecting in Alaska. Appended to this report is a list of reports that have been issued by the Commissioner of Mines and corresponding preceding officials.

Visitors at the headquarters and field offices averaged during the biennium about 250 per month. These visitors included prospectors, engineers and prospective investors. The information sought included favorable areas for prospecting, publications and information on individual districts or properties, identification of samples, markets and prices of minerals, laws governing the location and holding of claims, etc. Requests received by mail were for similar information and exceeded by several hundred the number received during the preceding biennium. Approximately 5,900 publications were distributed during the biennium, which is more than double the number distributed during any previous biennium. Over 90 per cent of the publications distributed were reports of the Department of Mines, the remainder being Government maps and bulletins, a supply of which is kept on hand at the headquarters and field offices for the convenience of the public.

Field Investigations and Mine Inspection

The Act prescribing the duties of the Department of Mines requires a continuing survey of mineral resources and mining operations of the Territory; dissemination of information with regard thereto; safeguarding the lives and health of miners; protection of investors in the mining industry, etc. The Commissioner of Mines was assisted in carrying out the requirements of the Act by three associate mining engineers, the services of one of whom are devoted entirely to coal mine inspection; the engineer-assayer with headquarters at Nome, who was assigned to field examinations and the preparation of reports up to the time of his resignation in July 1946; and to a lesser degree by the assayer-engineers stationed at Anchorage and College who made a few field examinations in addition to their regular assaying services.

Field investigations were made during 1945 on some of the more accessible limestone deposits of southeastern Alaska, and during both years of the biennium on other metallic and non-metallic minerals in the Hyder, Ketchikan, Wrangell, Petersburg and Juneau districts. Especially interesting and of possible commercial importance is the mica occurrence that was investigated on Sitklan Island at the mouth of Portland Canal. Another deposit on which preliminary investigations were made, and which appears to justify some exploratory work, is the lead-zinc occurrence on Duncan Canal, Kupreanof Island. This is an old prospect that was originally located in 1904, but was evidently considered to have little merit, as only a small amount of work was accomplished before it was abandoned.

Deposits containing precious and base metals were examined in the Valdez, Tiekel, Willow Creek, Chitina, Kenai Peninsula, Cache Creek and Nabesna districts. Considerable study was devoted to possible sources of non-metallic minerals for local use in the Anchorage-Palmer area. Geologic investigations were made on coal-bearing areas of the Matanuska and Homer fields.

Lode and placer deposits were investigated in the Livengood, Circle, Tok, Nenana, Hot Springs, Ruby, Chandalar and Rampart districts. During 1946 the associate engineer with headquarters at Juneau visited placer camps in northwest Alaska and later made examinations and rendered technical assistance at placer camps in the Marshall, Tuluksak, Takotna, Flat, Ophir and Poorman districts.

In northwestern Alaska during 1945 investigations were continued in the asbestos-jade bearing area of the Kobuk River region. Geologic reconnaissances were made in the Eli River valley of the lower Noatak River region, the Mauneluk River basin, and lower Reed and Pah rivers. A preliminary investigation was also made of a reported tin occurrence at Cape Krusenstern, lower Noatak River region. Investigations were carried on in 1946 of placer operations in the Nome, Council, Koyuk and Candle districts of northwest Alaska.

Placer concentrates have been collected from various districts and studied at the College field office to determine the possible presence of minerals that might be of economic importance, but which were not recognized by mine operators. Identification of the minerals in such concentrates might result in the recovery by placer operations of heretofore discarded minerals of value and would also indicate possible lode sources of minerals other than gold in the vicinity. Several minerals, including tin, have been identified that were not formerly known by mine operators to exist in their concentrates.

Safety conditions were observed at all mining operations visited by the engineers, and recommendations were made for improvements where necessary. The officials at all operations where unsafe practices were pointed out willingly corrected them, especially in remote camps where the importance of keeping accidents to a minimum is fully realized. Safety inspections were made of two tunnel projects not connected with mining during the biennium—that at Beaver Falls near Ketchikan and that of the Alaska Road Commission at Keystone Canyon on the Richardson Highway. Monthly or bi-monthly inspections were made at the operating coal mines by an engineer stationed at Anchorage whose services are wholly devoted to this type of work. Frequent inspections of the workings are required on account of the hazardous nature of coal mining. The inspector devoted considerable time to assisting in the extinguishment and sealing off of fires that broke into the workings at the mine of the Healy River Coal Corporation in November 1945 and May 1946.

Assay Offices

The assay offices at Ketchikan, Anchorage and College continued to perform prompt and reliable mineral determinations, which service is important to the search for and development of mineral resources of the Territory. No determinations were made at the office in Nome which served primarily as headquarters from which field investigations were carried on in northwestern Alaska. Curtailed demand for minerals of importance to the prosecution of the war, as a result of the cessation of hostilities in 1945, was reflected in further lessening of requests for determinations of this nature. Investigations of strategic minerals by the U. S. Bureau of Mines were also curtailed and fewer determinations were made for that Bureau than during the preceding biennium. Interest was revived toward the end of the biennium in some of the base metals, notably copper, lead and zinc, of which there is a national shortage. Prices for these metals showed an upward trend that should encourage development of some of the known as well as the search for new occurrences. In spite of conditions unfavorable to prospecting for deposits containing precious metals, the number of gold-silver assays substantially increased over the preceding biennium. The following table lists the total number of determinations made at all offices during the past four years and reveals the trend:

	1943	1944	1945	1946
Gold-Silver	274	512	1091	1083
Chemical determinations	2979	2682	616	259
Identifications	414	329	534	527
Totals	3667	3523	2241	1869

In addition to their regular assaying service, the men in charge of the Anchorage and College offices carried on field investigations adjacent to their headquarters and submitted reports of their observations. The assayer at College assisted in the collection of placer concentrates and performed the necessary laboratory work to determine their mineral content.

THE MINING INDUSTRY

Hopes were high for an early recovery of the gold mining industry after the governmental restrictive order was revoked on June 30, 1945 and the termination of the war about a month later. Early optimism gave way to disappointment as the truly difficult condition of the industry was fully realized. Few men were released from war work in time to augment the crews at the mines during that year. It was impossible to immediately replace essential equipment and supplies, of which many properties were stripped for use in the construction of defense projects. Plans for resumption of operations in 1946 were disrupted by the crippling coastal shipping strikes that almost

completely cut off water transportation to the Territory for long periods. Probably no part of the United States experienced poorer transportation service and higher costs than did Alaska. The economic life of mining as well as other industries of Alaska depends on adequate water transportation at reasonable rates. A small percentage of the total requirements of equipment and supplies were transported by plane or truck, but the costs by such methods are prohibitive as compared to transportation by boat. The price of gold is set by the Government and has not advanced since 1934, whereas costs have greatly increased, on some items as much as 100 per cent. This placed gold mine operators in an extremely poor position to compete for a short labor supply with governmental construction agencies that have public funds at their disposal.

In 1945 there was some increase in employment and production in the gold mining industry over the preceding year in spite of adverse conditions. Statistics collected and compiled by the U. S. Bureau of Mines show an increase of 38 per cent in gold production from Alaska during 1945 over that produced in 1944. There were further increases in employment and production in 1946. Preliminary estimates indicate that the production of gold in 1946 will be approximately two and a half times that in 1945.

Platinum continued to be mined on about the same scale as for the past few years and Alaska continues to hold the lead in the production of platinum metals in the United States. Coal production declined from the all-time high of nearly 350,000 tons in 1944 to slightly under 300,000 tons in 1945. Production of coal in 1946 set a new record of over 360,000 tons. The threat of encroachment on the legitimate market for Alaska coal along the Railroad belt by fuel oil was somewhat lessened by a rise in price of the latter commodity during 1946. Small shipments of antimony, asbestos, jade and mercury were made during the biennium.

Future of the Industry

Chaotic conditions that have prevented the gold mining industry from resuming its normally important place in the economy of the Territory during and immediately after the war period seemed at the end of the biennium to be reaching a turning point toward normalcy.

Recovery of the placer mining industry will undoubtedly be most rapid when more favorable conditions prevail. Practically all the smaller placer mines of the interior are owned and operated by capable, hard working men with long residence and experience in Alaska. Many of these men started mining by hand methods in the early days and have now acquired modern machinery and are using the latest in recovery methods on ground that would have been unprofitable to mine by hand. They are familiar with local conditions and for the most part have in mind for development deposits to re-

place as depleted those now being mined. With the industry in such hands it is certainly in a position to flourish and expand as soon as conditions become more favorable.

Lode mining will be slower to recover. Deterioration of machinery was more rapid than at the placers, especially in underground workings that were allowed to flood during the period the mines were closed. As a result, rehabilitation will be slower and costs greater. Lode mines can be operated all year and furnish employment the year round, whereas the placer mines are operated only during the open season. For that reason a lode mine is more important to the economy of a community than is a placer mine. In spite of the difficult position of the lode mining industry, several of the mines are being operated at much less than normal capacity, and others are being maintained to such an extent as to be ready for operation as soon as conditions warrant. A few properties that have not heretofore produced are under development and inquiries have been received for information on lode properties that merit development.

Important to the future of southeastern Alaska is the recent interest in non-metallic minerals. A large mining company has acquired and is developing an extensive deposit of limestone and the company that quarried limestone before the war is rehabilitating its equipment and preparing for resumption of production. A company has acquired and plans early development of a gypsum deposit for use in the manufacture of building materials. Establishment of pulp and paper mills in southeastern Alaska seems nearer to reality than at any previous time. When this industry is established it will create a market for non-metallic minerals such as sulphur, talc, limestone and barite, deposits containing which are known to exist in southeastern Alaska. Recent inquiries have been received with regard to marble, of which there are numerous deposits with various attractive colorings in southeastern Alaska. Clay near Anchorage was utilized in a brick plant that was established there in 1946. This is a new industry for Alaska and was begun on a small scale, but plans are under way for considerable expansion, as there is at present strong demand for building materials along the Railroad belt and elsewhere in Alaska. A deposit of gypsum has been located in the vicinity and other minerals for use in establishing local plants for the manufacture of building materials are being sought. The establishment of such plants would eliminate high transportation costs from the States and would be of considerable importance to the future of that part of the Territory where extensive building programs are under way and in the planning stage.

The national shortage of lead, zinc and copper may result in early development of some of the more promising known occurrences of these minerals in Alaska and the search for new deposits. The drain of war has seriously depleted the known lead-zinc reserves of the great Tri-State district which has for years been the source of a

substantial percentage of these minerals used in the United States. The intensive search for new sources offers a favorable opportunity for the mining in Alaska of deposits whose principal value is in lead and zinc, which minerals have heretofore been produced only as by-products of gold mining.

Large quantities of sand and gravel have been used in recent years in the construction of buildings, landing fields and roads, and the demand should continue for sometime on account of building programs now in progress and being planned for the future. While such material has a low unit value, the large volume used accounts for a substantial percentage of the total value of all minerals produced in Alaska.

Enormous coal deposits, ranging in rank from lignite to anthracite, are known to exist in Alaska and constitute a valuable reserve of natural wealth. Market for the coal being produced is governed by the demand for local use and should expand with increased population. Some interest is being shown in the possibility of shipping coking coal from the Bering River field to the Pacific Coast states for use in proposed iron and steel plants. Some consideration has also been given to shipping coal from Alaska to markets in the Orient.

Very little information has been published on the results of the exploratory drilling program being conducted by the U. S. Navy in its petroleum reserve on the Arctic slope. The fact that a large appropriation has been made for the work indicates that a serious attempt is to be made to evaluate the potential petroleum resources of this region. Should a producing field be brought in it would be of considerable importance to the Territory. The Secretary of the Interior has recently liberalized the leasing regulations on oil lands to permit the control by groups of individuals or corporations of much larger areas than heretofore, which should result in renewed interest in exploring some of the other promising structures in Alaska.

The mining industry can be expected to resume its important position in the economy of the Territory as soon as the problems now confronting it are solved, the most serious of which at the moment is the lack of dependable transportation at reasonable rates. Gold mining should resume on a scale equal to or exceeding the record production of 1940. The time seems near when the industry will be on a more diversified basis through the mining of larger tonnages of minerals other than gold, the significance of which to the economy of the Territory would be far reaching.

Lode Mining

In spite of removal of governmental restrictions on gold mining in 1945, the number of active lode mining properties decreased to 51 from the 56 that were listed as active in 1944, with corresponding decreases in employment and production. Only a small percentage of

the active mines were productive. Prospects on which work was done during the year and properties on which development or maintenance activities were under way are listed as active. There was some improvement in employment and production at lode mines in 1946, and the number of active properties increased to 75, which number also includes prospects and non-productive operations at which work was carried on.

The only mining in the Hyder district during the biennium was carried on by the J. H. Scott Company at the Riverside Mine. A small crew was engaged in development work during 1945 and in 1946 productive mining was begun with a crew of about 35 men. Minerals recovered from the ore being mined include lead, silver, gold and tungsten. This mine was the most productive lode mining operation in southeastern Alaska during 1946.

Most of the lode mining activity in the Ketchikan district during the biennium was preparatory to future productive operations. Adams and Brill at the old Puyallup Mine near Hollis on Prince of Wales Island produced a small amount of gold. An ambitious program toward developing a productive lode gold property in the district was undertaken by Santiago-Alaska Mines, Inc., at the Valparaiso Mine near Dolomi. This company was engaged in developing ore in the mine and installing a 50-ton mill complete with facilities for cyaniding. A modern camp was under construction by the company and equipment for mechanized mining was being installed. A small crew was engaged in developing a gold lode at the Blue Jay Mine at Helm Bay. The Lucky Nell gold-copper property near Hollis on Prince of Wales Island was under development by the Lucky Nell Mining Company. Construction of about seven miles of road to the property is almost completed and the company expects to be ready for production in 1947. Anaconda Copper Company has had a small crew conducting development operations on a copper lode at Lake Bay, Prince of Wales Island. Kasaan Gold Company reopened the Harris Creek property near Hollis and produced a small amount of gold. Stockholders were rehabilitating the mine and mill of the Alaska Gold and Metals Company at the Salt Chuck Mine on Kasaan Bay preparatory to resuming productive operations.

Important to the Ketchikan district are preparations for producing limestone in large quantities. A crew was engaged at the plant of the Superior Portland Cement Company at View Cove, Dall Island on rehabilitation preparatory to resuming production after having been closed for the war period. ALCOA Mining Company acquired the limestone quarry site and Forest Service camp at Edna Bay, Kosciusko Island and was engaged with a crew of about 60 men in an extensive development program that included diamond drilling. The company has announced plans for quarrying a large tonnage of limestone annually for shipment to the State of Washington where it is to be used in processing aluminum and iron ore, as well as being available to other markets.

L. C. Berg transported machinery to and was engaged in driving a development tunnel on a lead-zinc deposit inland from Berg Bay near Wrangell in 1946. During the same year Kuiu Zinc Mines, Inc. was diamond drilling a zinc-lead showing on the Keku Group of claims at the north end of Kuiu Island in the Petersburg district.

The Alaska Juneau Gold Mining Company was unable to operate its mine at Juneau during the biennium, although a crew of about 40 key men was employed on maintenance work. The Alaska Juneau is famous throughout the world for its low-cost operation and normally produced well over half the lode gold from Alaska. Over 1,000 men were employed in full-scale operations. An operation of this type has a low margin of profit under conditions much more favorable than they are at present. A new mill and pipe line were installed in 1945 at the Charles Williams property near Hawk Inlet on Admiralty Island by the Alaska Empire Gold Mining Company. Conditions were such that plans for productive operations in 1946 did not materialize, although some additional development work was accomplished at the property. The Fairweather Mining Company drove a development tunnel on the Ibach property near Reid Inlet in Glacier Bay. The Leroy Mining Company continued small-scale productive operations at the Leslie Parker property in the Glacier Bay district.

None of the gold mines on Chichagof Island were productive during the biennium. The management of the Hirst-Chichagof Mine, which was before its closure an important producer, investigated the possibility of reopening its mine at Kimshan Cove early in the spring of 1946 but found conditions to be unfavorable. Baranof Exploration and Development Company, Inc. carried on exploratory work by diamond drilling at the Alaska Handy property near Klag Bay during 1946. A development tunnel was extended during 1946 in the Cobol Mine at Slocum Arm. The Camel-Gypsum Group at Iyoukeen Cove on the east side of Chichagof Island was optioned to a company which plans early development of the high-grade gypsum deposits on the property. Preparations are being made to diamond drill the deposit.

There was very little mining activity in the Cordova and Valdez districts during the biennium. A small crew was reported to be engaged in development work at the McKinley Lake property of Alaska Lucky Strike, Inc. near Cordova. The Young-Garner Mining Company did some rehabilitation work at the Granite Mine on Port Wells. Some prospecting was in progress at other properties in the Valdez district.

Prospecting being carried on at the Last Chance Mine in the town of Seward during 1946 was reported to have shown favorable results. The mill of the Falls Creek Mining Company, on Falls Creek, Kenai Peninsula, was completed in 1945 and productive operations were being conducted in 1946 with less than a normal crew. George Lindsey on Summit Creek was producing on a small scale. New Hope, Inc. on Palmer Creek operated on a small scale, as also did the Grant Lake Company at Grant Lake. None of the mines at Nuka

Bay were active during the biennium, although a little prospecting was done in the area in 1946. Development by drifting and diamond drill was continued in 1945 by Red Mountain Chromite, Inc. on its property near Seldovia. No mining was done during the biennium by the Chrome Queen Mining Company which produced and sold to the Government 6,600 long tons of high-grade chromite during the war.

The Monarch Mine at the head of Crow Creek was reopened in 1946 under new ownership. Clay Products, Inc. produced near Anchorage several tons of clay and began the manufacture of building brick, which is the beginning of a new industry for the Territory.

Activity at the lode-gold mines of the Willow Creek district increased considerably during the biennium over the war period, but production remains far below the pre-war level due to scarcity of labor, uncertain supplies and high costs as compared to the price of gold. The Alaska-Pacific Consolidated Mining Company continued operations at the Independence Mine on a greatly reduced scale in 1945 until August, when labor difficulties closed the mine. Operations were resumed in May 1946 with a larger crew that was engaged in mine development, repairs and changes in the mill. The Gold Cord Mining Company conducted mining and milling operations on a reduced scale at the Gold Cord Mine on Fishhook Creek. Mining and milling were continued on a small scale at the Fern Mine of the Fern Gold Mining Company on Archangel Creek until the mill burned in 1946, after which the crew was engaged in constructing a new mill building and rebuilding the machinery. Gold Center Mining Corporation was conducting prospecting and development on the Brooklyn property, upper Willow Creek, with a small crew. The Lucky Shot Mine of the Willow Creek Mines, which was an important pre-war producer, remained idle during the biennium. The Mabel Mine was being rehabilitated and developed with a small crew by Palmer Mabelle Gold Mines, Inc. Snowbird Mining Company, Inc. was installing a tramway and constructing a camp at the Ole Jensen property on Reed Creek, tributary of Little Susitna River. McDougal and Company was carrying on some development work at the Gold Mint property on the Little Susitna River in 1946. A few prospectors were active in the Willow Creek district during the biennium.

Nabesna Mining Corporation resumed productive operations in May 1946 at the Whitham property on Nabesna River, after having been closed since 1941. The crew was developing a new ore body on the Golden Eagle Claim and the mill was being operated at reduced capacity. Reports have been received of a promising gold lode discovery near Chitina, on which considerable prospecting was accomplished in 1946. Some prospecting work was done at a copper prospect on Glacier Creek, tributary of Chitistone River, and at a gold lode prospect on Williams Peak near McCarthy.

In the Fairbanks district Cleary Hill Mines, Inc. continued productive operations during the biennium on a reduced scale at Cleary Creek. Bartholomae Oil Corporation did some surface trenching and repair work at the Ryan Lode on Ester Dome. O. M. Grant accomplished a small amount of preparatory work at his property on Happy Creek. John Hajdukovich used a bulldozer for trenching at the Borovich and Stevens property on Ester Dome. D. E. Turnbarge had a small crew sinking a winze and installing a hoist at his property on Emma Creek. Prospecting, development and maintenance work was accomplished at other lode properties in the Fairbanks district in the hope that conditions might improve to such an extent as to permit productive operations. Earl R. Pilgrim and Company did some work preparatory to reopening the Stampede antimony mine in the Kantishna district. Gold lodes of the Chandalar district, some of which are reported to be high grade, attracted renewed interest in 1946.

Productive operations were conducted by the Kuskokwim Mining Company during 1945 and part of 1946 at the Red Devil quicksilver mine on the Kuskokwim River near Sleitmut. Operations on a very small scale were under way by the Decoursey Mountain Mining Company at the Decoursey mercury mine near the head of Crooked Creek, tributary to the Kuskokwim River. Some development was also reported to have been accomplished by Frank Waskey and Associates on a cinnabar prospect at Marsh Mountain in the Wood River district.

The Nixon Fork Mine, situated on the Nixon Fork of the Kuskokwim River, and one of the smaller but steady pre-war producers of lode gold, was reported to have been sold in 1946 by Mespelt and Company. The mine and mill were rehabilitated by the new owners who hope to prepare the property for year-round operation. Discovery of a new vein carrying high values in gold was reported in this area. E. M. Whalen is reported to have been working alone at his property in the district.

The only productive lode gold mine on Seward Peninsula during the biennium was the Big Hurrah Mine on Solomon River, which was operated by C. O. Roberts. Some exploratory work was accomplished in 1945 by L. E. Ost on mica deposits at Pargon Mountain near Oregon Creek.

A copper lode was being prospected by two men on Salmon River, tributary of the lower Kobuk River. Arctic Circle Exploration Company continued development during the biennium of asbestos-jade occurrences near Shungnak on the Kobuk River. Shipments of asbestos and jade were made in 1945 and some jade was produced in 1946. Facilities for sawing jade were installed to eliminate much of the waste that was formerly shipped with material as mined.

Placer Mining

The placer mining industry was recovering more rapidly from the effects of the war than was the lode mining industry, although its recovery was disappointingly slow due to conditions previously discussed. The number of men employed at placer mines during the pre-war year of 1940 was about two and a half times the number employed in 1946, and production of gold in 1940 was nearly four times as great as in 1946. There were 253 active operations in 1945 at which about 903 men were employed, as compared to 203 operations employing 632 men in 1944. The number of men employed increased to 1,694 in 1946 and the number of operations increased to 323. Practically none of the mines was operated at full capacity during the biennium owing to scarcity of labor, inability to obtain equipment, supplies and repair parts, etc. A large amount of dead work was necessary in rehabilitating plants at mines that had been idle for several years before actual mining operations could get under way, thereby shortening the season of productive mining.

Owing to the large number involved, and brevity required in a report of this nature, it is impracticable for each placer operation to be discussed individually. A list of all mining operations that were in any way active during 1946, with some explanatory details, appears at the back of this report.

There were 13 active dredges in 1945 and 25 in 1946, as compared to 10 in 1944. All dredges were mining gold with the exception of that of the Goodnews Bay Mining Company which was producing platinum minerals. Active draglines increased from 9 in 1944 to 11 in 1945 and to 36 in 1946. The greatest increase in mechanized mining operations was in the number of bulldozer-hydraulic plants, which are included with other hydraulic methods in Table III and are not shown separately.

A combination of bulldozer and hydraulic methods in placer mining operations is gaining in favor throughout the placer districts of the Territory. Its advantages are low initial cost of equipment as compared to other types of mechanical equipment such as dredges or draglines, handling of large yardages with small crews, and the ability of the bulldozer equipped with rooter to cut deeper into bedrock than most other equipment. The usual method is to bulldoze the material to boxes and wash it through with hydraulic giants. Ditches affording sufficient pressure for the giants are used where available, and at other operations pumps are utilized to lift water to the giants. The caterpillar on which the bulldozer is mounted is also useful for transportation while not engaged in mining.

First Division:

There was no placer mining activity in southeastern Alaska during 1945, but in 1946 drilling crews were testing deposits on Salmon River near Hyder and on Shuck River at Windham Bay, and on the beach below the old Ready Bullion Mine on Douglas Island tailings were being bulldozed into boxes. Results of the drilling programs have not yet been announced.

Third Division:

Kenai Peninsula: Some prospecting for placer deposits was carried on in the Moose Pass district of Kenai Peninsula during 1945, and in 1946 mining was being conducted at one hydraulic plant.

Cache Creek: Productive operations in the Cache Creek district in 1945 included eleven hydraulic, three sniping and one shovel-in; and in 1946 there were one dragline, one hydraulic-bulldozer, eight hydraulic, six sniping and one ground sluice. Several prospectors were active in the district and some equipment was being moved in preparatory to future mining.

Lake Clark: A small operation employing bulldozer-hydraulic and ground sluice methods was active in the Lake Clark area during both years of the biennium.

Valdez Creek: In the Valdez Creek area two drift-mining operations were active both years of the biennium and a hydraulic plant operated in 1946.

Nelchina: One hydraulic plant operated in the Nelchina district during both years of the biennium.

Chistochina: One bulldozer-hydraulic, two hydraulic and two crews engaged in preparatory work were active in the Chistochina district in 1946 and in the Slana district there was one shovel-in operation.

McCarthy: In 1945 two hydraulic operations were active in the McCarthy district and in 1946 there were four hydraulic and one shovel-in operations in the district.

Chisana: In the Chisana district there was one hydraulic-bulldozer operation in 1946 and in both years of the biennium four hydraulic, one ground sluice and one drift were active.

Fourth Division:

Goodnews Bay: The Goodnews Bay Mining Company continued through the biennium to operate its dredge and dragline on placer platinum deposits on Salmon River in the Goodnews Bay district. The operations of this company have for several years resulted in Alaska being the leading producer of platinum minerals in the United States and ranking high among the producers of the world. The average price of platinum increased from $35 an ounce in 1945 to over $57 an ounce in 1946, which should increase the minable reserves and the value of the production of the company. A dragline-bulldozer plant was operated in 1946 on the placer gold deposits of Wattamus Creek,

and there was a small ground sluice in operation in the district during the biennium.

Aniak-Tuluksak: In the Aniak-Tuluksak district during 1945 two dredges, one dragline and one hydraulic plant were in operation. In 1946 mining in this district approached the pre-war level when two dredges, three draglines, two bulldozer and one hydraulic plant operated. A successful season was expected in 1946 by the management of the New York-Alaska Gold Dredging Corporation, as its two dredges on Bear Creek began operating at an early date.

McGrath-Takotna-Ophir: Scarcity of labor during both years of the biennium and a shortage of water in 1946 hampered operations in the McGrath, Takotna and Ophir districts. Active in the districts during 1945 were the Peterson & Isaacson dredge, three draglines, one bulldozer-hydraulic and one sniping operation. In 1946 the same dredge, ten draglines, one bulldozer-hydraulic and three hydraulic operations were active.

Flat: In the Flat district during 1945 the dredge of the North American Gold Dredging Company was in operation, another dredge was being repaired, and also in operation were two draglines, two bulldozer-hydraulic, two hydraulic and one sniping operation. During 1946 the Riley Investment Company dredge was again being repaired but could not be operated on account of removal by the Army of some essential equipment from the machine shop. In operation were the North American dredge, six draglines, one hydraulic-bulldozer and two hydraulic plants.

Ruby: In the Ruby district during 1945 one company was preparing ground for mining, one hydraulic plant was operating and one drilling program was under way. Operations in 1946 were hampered by scarcity of labor, high costs, acquisition of equipment by the Army during the war, and delayed transportation on the Yukon River. Operations during the year consisted of four hydraulic-bulldozer and one extensive drilling project.

Ft. Gibbon: There was very little mining activity in the Ft. Gibbon precinct during 1945 and consisted of one dragline operation and several prospectors in the field. Activity increased in 1946 to two draglines, one bulldozer-hydraulic, one hydraulic and two placer drilling projects.

Hot Springs: Operations in the Hot Springs district in 1945 included one bulldozer-hydraulic, one hydraulic, two stripping and two shovel-in, in addition to which several prospectors were active in the district. Actively engaged in 1946 were one dragline, three bulldozer-hydraulic, two bulldozers, one stripping, one drift and several prospectors.

Kantishna: In the Kantishna district one hydraulic-bulldozer and one shovel-in were operated in 1945 and in 1946 operations consisted of one dragline, one hydraulic-bulldozer and one shovel-in.

Nenana: Operations in the Nenana district in 1945 included four shovel-in and one hydraulic, and 1946 operations were one hydraulic-bulldozer, one hydraulic, five shovel-in and two sniping.

Fairbanks: Two dredges of the U. S. Smelting, Refining and Mining Company were operated for a short time in the Fairbanks district during 1945 and in addition the company carried on maintenance work on the dredges and ditches. Other operations in the district during 1945 included one dragline, one hydraulic-bulldozer, four hydraulic, two drilling, one stripping and three shovel-in. Four dredges were operated by U. S. S., R. & M. Company during 1946, one by Brinker-Johnson Company and one by the Nome Creek Dredging Company. Other active operations in the district during the year included three draglines, seven bulldozer-hydraulic, four bulldozer, one hydraulic, one drilling, two shovel-in and one sniping.

Fortymile: During 1945 there were operating in the Fortymile district four bulldozer-hydraulic, two hydraulic, three stripping, four shovel-in and one ground sluice. In spite of handicaps that confronted all mine operators in the Territory, the Fortymile district in 1946 showed one of the greatest increases in activity, as compared to pre-war years, of any district in the Territory. This increased activity was almost wholly due to improved transportation facilities resulting from the winter "cat" road that was constructed by the Territorial Highway Engineer in cooperation with the Alaska Road Commission during the winter of 1945-46 that connected the district with the Alaska Highway near Tok. Operations in 1946 included seven bulldozer-hydraulic, two bulldozer, two hydraulic, two drilling, one stripping, four sniping, one shovel-in and one ground sluice. A number of prospectors were also active in the district during the year.

Eagle: Active in the Eagle district during 1945 were three hydraulic, two shovel-in, two ground sluice and one sniping operation. There was some increase in activity in 1946 when the operations included one bulldozer, five hydraulic, three ground sluice, and several prospectors.

Circle: In the Circle district dredges of Alluvial Golds, Inc. and Gold Placers, Inc. operated both years of the biennium. The dredge of the C. J. Berry Dredging Company operated in the district during 1946. Other operations in 1945 included one bulldozer-hydraulic, four hydraulic, two shovel-in, one drill and one drift. Operations other than dredges in 1946 were one dragline, four bulldozer-hydraulic, one bulldozer-slackline scraper, two hydraulic, two drift, two shovel-in and a few prospectors.

Livengood: Livengood Placers, Inc. was engaged during the biennium in the Livengood district on stripping, completing the dam, and ditch maintenance, preparatory to dredging operations. In the district in 1945 one dragline, one bulldozer-hydraulic, three hydraulic and one stripping operation were active. Active operations in 1946

included two draglines, one bulldozer-hydraulic, three hydraulic and one stripping by bulldozer.

Rampart: During 1945 one bulldozer-hydraulic, five hydraulic and one drift comprised the active operations in the Rampart district. Operations in 1946 included one dragline, two bulldozer-hydraulic, one bulldozer stripping, two ground sluice and one drift.

Chandalar: One shovel-in, one drift mine and one or two prospectors were active in the Chandalar district during 1945. Operations increased in 1946 to two shovel-in, one drift and four prospectors.

Koyukuk: Active operations in the Koyukuk district in 1945 were one dragline, one hydraulic, one drilling, one drift, six ground sluice and about a dozen prospectors. Operations in the district in 1946 included one dragline, one bulldozer, one hydraulic, one drilling, one drift, four shovel-in, three ground sluice and about fifteen prospectors.

Second Division:

A gradual increase in mining activity in northwestern Alaska was evident in 1945 and in 1946 about half the pre-war operations were active. There were 10 active dredges on Seward Peninsula during 1946, some of which were operated only a month or so, and 21 dredges were idle, a few of which are beyond repair. High costs, and scarcity of labor, equipment and supplies, retarded recovery of the industry after the difficult war period, as was the case in other mining districts. The labor situation would have been a great deal more serious if it were not for the Eskimos who reside in the area, and who are efficient and reliable workmen, as there was very little other labor available.

Marshall: Mining activity in the Marshall district during 1945 consisted of one dragline, one shovel-in and three prospectors. Operations increased in 1946 to two draglines, one bulldozer-hydraulic, one drilling and one hydraulic.

Ungalik River: The only activity in the Ungalik River section was some prospecting in the vicinity of and maintenance on the Shaw & Cook dredge.

Haycock: Active operations in the Haycock area in 1945 consisted of one each bulldozer-hydraulic, hydraulic, shovel-in and ground sluice. In 1946 there were two bulldozer-hydraulic and two drift mines in operation.

Council: Council Dredging Company, Inc. operated its dredge in the Council district in 1945 and in 1946 the dredges of the Sourdough Dredging Company and Swanberg & Sons operated in the district. A bulldozer-hydraulic and a hydraulic plant were in operation in the district in 1945 and in 1946 there were two bulldozer-hydraulic and one drilling operation.

Nome: The four dredges of the U. S. Smelting, Refining and Mining Company in the vicinity of Nome, which prior to the war were

the principal gold producers on Seward Peninsula, were not operated during the biennium, although maintenance and other preparatory work was accomplished with a small crew. Lee Brothers dredge operated in the Nome district during 1945 and in 1946 dredges were operated by Alaska Development and Engineering Company, Casa de Paga Gold Company, Lee Brothers and Tolbert Scott. A dredge was being constructed on the Nome beach during the year by Johnson & Pohl, which company also did some thawing and other work preparatory to operation in 1947. Operations other than dredges that were active in the Nome district during 1945 included six bulldozer-hydraulic, one scraper, one bulldozer, five hydraulic, one drift, one shovel-in, two ground sluice and one sniping. Operating in 1946 in the district were twenty bulldozer-hydraulic, two hydraulic, three drilling, one ground sluice and two sniping.

Port Clarence: Operations in the Port Clarence district in 1945 included one bulldozer-hydraulic, one hydraulic-scraper, two drift and two shovel-in. Operating in the district during 1946 were four bulldozer-hydraulic, two drift and one ground sluice.

Fairhaven: Arctic Circle Exploration Company, Inc. operated one dredge in the Fairhaven district near Candle during 1945 and in 1946 its two dredges were operated. Dry Creek Dredging Company operated its dredge on the Inmachuk River both years of the biennium, and on the same river Forsgren Dredging Company started its dredge late in the summer of 1946. Other operations in the district in 1945 included one dragline, one bulldozer-hydraulic, four hydraulic, one drift and one shovel-in. Operations in 1946 were two draglines, four hydraulic-bulldozer, one hydraulic and one drilling.

Lower Kobuk River: Transportation difficulties hindered Lammers & Fitzpatrick Mining and Exploration Company, in spite of which the company constructed a dredge during 1946 and began operations about the middle of August on Klery Creek, tributary of Squirrel River, lower Kobuk River region. Also on Klery Creek a hydraulic and a shovel-in operation were active in 1945 and two hydraulic plants operated in 1946.

Shungnak: During 1945 there were five small-scale operations in the Shungnak area of the Kobuk River region that included hydraulic, shovel-in and ground sluice, and about the same number were operating the following year. Some placer jade was also mined in this area during both years of the biennium.

Coal Mining

Coal mining operations have proceeded during the past biennium on substantially the same scale in Alaska as during the preceding one. The anticipated drop in the demand for coal after hostilities in the war ceased did not materialize. On the contrary a greatly expanded program of construction at military bases and stations in the Territory

that was undertaken soon after "V-J" Day brought on increased requirements and so stimulated production that the output of coal during the year 1946, which amounted to 368,000 tons, established an all-time high annual record. During the war years the annual output of coal had increased from 174,000 tons in 1940 to 350,000 tons in 1944, a record high annual output up to that time.

Unexpected obstacles to the success of two coal mining projects that had been launched to meet the unusual war-time requirements of the Army caused production to drop during the calendar year 1945 to an output of 299,000 tons, or approximately 50,000 tons below the yield of the year 1944. The rapid recovery from this slump that took place during the year 1946 was achieved principally by expanded outcrop stripping operations with increased use of heavy mechanical equipment in the Healy River section of the Nenana subbituminous coal field, which lies south of Fairbanks, and by enlarged power-producing facilities and substantially improved working conditions at the Jonesville Mine of the Evan Jones Coal Company. This mine is in the Matanuska bituminous coal field near Anchorage.

The amount of subbituminous coal produced by surface stripping of outcrops increased from 23,000 tons in 1945 to 86,000 tons in 1946. The average output by this method during the biennium 1943-44 was 22,000 tons. As a result of the increased stripping operations, and the steady production of the Healy River Coal Corporation in the same field, the output of subbituminous coal in 1946 exceeded that of bituminous coal by about 37,000 tons.

Production of bituminous coal in the Matanuska field experienced only a slight decline during the past biennium in spite of the closing down during that period of both the Eska Mine, which for many years had been the principal source of supply of coal for the Alaska Railroad, and the Buffalo Mine of the Buffalo Coal Company, which during the preceding biennium had produced a substantial tonnage. The loss of output thus occasioned was practically retrieved during the biennium by installation of expanded and improved facilities, particularly power equipment, and by greater efficiency of the supervisory staff and improved performance by the mining crew that took place at the Jonesville Mine of the Evan Jones Coal Company.

The total value of all coal produced in the Territory during the past biennium amounted to approximately $4,273,000 which represents an average over-all value per ton at the mine of $6.21. These over-all values differ only to a minor degree from similar ones for the preceding biennium when the total value of output amounted to $4,116,000 and the over-all per-ton value was $6.29. The average price paid at the mine for bituminous coal in the Matanuska field increased from $7.31 per ton in 1945 to $8.08 per ton in 1946. Corresponding figures for the preceding biennium were: $7.19 per ton in 1943 and $7.34 per ton in 1944. In the Nenana subbituminous field coal delivered on railway cars at the shipping point brought an average price of $4.94 per ton in 1945 and in 1946 that price was $5.12.

Employment at coal mines has fluctuated to a relatively minor extent only during the past four years, as reference to tables that appear elsewhere herein will reveal. The average number of men so employed during the past biennium was 317 which compares with an average of 353 for the preceding biennial period. During 1946 an average of 334 men were employed. The average output of coal per man-shift underground in the Matanuska field during the 4-year period from 1943 to 1946, inclusive, was 5.70 tons. In the Nenana field the corresponding output was 6.31 tons.

Increased interest in small coal-mining enterprises elsewhere than in the two principal producing fields above discussed was noted during the past year. In the Cook Inlet field near Homer a new coal mining camp was constructed and underground development work was commenced by the Homer Coal Corporation. These operations are at the same location and on the same coal seams mined many years ago by the firm of McNally and Maitland. The coal is of subbituminous grade.

Benefits derived by the Eskimo natives of the Pt. Barrow region from the operation of the small coal mine that has been opened by the Alaska Native Service on Meade River, about 70 miles south of the village of Barrow, have stimulated interest in establishing similar small-scale coal-mining ventures at other native villages along the Arctic Coast. Near several of the villages minable seams of good coal are known to exist. The serious fuel supply problem that confronted the inhabitants of the Pt. Barrow area when oil residues at Smith Bay that were formerly depended upon became practically exhausted has been successfully solved by the developmenet and operation of the Meade River property. This small mine furnishes a dependable supply of bituminous coal of good grade at not more than half the price of the coal that formerly was shipped to Barrow from Seattle by steamer.

The Arctic lowland of northern Alaska extending from Cape Lisburne almost to the east boundary of the Territory is known to be extensively underlain by relatively flat-lying coal-bearing formations. This region is regarded as potentially a vast source of coal supply which rail transportation might make readily available to interior Alaska. The grade of the coal ranges from subbituminous to high grade bituminous.

Oil Drilling

Since the withdrawal from entry of all oil lands in Alaska, which became effective in January 1943 as a war-time measure, drilling operations by private persons has been forbidden. Recently, however, these restrictions have been removed in all areas excepting Naval

Petroleum Reserve No. 4, which embraces most of the Arctic slope north of the Brooks Range that lies west of the valley of the Colville River. Drilling under private auspices is therefore again allowable in all other regions and is being encouraged by the liberalized regulations recently promulgated by the Secretary of the Interior.

The only drilling operations conducted in the Territory recently are those that have been carried on by the U. S. Navy at what is designated the Umiat Seep, which is located in the southeasterly section of Naval Reserve No. 4. This drilling is in the nature of exploratory work and is the initial part of a program of drilling which is to extend over a period of several years and which will embrace extensive areas both within and adjacent to the reserved area, according to official announcements that have appeared in the press.

The test hole at Umiat Mountain had reached a depth of approximately 2,000 feet when winter conditions caused temporary suspension of operations in September 1945. Progress that has been made since that time and results of the work have not been announced.

NEEDS AND RECOMMENDATIONS

Probably no other industry of the United States was more seriously affected by the war than was gold mining. As the value of gold produced in Alaska prior to the war was second only to fishery products, it is only natural that the seriousness of the situation should be reflected in the economics of the Territory. Many theories have been advanced for the relief of gold miners, but little improvement in the situation has resulted. Among other suggestions was an increase in the price of gold to offset the increased costs of operation. Other suggestions included favorable tax revision such as larger allowances for depreciation and depletion, and the right to export and sell gold in the open markets of the world where the price is much higher than in the United States. At any rate every consideration should be given to assisting this great industry, which played such an important role in the early settlement of the Territory and continues to maintain such an important place in the economy, to survive this most trying period in its history. Improved transportation facilities and more equitable competition for available labor supply, with resultant lowered costs of operation, would be of some assistance in relieving the situation.

The greatest immediate need of the mining industry, as well as other industries of the Territory, is improvement of transportation facilities along the coast. Transportation difficulties were to be expected during the war, but they have increased since its close. The mining industry is dependent for all its equipment and most of its supplies on the continental United States. Without dependable water transportation at reasonable rates, the industry cannot resume its important place in the economy of Alaska.

The importance of improved inland transportation was amply demonstrated by the increased mining activity in the Fortymile district as a result of the winter road that was constructed into the area at a cost of only a few thousand dollars. A survey has now been made and construction begun on a road leading from the Alaska Highway along the same route that is designed to reach Eagle by way of the Fortymile district. Lowered transportation costs resulting from the construction of this road should increase minable reserves of minerals and lead to considerable increase in production from these two old districts. Another route has been surveyed for a road connecting the Richardson Highway with McKinley Park that will upon completion lower transportation costs to the Valdez Creek district and open for prospecting favorable mineralized areas that heretofore have been difficult of access. Similar improvements in transportation facilities for other old producing districts such as the Koyukuk and Chandalar would also undoubtedly be a profitable investment of public funds. The Civil Aeronautics Authority is engaged in a study of transportation needs in various sections of the Territory, with special consideration being given to isolated regions that are known to be mineral-bearing. Construction of landing fields in such areas would be a great boon to prospectors in enabling them to further explore some of our little-known regions and possibly lead to important new discoveries.

Although there was a slight increase in the number of prospectors engaged in the search for mineral deposits the last year of the biennium over the number who were active during the war years, Alaska needs many more of them in the field. Every possible effort should be made to encourage prospecting for new mineral deposits as well as the development of known occurrences that are now dormant.

Development of mineral deposits in Alaska should be made more attractive to venture capital. Some form of federal and territorial tax exemption during the period of equipping and developing a property to the productive stage might offer a partial solution.

There is an opportunity for the discovery of new and development of known deposits of the base-metal group such as copper, lead and zinc, of which there is at present a national shortage, and the prices for which are now increasing. It has long been realized that the mining industry of the Territory should be on a more diversified basis, and not so wholly dependent, as heretofore, on the production of gold. Prospecting for and development of certain non-metallic minerals for use in local industries and for export become more attractive as interest in the development of the Territory as a whole increases.

Government regulations prohibit location and holding under the mining laws deposits containing uranium and other fissionable minerals. If such minerals are desired for research and utilization in developing atomic energy, prospectors should be encouraged to search

for them instead of being discouraged. The search might be encouraged through offering a cash payment for the discovery of a commercial deposit, if title is to remain with the government.

Regulations setting aside the Naval Petroleum Reserve on the Arctic slope prohibit the acquisition of mining claims in the reserve. This regulation seems not to the best interests of the Territory and should be amended to permit prospecting and location of mining claims under the mining laws. Provisions for location of claims and mining, similar to those in effect within Glacier Bay National Monument and Mt. McKinley National Park, might be adaptable. Meager information available on the Brooks Range indicates the possible presence of valuable mineral occurrences. Prospectors willing to explore this little-known region should be entitled to locate and hold any valuable mineral deposits discovered. Prospecting and mining in the mountainous section would in no way interfere with the exploratory program of the Navy Department, which is being conducted in the flatter and foothill sections of the region.

The proclamation issued by the President the latter part of December 1946, declaring a cessation of hostilities in the recent war, removes, beginning July 1, 1947, exemption from the annual assessment requirements on mining claims held by location that has been in effect during the war period. While the necessity for doing $100 worth of work on or for the benefit of each claim held by location may work a hardship in a few instances, it is believed that on the whole the best interests of the Territory and the growth of the mining industry will be served by the resumption and enforcement of such requirements. The evident intent of the assessment requirement is to promote development of mineral deposits. Large groups of claims have been held for speculative purposes in various sections of Alaska for long periods without the performance of development work whatsoever. Resumption and enforcement of the annual assessment requirements will force the holders of such groups of claims to perform development work or vacate the property to others who might be able to develop the minerals contained therein.

Little first-aid or mine-rescue training has been conducted for several years at the mines of Alaska, most of which were either closed or operated on a very reduced scale. It is important that this training be resumed at such time as operations are more normal and crews are employed on a more permanent basis. Many of the men who compose the crews at the mines after the long period of inactivity will have had no previous training in safety practices, which condition will create a hazard, not only to themselves, but to their associates. Immediately needed is the training of mine rescue teams at the operating coal mines that would be available in case of disaster. The staff of the Safety Division of the Bureau of Mines in Alaska is at present inadequate and should be enlarged as conditions warrant. Inspections and enforcement of compliance with safety regulations by

engineers of the Department of Mines will also be necessary to kee accidents at a minimum, as normal operations at the mines are r sumed.

PRODUCTION

Mineral production of Alaska in 1944, 1945, and estimates f 1946, as compiled by the U. S. Bureau of Mines, is displayed in tl following Table 1. The value of all minerals produced in 1944 reache its lowest level since 1899 when the value was reported by the U. Geological Survey to have been $5,425,262. Value of gold produce in 1944 reached the lowest point since 1894, in which year the Ge logical Survey estimates the production to have been valued at $ 320,000. The tonnage and value of coal produced in 1946 exceede that of any previous year in the history of Alaska. The prelimina statement of the Bureau of Mines on the mineral production of Alasl for 1946 estimates the total production of sand, gravel and crushe stone at less than 100,000 tons. Information obtained locally indicat that actual production was well over 700,000 tons. At such time final statistics for the year are compiled, it will therefore be necessa to revise upward the valuation of miscellaneous minerals to cov this error in the preliminary estimate. Substantial shipments of le concentrates from the Hyder district are known to have been mad during the year.

TABLE I

Mineral Production of Alaska, 1944-1946

Product	1944		1945		1946 (estimate)	
	Quantity	Value	Quantity	Value	Quantity	Value
Antimony ore (concentrates) short tons	73	$6,465	.....	.....	.....	.....
Arsenic ..... do.	(1)	(1)	(1)	(1)	(1)	(1)
Asbestos ..... do.	(2)	(2)	.....	.....	(2)	(2)
Chromite ..... do.	1,845	64,456	.....	.....	.....	.....
Coal ..... do.	348,375	2,239,684	300,000	$1,905,000	370,000	$2,324,000
Copper ..... pounds	4,000	540	10,000	1,350	.....	.....
Gems and precious stones	.....	.....	.....	(3)	.....	(3)
Gold ..... troy ounces	49,296	1,725,360	68,117	2,384,095	192,527	6,738,445
Lead ..... short tons	44	7,040	11	1,892	.....	.....
Mercury ..... flasks (76 pounds)	(2)	(2)	(2)	(2)	(2)	(2)
Ores (crude) etc.:						
Copper ..... short tons	.....	.....	6	(4)	(1)	(4)
Dry and siliceous (gold & silver) do.....	381,574	(4)	6,506	(4)	(1)	(4)
Platinum metals (crude) ..... troy ounces	33,616	(2)	26,505	(2)	(2)	(2)
Sand and gravel ..... short tons	712,496	499,269	(2)	(2)	(2)	(2)
Silver ..... troy ounces	13,362	9,502	9,983	7,099	29,058	23,479
Stone ..... short tons	(2)	(2)	(2)	(2)	(2)	(2)
Tin (metallic equivalent) ..... do.	.....	.....	.....	.....	.....	.....
Tungsten ore (60% conc.) ..... do.	19	(2)	.....	.....	(1)	(1)
Miscellaneous 5/	.....	2,350,309	.....	5,910,704	.....	2,022,250
Total value, eliminating duplications	.....	6,903,000	.....	10,210,000	.....	11,108,000

1/ Figures not available.
2/ Value included under "Miscellaneous."
3/ No canvass.
4/ Not valued as ore; value of recoverable metal content included under the metals.
5/ Includes minerals indicated by "2/" above.

Note: Above statistics prepared by Economics and Statistics Branch, U. S. Bureau of Mines.

METAL PRICES

The following table, published on January 2, 1947 by E. & M. J. Metal and Mineral Markets, indicates the upward trend in prices for some of the more common metals. Quotations on January 8, 1947 were: **Copper**, domestic refinery—19.225¢ lb., export refinery—19.8¢ lb.; **Tin**, New York—70¢ lb.; **Lead**, New York—13¢ lb., St. Louis—12.8¢ lb.; **Zinc**, East St. Louis—10.5¢ lb.; **Silver**, New York—82¢ oz.; **Platinum**, wholesale, $53 oz., sales to consumers—$56 oz.

TABLE II

Yearly Average Prices—1945-1946
(E. & M. J. Averages)

	1945	1946
Copper, domestic, f.o.b. refinery, lb	$ 11.755	$ 13.820
Copper, export, f.o.b. refinery, lb.	11.700	14.791
Lead, common, New York, lb.	6.500	8.109
Lead, common, St. Louis, lb.	6.350	7.957
Zinc, Prime Western, St. Louis, lb.	8.250	8.726
Tin, Straits, New York, lb.	52.000	54.544
Silver, foreign, New York, oz.	51.928	80.151
Quicksilver (per flask 76-lb.)	$134.889	$98.241
Antimony, domestic, New York, lb.	15.839	17.306
Platinum, refined, oz.	$ 35.000	$57.199
Cadmium (producers' quotation), lb.	90.000	109.022
Aluminum, 99 plus percent, ingot, lb. ..	15.000	20.500
Magnesium, ingot, lb.	20.500	

E. & M. J. Weighted Index of Non-Ferrous Metal Prices
100 is composite for 1922-2-4. (Copper, Lead, Zinc, Tin, Silver, Nickel, Aluminum)

	1945	1946
January	88.74	96.42
February	88.74	96.42
March	88.74	96.42
April	88.74	96.42
May	88.74	96.42
June	88.74	107.16
July	88.74	117.11
August	88.74	113.32
September	91.16	113.32
October	96.40	114.25
November	96.42	131.23
December	96.42	142.19
Average	90.86	110.06

EMPLOYMENT AND ACCIDENTS AT MINES

The following Table III reveals the trend of employment in the mining industry from 1914, the first year for which records are available, through 1946. Acidents and employment at the various type

of mines are shown for each year of the biennium in Table IV. The number of man-shifts, number of accidents and time lost as a result at mines of various types in Alaska, during each year for which records are available, are indicated in Table V.

TABLE III

Employment at Mines, 1914 to 1946, Inclusive

Year	Number of Men Employed at: Placers	Lode Mines and Milling Plants	Coal and Other Mines	Totals
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
1939	3,928	1,986	229	6,143
1940	4,240	1,974	149	6,363
1941	3,965	1,805	218	5,988
1942	2,175	1,065	249	3,489
1943	556	581	312	1,449
1944	658	489	393	1,540
1945	903	238	309	1,450
1946	1,694	446	334	2,474

TABLE IV

Summary of Accidents and Employment at Mines in Alaska 1945-1946

Number of Mines	Group	Number of Men Employed	Number Shifts Worked	Results of Accidents: Fatal	Serious	Slight	Total Time Lost (Days)
	(1945)						
	PLACER MINES:						
13	Dredges	365	71,750	0	0	3	8
11	Draglines	70	11,200	0	0	2	14
93	Hydraulic	243	28,560	0	0	0	0
136*	Others	225	33,750	0	0	0	0
253		903	145,260	0	0	5	22
7	**COAL MINES:**						
	Underground	208	55,404	2	29	25	1,204
	Surface	101	29,119	1	5	5	213
		309	84,523	3	34	30	1,417
	LODE MINES:						
51*	Metal	221	49,764	0	0	2	10
	MILLS:						
12	Metal	17	2,460	0	0	0	0
323	Totals	1,450	282,007	3	34	37	1,449
	(1946)						
	PLACER MINES:						
25	Dredges	716	154,109	0	7	35	485
36	Draglines	274	47,030	0	0	1	6
147	Hydraulic	453	58,890	0	1	0	30
115*	Others	251	37,500	0	0	0	0
323		1,694	297,529	0	8	36	521
8	COAL MINES:						
	Underground	218	53,132	1	25	37	816
	Surface	116	29,171	0	4	9	136
		334	82,303	1	29	46	952
	LODE MINES:						
75*	Metal	344	86,700	1	5	7	131
2	Non-metal	68	21,960	0	0	0	0
77		412	108,660	1	5	7	131
	MILLS:						
15	Metal	34	8,010	0	0	0	0
423	Totals	2,474	496,502	2	42	89	1,604

*Includes prospecting and small intermittent operations.

TABLE V

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

Year	Man-Shifts Worked at Placer Mines	Man-Shifts Worked at Lode Mines and Mills	Man-Shifts Worked at Coal Mines	Fatalities Placer Mines	Fatalities Lode Mines and Mills	Fatalities Coal Mines	Non-Fatal Accidents Placer Mines	Non-Fatal Accidents Lode Mines and Mills	Non-Fatal Accidents Coal Mines	Time Lost (Days) Placer Mines	Time Lost (Days) Lode Mines and Mills	Time Lost (Days) 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
1939	683,624	548,121	26,643	1	3	0	158	302	15	2,263	4,247	488
1940	718,153	552,579	34,450	4	4	0	162	313	29	1,999	4,260	721
1941	657,142	517,347	54,779	1	1	0	151	325	38	1,978	5,069	630
1942	358,185	300,785	68,593	2	2	2	72	149	41	1,129	3,002	746
1943	82,780	155,370	84,694	0	3	1	1	82	37	54	1,338	635
1944	98,117	81,246	101,609	0	1	0	0	18	89	0	386	2,057
1945	145,260	52,224	84,523	0	0	3	5	2	64	22	10	1,417
1946	297,529	116,670	82,303	0	1	1	44	12	75	521	131	952

Fatalities

Year 1945:

During 1945 there were three fatalities that resulted from acci
dents at mines in Alaska, all of which occurred at the mine of the
Evan Jones Coal Company. The causes of the fatalities were as fol
lows:

1. Fell or was drawn onto discharge end of coal conveyor bel
at the tipple, thence into discharge hopper, through coal feeder and
onto shaker screen.
2. Slipped and fell into coal chute.
3. Crushed by fall of coal from the roof.

Year 1946:

During 1946 there were two fatalities that resulted from acci
dents at mines in Alaska, one of which was at a gold lode mine and
the other at a coal mine. The causes of the fatalities and the prop
erties at which they occurred are as follows:

1. Electrocuted while trouble-shooting on Annex Creek powe
line in Sheep Creek Basin for Alaska Juneau Gold Mining Company.
2. Fell down chute at the mine of the Evan Jones Coal Com
pany.

Name and Address of Operator	Name and Location of Mine	Precinct	Type of Operation	Approx. Crew
Adamik, Martin, Circle	Boulder Cr., trib. Coal Cr.	Circle	Hydraulic	1
Adams & Brill, Hollis	Hope Mine, Prince of Wales I.	Ketchikan	Gold lode and mill	4
Adney, Wayne, Chandalar	Chandalar region	Chandalar	Gold lode prospect	1
Ahoe, John & Hermanson, Matt, Fairbanks	Sourdough Cr.	Fairbanks	Hydraulic-bulldozer	1
Alaska Development & Engineering Co., Nome	N. Fork Kougarok R.	C. Nome	Gold dredge	10
Alaska Empire Gold Mining Co., Juneau	Chas. Williams, Hawk Inlet, Admiralty I.	Juneau	Gold lode and mill	5
Alaska Exploration & Mining Co., Talkeetna	Bird Cr.	Talkeetna	Hydraulic	3
Alaska Gold & Metals Co., Ketchikan	Salt Chuck Mine, Kasaan Bay	Ketchikan	Palladium-copper lode	8
Alaska Juneau Gold Mining Co., Juneau	Alaska Juneau, Juneau	Juneau	Gold lode and mill (maintenance only)	40
Alaska Lucky Strike, Inc., Cordova	McKinley Lake, Cordova	Cordova	Gold lode and mill	3
Alaska-Pacific Consolidated Mining Co., Wasilla	Fishhook Cr., Willow Cr. Dist.	Wasilla	Gold lode and mill	40
Alaskan Mining Co., Fairbanks	St. Paul Mine, Ester Dome	Fairbanks	Gold lode and mill	1
ALCOA Mining Co., 7 W. 10th St., Wilmington, Del.	Edna Bay, Kosciusko I.	Ketchikan	Limestone quarry	60
Alder Creek Mining Co., Meehan	Alder Cr., trib. Fairbanks Cr.	Fairbanks	Dragline	3
Alluvial Golds, Inc., Fairbanks	Woodchopper Cr.	Circle	Gold dredge	25
Amero, A. W., Chandalar	Big Cr.	Chandalar	Sniping	1
Anaconda Copper Co., 25 Broadway, New York, N. Y.	Lake Bay, Prince of Wales I.	Ketchikan	Copper lode development	2
Anderson, Ellis, Chandalar	Tobin Cr.	Chandalar	Shovel-in	1
Anderson, Geo., Talkeetna	Nugget & Thunder Creeks	Talkeetna	Sniping	2
Anderson, John A., Miller House	Mastodon Cr.	Circle	Hydraulic	1
Anderson, Peter, Ferry	Totatlanika R. below Dan Cr.	Nenana	Hydraulic	1
Anderson, Wilcox & Wolf, College	Big Squaw region	Chandalar	Gold lode prospect	3
Anderton, Lou, Chisana	Bonanza Cr.	Chitina	Hydraulic	1
Arctic Circle Exploration, Inc., 2701 Smith Tower, Seattle, 4, Wash.	Candle Cr. and Kiwalik R.	Fairhaven	2 gold dredges-dragline-hydraulic	106
Arctic Circle Exploration, Inc.	Dahl Cr., trib. Kobuk R.	Noatak-Kobuk	Asbestos-jade development	10
Atkinson, Scotty, Hot Springs	Trail Cr.	Hot Spgs.	Hydraulic	1
Atwood, Merton, Chicken	Stonehouse Cr.	Fortymile	Hydraulic-bulldozer	1
Augustine, Flat	Julian Cr., trib. Crooked Cr.	Kuskokwim	Hydraulic-bulldozer	3
Awe Mining Co., Flat	Chicken Cr.	Otter	Dragline-bulldozer-hydraulic	13
Balabanoff, N. R., Talkeetna	Nugget Cr.	Talkeetna	Hydraulic	2
Baranof Exploration & Development Co., Inc., New York	Alaska Handy, Klag Bay, Chichagof I.	Sitka	Gold lode development	8
Bartholomae Oil Corp., Fairbanks	Ryan Lode, Ester Dome	Fairbanks	Gold lode (repairs)	2
Bauer, Richard, Eagle	Crooked Cr.	Eagle	Hydraulic	2
Bear Creek Mining Co., Anchorage	Bear Cr.	Mt. Gibbon	Hydraulic-bulldozer	6
Belanger & Cameron, Nelchina	Albert Cr., Nelchina Dist.	Chitina	Hydraulic	4
Bellows, E., Nome	Boulder Cr., Noxapaga Dist.	C. Nome	Bulldozer-hydraulic	4
Belsh & Coplin, Haycock	Bear Cr.	Fairhaven	Placer drilling	2
Berg, L. C., Sitka	Berg property, Berg Bay near Wrangell	Wrangell	Lead-zinc lode development	8
Berry Dredging Co., C. J., 111 Sutter St., San Francisco., Calif.	Mammoth Cr.	Circle	Gold dredge	14
Birch Creek Mining Co., Fairbanks	Near Circle	Circle	Placer drift	5
Bjornsgard, Durand, Campbell & Renfrew, Talkeetna	Mills Cr. and Lower Twin Cr.	Talkeetna	Hydraulic-bulldozer-dragline	8
Bleeker, F. C., Fairbanks	First Chance Cr.	Fairbanks	Hydraulic-bulldozer	3
Blondeau & Hamilton, Central	Harrison Cr.	Circle	Hydraulic-bulldozer	4
Blue Jay Mine, Ketchikan	Libe property, Helm Bay	Ketchikan	Gold lode development	3
Bodis, George, Nome	Dick Cr.	C. Nome	Bulldozer-hydraulic	4
Boggen, Barney, Teller	Sunset Cr.	C. Nome	Bulldozer-hydraulic	2
Bonanza Mining Co., Chisana	Bonanza Cr.	Chitina	Hydraulic	2
Botts, Terrill & Bondell, Bettles	Jim Pup Cr.	Koyukuk	Hydraulic	4
Bouquier, Hatten & Turner, Flat	Willow Cr.	Otter	Dragline-hydraulic-bulldozer	7
Bowman, Harry, Iliamna	Portage Cr.	Iliamna	Hydraulic-bulldozer	2
Bowman, R. A., Coal Creek	Colorado Cr., trib. Coal Cr.	Circle	Placer drift	1
Bradley, C. A., Talkeetna	Upper Cache Cr.	Talkeetna	Hydraulic	2
Brady, Tom, Wiseman	Emma Cr.	Koyukuk	Shovel-in	1
Brathovid, J. E., Eagle	Alder Cr., trib. Seventymile R.	Eagle	Hydraulic	1
Brink, John, Nyac	Bear Cr.	Bethel	Hydraulic	1

Brinker-Johnson Mining Co., 215 N. Carson St., Carson City, Nev.	Caribou Cr., Salcha R. Dist.	Fairbanks	Gold dredge	16
Bristol Bay Mining Co., 405 Montgomery St., San Francisco, Calif.	Upper Wattamus Cr.	Goodnews Bay	Dragline-hydraulic-bulldozer	8
Bronniche, Fred, Slana	Procupine Cr., trib. Slana Cr.	Chitina	Shovel-in	1
Brooks, J. M., Chicken	Chicken Cr.	Fortymile	Sniping	1
Bullock & O'Leary, Nome	Boulder Cr., mouth Twin Mt. Cr.	C. Nome	Bulldozer-hydraulic	3
Burke, Jerry, Fairbanks	Upper Fish Cr.	Fairbanks	Sniping	1
Burnette, D. & Co., Fairbanks	Crooked Cr., trib. Toklat R.	Fairbanks	Hydraulic-bulldozer	3
Buroker & Pallage, Cantwell	Valdez Cr.	Talkeetna	Placer drift	8
Busia, John, Fairbanks	Moose Cr., Kantishna Dist.	Fairbanks	Shovel-in	1
Cache Creek Mining Co., Anchorage	Nugget Cr., Cache Cr. Dist.	Talkeetna	Hydraulic-bulldozer	8
Campbell, Frank, Fairbanks	Buckeye Cr., trib. Banner Cr.	Fairbanks	Shovel-in	1
Camp Creek Mining Co., Nulato	Camp Cr., Kaiyuh Hills	Nulato	Hydraulic-bulldozer	5
Caribou Mines, 91 Columbia St., Seattle, Wash.	Caribou Cr., Kantishna Dist.	Fairbanks	Dragline-bulldozer-washing plant	14
Carroll, James, Nome	Kougarok R.	C. Nome	Sniping	1
Casa de Paga Gold Co., 1106 Hoge Bldg., Seattle, Wash.	Pajara Cr.	C. Nome	Gold dredge	9
Chandalar Mining Co., Chandalar	Little Squaw Cr.	Chandalar	Hydraulic	3
Chappelle, Oliver, Wiseman	Quartz Pup, trib. Nolan Cr.	Koyukuk	Shovel-in	1
Chititu Mines, McCarthy	Rex and Chititu Creeks	McCarthy	Hydraulic	5
Chugach Mining Co., Hope	Palmer Cr.	Seward	Hydraulic	4
Clay Products Co., Inc., Anchorage	S. Anchorage	Anchorage	Brick plant	2
Cleary Hill Mines, Inc., Fairbanks	Cleary Cr.	Fairbanks	Gold lode and mill	20
Cleary Hill Mines, Inc.	Sullivan Cr. and Tofty Gulch	Hot Spgs.	Dragline-hydraulic-washing plant	10
Cobol Mine, Cobol via Juneau	Cox-Bolyan property, Slocum Arm, Chichagof I.	Sitka	Gold lode development	7
Coffin, W. H., Deering	Kugruk R.	Fairhaven	Hydraulic	1
Cole, Dan, Nenana	Grubstake Cr.	Nenana	Hydraulic-bulldozer	2
Conroy, W., Anchorage	Webfoot prospect, Archangel Cr.	Wasilla	Gold lode development	1
Coplin & Hamm, Haycock	Dime Cr.	Koyuk	Placer drift	2
Cripple Creek Mining Co., Anchorage	Cripple Cr. near Folger	Innoko	Dragline-washing plant	15
Dahl, Ben & Jakowich, Milo, Rampart	Hunter Cr.	Rampart	Hydraulic-bulldozer	4
Dahl Creek Mining Co., San Francisco	Dahl Cr.	C. Nome	Bulldozer-hydraulic	2
Dahl, Robert, Talkeetna	Nugget Cr.	Talkeetna	Sniping	1
Dan Creek Mining Co., McCarthy	Dan Cr.	McCarthy	Hydraulic	4

Danich, Joe, Anchorage	Jewel & Monarch mines, Girdwood	Anchorage	Gold lode and mill	4
Davis, Joe, Chisana	Little Bonanza Cr.	Chitina	Hydraulic	1
Deadwood Mining Co., Circle Hot Springs	Deadwood Cr.	Circle	Dragline-bulldozer	4
Decoursey Mt. Mining Co., Flat	Crooked Cr.	Kuskokwim	Mercury lode	1
Degnan, Joe, Takotna	Bonanza group, Little Cr.	Innoko	Dragline-bulldozer hydraulic	3
Deibold, Val, Ferry	Upper Eva Cr.	Nenana	Sniping	1
Dempsey, C. L., 2137 N. 112, Seattle Wash.	Willow Cr.	C. Nome	Bulldozer-hydraulic	3
Devault & Seitz, Eagle	Seventymile R. above falls	Eagle	Hydraulic	2
Diamond Coal Co., Fairbanks	Norris-Parris permit, Healy R.	Nenana	Strip coal mine	9
Dinan & Dexels, Rampart	Hunter Cr.	Rampart	Placer drift and ground sluice	2
Dittman, David, Fairbanks	Dome Cr.	Fairbanks	Bulldozer	1
Dobson, H., Nome	American R.	C. Nome	Ground Sluice	1
Dodson, Norris & Amundson, Fairbanks	Clear Cr.	Ft. Gibbon	Placer drill prospecting	3
Douglas, J., Marshall	Upper Willow Cr.	Wade-Hampton	Shovel-in	1
Drews, Max, Eagle	Discovery Fork	Eagle	Ground sluice	1
Dry Creek Dredging Co., 141 Milk St., Boston, Mass.	Inmachuk R.	Fairhaven	Gold dredge	9
Dunkle, W. E., Colorado	Costello Cr., Broad Pass Dist.	Talkeetna	Coal mine development	1
Eckstrom, H., Chicken	Atwater Bay	Fortymile	Sniping	1
Eisenmenger, Wm., Fairbanks	Tibbs Cr., trib. Goodpaster R.	Fairbanks	Gold lode prospect	1
Elmer, J. M., Valdez	Slate Cr.	Chitina	Hydraulic (preparatory work only)	8
Englebritzen, Wm., Fairbanks	Pedro Cr.	Fairbanks	Shovel-in	1
Engstrom, Herbert, Nome	Basin Cr., trib. Nome R.	C. Nome	Bulldozer-hydraulic	4
Enstrom, Oscar, Fairbanks	American Cr.	Hot Spgs.	Hydraulic-bulldozer	3
Erickson, Fred, McCarthy	Rex Cr.	McCarthy	Shovel-in	1
Erickson, Helvor, Talkeetna	Cache Cr.	Talkeetna	Hydraulic	1
Evan Jones Coal Co., Anchorage	Jonesville, Matanuska field	Palmer	Bituminous coal mine & washery	110
Fairfield, Wallace, Cantwell	Valdez Cr.	Talkeetna	Placer drift	4
Fairweather Mining Co., Juneau	Ibach property, Reid Inlet, Glacier Bay	Juneau	Gold lode development	4
Faith Creek Mining Co., Fairbanks	Deep Cr., trib. Faith Cr.	Fairbanks	Hydraulic-bulldozer	4
Falls, Bentley, Livengood	Wilbur Cr., trib. Tolovana R.	Tolovana	Hydraulic-bulldozer	3

Falls Creek Mining Co., Seward	States property, Falls Cr., Kenai Pen.	Seward	Gold lode and mill	6
Falls Creek Venture, Talkeetna	Upper Falls Cr.	Talkeetna	Ground sluice	5
Fern Gold Leasing Co., Anchorage	Fern Mine, Archangel Cr.	Wasilla	Gold lode (mill burned)	7
Fidjiland Bros., Teller	Gold Run Cr.	C. Nome	Placer drift	2
Fish Creek Mining Co., Fairbanks	Upper Fish Cr.	Fairbanks	Hydraulic-bulldozer	7
Fisher & Fisher, Fairbanks	Grant Cr.	Ft. Gibbon	Dragline-hydraulic-bulldozer	3
Forsgren Dredging Co., Alderwood Manor, Wash.	Inmachuk R.	Fairhaven	Gold dredge	11
Frasca, John & Gibbson, Chas., Miller House	Eagle Cr.	Circle	Hydraulic-bulldozer	3
French, W. H., Candle	Candle Cr.	Fairhaven	Bulldozer-hydraulic	4
Fritsch, Wm., Eagle	American Cr.	Eagle	Hydraulic	1
Gagnon, Paul, Anchorage	Jenkins Estate, Willow & Cottonwood creeks	Talkeetna	Placer prospecting	5
Garrison Co., Bethel	Marsh property, Granite Cr.	Bethel	Dragline-hydraulic-bulldozer	3
Glacier Creek Mining Co., Nome	Glacier Cr.	C. Nome	Bulldozer-hydraulic	4
Godfrey & Kelly, Nome	Venetia Cr.	C. Nome	Placer drill prospecting	2
Gold Center Mining Corp., Anchorage	Upper Willow Cr.	Wasilla	Gold lode and mill	4
Gold Cord Mining Co., Wasilla	Gold Cord Mine, Fishhook Cr.	Wasilla	Gold lode and mill	8
Gold Placers, Inc., Fairbanks	Coal Cr., Circle Dist.	Circle	Gold dredge	25
Goodnews Bay Mining Co., Platinum	Salmon R. and tributaries	Goodnews Bay	Dragline-washing plant	15
Goodnews Bay Mining Co.	Salmon R.	Goodnews Bay	Platinum dredge	58
Goodwick & Tronstad, Kobuk P. O.	Dahl Cr.	Noatak-Kobuk	Hydraulic	2
Grant Mining Co., Nome	Coffee Cr.	C. Nome	Bulldozer-hydraulic	6
Grant, O. M., Fairbanks	Ester Dome	Fairbanks	Gold lode	1
Green, Rosenbush & Lymen, Fairbanks	Long Bar, Fortymile R.	Fortymile	Placer prospecting	3
Gustafson & Swedman, Nome	Oregon Cr.	C. Nome	Bulldozer-hydraulic	4
Hagen, Amund, Eagle	Fox Cr.	Eagle	Hydraulic	1
Hajdukovich, John & Associates, Fairbanks	Ester Dome	Fairbanks	Gold lode prospect	1
Half Dollar Mining Co., Circle Hot Springs	Half Dollar Cr.	Circle	Bulldozer-slackline scraper	3
Hall, Johanson & Downing, Fairbanks	Parris prospect, Ester Cr.	Fairbanks	Gold lode development	3
Hamber & Giliska, Talkeetna	Upper Mills Cr.	Talkeetna	Hydraulic	2

Hansen, B. & Hendrickson, P., Eagle	Alder Cr., trib. Seventymile R.	Eagle	Hydraulic	2
Harbell, S. H., Kantishna	Kantishna Dist.	Fairbanks	Gold lode prospect	1
Hard & Uotilla, Folger	Bear Cr., Cripple area	Innoko	Dragline-bulldozer-hydraulic	8
Havenstrite, John	Candle Cr.	Fairhaven	Dragline-bulldozer-hydraulic	9
Hayes, Howard, Douglas	Ready Bullion beach, Douglas I.	Juneau	Bulldozing tailings	3
Healy River Coal Corp., Fairbanks	Suntrana Mine, Healy R.	Nenana	Subbituminous coal mine and screening plant	105
Henney, Jake, Nenana	Marguerite Cr.	Nenana	Hydraulic	3
Hill, Victor, Poorman	Victor Gulch, Innoko R.	Innoko	Hydraulic	1
Hirst & Sutherland, Chisana	Bonanza Cr.	Chitina	Hydraulic	2
Hitt, Vance, Poorman	Poorman Cr.	Innoko	Dragline-hydraulic	5
Hi Yu Mining Co., Fairbanks	Hi Yu Mine, Fairbanks Cr.	Fairbanks	Gold lode and mill	1
Homer Coal Corp., Homer	McNally property, Cook Inlet field	Seldovia	Coal mine development	4
Hondel, John, Chisana	Gold Run Cr.	Chitina	Hydraulic	1
Hovely, Otto, Hot Springs	Ferguson Cr.	Hot Spgs.	Placer drift	1
Hunter, Jerry, Platinum	Beach W. of Red Mt.	Goodnews B.	Ground sluice	1
Interior Mining, Drilling & Developing Co., Anchorage	Valdez Cr.	Talkeetna	Hydraulic	7
Interior Prospecting Co., Fairbanks	Pocahontas & Red Mtn. creeks	Ft. Gibbon	Placer drill prospecting	6
Isaacson & Peterson, Ophir	Upper Ganes Cr.	Innoko	Gold dredge	6
Jackson, Nels, Fairbanks	Fourth of July Cr.	Nenana	Hydraulic	5
Janeau, E., Jack Wade	Fortymile R. opp. Smith Cr.	Fortymile	Shovel-in	1
Johansen, Engbert, Chicken	Ingle Cr.	Fortymile	Hydraulic	1
Johnson, Fred, Kobuk P. O.	Dahl Cr.	Noatak-Kobuk	Hydraulic	1
Johnson, H., Teller	Gold Run Cr.	C. Nome	Placer drift	1
Johnson, Iver & Co., Long via Ruby	Trail Cr.	Nulato	Hydraulic-bulldozer	6
Johnson & Johnson, Manley Hot Springs	Eureka Cr.	Hot Spgs.	Hydraulic-bulldozer	2
Johnson, Lawrence, Big Delta	Tibbs Cr., Goodpaster R.	Fairbanks	Gold lode prospect	1
Johnson, Sandy, Circle	Ben Cr., trib. Sam Cr.	Circle	Hydraulic	1
Johnson, W. & Pohl, R., Nome	Nome beach	C. Nome	Gold dredge construction	15
Jones, Chas. D., Nome	Osborne Cr.	C. Nome	Bulldozer-hydraulic	3
Jones, R. H. & Knorr, Vincent, Wiseman	Smith Cr., trib. Nolan Cr.	Koyukuk	Ground sluice	3

Jurich, John & Carr, Tom, Livengood	Lillian Cr.	Tolovana	Hydraulic	2
Kasaan Gold Co., Hollis	Harris Cr., near Hollis	Ketchikan	Gold lode and mill	3
Kelliher, Maurice, Taylor	Kougarok R.	C. Nome	Hydraulic	1
Kennecott Copper Corp., New York	Kennecott	McCarthy	Copper lodes (watchman only)	1
Keys, Ed., Fairbanks	No. 3 Pup, trib. Grubstake Cr.	Nenana	Sniping	1
Koland & Pierce, Chicken	Lost Chicken Cr.	Fortymile	Hydraulic-bulldozer	6
Kougarok Freight & Mining Co., Nome	Buster Cr.	C. Nome	Bulldozer-hydraulic	3
Krunnenacher, Joe, Talkeetna	Cheechako Cr., trib. Cache Cr.	Talkeetna	Hydraulic	1
Kuiu Zinc Mines, Inc., Juneau	Keku Group, Kuiu I.	Petersburg	Diamond drilling zinc lode	4
Kuskokwim Mining Co., Fairbanks	Kuskokwim R. below Sleitmut	Kuskokwim	Mercury lode	5
Laird, Archie, Fairbanks	Tramway Bar, Middle Fk.	Koyukuk	Hydraulic	2
Lammers & Fitzpatrick Mining & Exploration Co., 2505 Garfield Rd., Spokane, Wash.	Klery Cr., trib. Squirrel R.	Noatak-Kobuk	Gold dredge	20
Lane, Jacob, Anchorage	High Grade Claim, Fishhook Cr.	Wasilla	Gold lode development	1
Lappi, Pierce & Craney, Fairbanks	Sourdough Cr.	Fairbanks	Hydraulic-bulldozer	3
Last Chance Mine, Seward	Town of Seward	Seward	Gold lode development	2
Lavendero, Manuel, Kiana	Klery Cr.	Noatak-Kobuk	Hydraulic	1
Lee Bros. Dredging Co., Nome	Solomon R.	C. Nome	Gold dredge	17
Lee Bros. Dredging Co.	Casadepaga R.	C. Nome	Hydraulic-bulldozer	2
Leland, Lee & Tweiten, Carl, Fairbanks	N. Fork Fortymile R.	Fortymile	Placer drill prospecting	2
Leonard, H. B., Wiseman	Gold Cr.	Koyukuk	Hydraulic	2
Leroy Mining Co., Gustavus	Leslie Parker Mine, Glacier B.	Juneau	Gold lode and mill	3
Lindsey, Geo., Moose Pass	Summit Cr.	Seward	Gold lode and mill	2
Little Minook Mining Co., Fairbanks	Little Minook Cr.	Rampart	Dragline-bulldozer	7
Livengood Placers, Inc., 1225 Crocker First National Bank Bldg., San Francisco, Calif.	Livengood Cr.	Tolovana	Gold dredge (preparatory work only)	30
Lloyd, Lewis, Kobuk P. O.	Dahl Cr.	Noatak-Kobuk	Hydraulic	1
Long Creek Mining Co., Ruby	Bear Pup, trib. Long Cr.	Nulato	Hydraulic-bulldozer	3
Lubbe, Wm. & Associates, Eagle	Mission Cr.	Eagle	Bulldozer	3
Lucky Nell Mining Co., 511 Puyallup Ave., Tacoma, Wash.	Lucky Nell Mine, Prince of Wales I.	Ketchikan	Gold-copper lode development	3
Lusher, Fred, Flat	Malamute Pup, trib. Otter Cr.	Otter	Hydraulic	2

Lysell, Geo., Chicken	Myers Fork	Fortymile	Ground sluice	1
MacCullum, Malcom, Fairbanks	Pedro Cr.	Fairbanks	Hydraulic-bulldozer	1
McDougal & Co., Wasilla	Gold Mint Mine, Little Susitna R.	Wasilla	Gold lode development	2
McFarland, Cole, Ophir	15 Pup, trib. Little Cr.	Innoko	Hydraulic-bulldozer	3
McMahan & Wickersham, Talkeetna	Upper Valdez Cr.	Talkeetna	Moving in equipment	4
Madden Bros., Nome	Garfield Cr.	C. Nome	Hydraulic-bulldozer	4
Madigan, Lewis, Fairbanks	Franklin Cr.	Fortymile	Hydraulic	1
Mandich, Nick, Livengood	Lillian Cr.	Tolovana	Hydraulic	1
Manske, E. D., Fairbanks	Ingle Cr.	Fortymile	Stripping with bulldozer	1
Margraf & Son, Nome	Nome beach	C. Nome	Placer drilling	3
Martin, Glen, Circle	Portage Cr.	Circle	Shovel-in	2
Martinsen, Olaf, Teller	Gold Run Cr.	C. Nome	Hydraulic-bulldozer	2
Marvel Creek Mining Co., Bethel	Marvel Cr.	Bethel	Dragline-bulldozer-hydraulic	6
Matheson & Savage, Ophir	Spruce Cr.	Innoko	Dragline-bulldozer-hydraulic	3
Maurer, Ernest, Fairbanks	First Chance Cr.	Fairbanks	Hydraulic-bulldozer	1
Meise & Moennikes, Talkeetna	Ruby Gulch & Cache Cr.	Talkeetna	Sniping	2
Meldrum, Wm., Chicken	Chicken Cr.	Fortymile	Hydraulic-bulldozer	1
Mespelt & Co., Medfra	Nixon Fk. Kuskokwim R.	Mt. McKinley	Gold lode and mill	6
Middle Fork Mining Co., Gulkana	Middle Fk. of Chisna R.	Chitina	Hydraulic-bulldozer	10
Midnight Mining Co., Nome	Skookum Cr.	C. Nome	Hydraulic-bulldozer	3
Miscovich, P., Flat	Otter Cr.	Otter	Hydraulic-bulldozer	8
Miscovich & Sons, Poorman	Vic property, Flat Cr.	Innoko	Dragline-bulldozer-hydraulic	6
Moore Creek Mining Co., Flat	Moore Cr.	Otter	Dragline-washing plant	8
Murphy, John, Ferry	Upper Eva Cr.	Nenana	Shovel-in	1
Nabesna Mining Corp., Gulkana	Whitham Mine, Nabesna R	Chitina	Gold lode and mill	15
Nashenwing, Louis, Nome	Lower Dahl Cr.	C. Nome	Hydraulic-bulldozer	4
Nelson, Adolf, Nenana	Grubstake Cr.	Nenana	Shovel-in	1
Nelson, N. P., Chisana	Bonanza Cr.	Chitina	Shovel-in	1
New Hope, Inc., Seward	Hirshey Mine, Palmer Cr.	Seward	Gold lode and mill	3
New York-Alaska Gold Dredging Corp., Nyac or 120 Broadway, New York, N. Y.		Bethel	2 gold dredges	43
Nome Creek Mining Co., Fairbanks	Nome Cr	Tolovana	Gold dredge	15

North American Gold Dredging Co., Flat	Otter Cr.	Otter	Gold dredge	15
Northern States Mining & Construction Co., Inc., Deering	Inmachuk R.	Fairhaven	Hydraulic-bulldozer	8
O'Keefe, Dennis, Wiseman	Big Cr., lower end of Lake Chandalar	Chandalar	Sniping	1
Olson, R. & Langlo, J., Circle Springs	Switch Cr., trib. Deadwood Cr.	Circle	Hydraulic-bulldozer	2
Omo, F. E., Eagle	Excelsior Cr., trib. Mission Cr.	Eagle	Hydraulic	1
Ost, L. E., Council	Crooked Cr.	C. Nome	Hydraulic-bulldozer	2
Ostegard, John, Franklin	Napoleon Cr.	Fortymile	Sniping	1
Palmer Mabelle Gold Mines, Inc., Palmer or Lowman Bldg., Seattle, Wash.	Mabel Mine, Reed Cr.	Wasilla	Gold lode and mill	8
Parker, Raymond & Hopkins, Fairbanks	Lease from U.S.S.R. & M., Ester Cr	Fairbanks	Hydraulic-bulldozer	3
Parker & Son, Fairbanks	N. R. Hudson property, Olive Cr.	Tolovana	Hydraulic-pump-bulldozer	6
Partners Mines Corp., McCarthy	Dan Cr.	McCarthy	Hydraulic	2
Peandori Placer Mines, Bethel	Cripple Cr., trib. Salmon R.	Kuskokwim	Dragline-bulldozer	15
Picken, Jim & Asociates, Fairbanks	Quail Cr.	Rampart	Bulldozer (stripping)	2
Pilcher, Geo., Marshall	Elephant Cr.	Wade-Hampton	Placer drilling	1
Pilgrim, Earl R. & Co., Fairbanks	Stampede Mine, Stampede Cr., Kantishna Dist.	Fairbanks	Stibnite lode and mill	3
Pioneer Mining Co., Fairbanks	Pioneer Cr.	Hot Spgs.	Hydraulic-bulldozer	8
Porter, Wallace, Haycock	Bear Cr.	Fairhaven	Bulldozer-hydraulic	7
Primer, Paul, Shungnak	Lynx Cr.	Noatak-Kobuk	Hydraulic	1
Pringle, A. W., Hot Springs	Rhode Island Cr.	Hot Spgs.	Hydraulic-pump	3
Prosise, C. & Associates, Fairbanks	W. Fk. Ladue R.	Fortymile	Placer drill prospecting	3
Purdy, Fred & Arthur, Chicken	Myers Fk., trib. Chicken Cr.	Fortymile	Hydraulic-bulldozer	2
Quigley, E. W. Solomon via Nome	Solomon R.	C. Nome	Bulldozer-hydraulic	9
Quillan, Joe, Kiana	Klery Cr.	Noatak-Kobuk	Hydraulic	1
Radak, John, Livengood	Ruth Cr.	Tolovana	Hydraulic	2
Radich, Pete, Wiseman	Head Nolan Cr.	Koyukuk	Gold lode prospect	1
Radievich, P. R., Wiseman	Webster Gulch, trib. Nolan Cr.	Koyukuk	Ground sluice	1
Radovan, Martin, McCarthy	Glacier Cr.	McCarthy	Copper lode development	1
Rainbow Mining Co., Nome	Buzzard Cr. & Black Gulch	C. Nome	Bulldozer-hydraulic	8
Renisky, Frank, Rampart	Hunter Cr.	Rampart	Ground sluice stripping	1
Repo & Havenstrite, Fairbanks	Myrtle Cr.	Koyukuk	Placer drilling	2

Rice, C. F. Co., Teller	Sunset Cr.	C. Nome	Bulldozer-hydraulic	6
Rickey, K. J. & Associates, Chitina	Vicinity of Chitina	Chitina	Lode gold prospect	3
Riley Investment Co., 116 Carson St., Carson, Nev.	Otter Cr., Flat Dist.	Otter	Gold dredge (maintenance)	3
Roberts, C. O. Co., Nome	Big Hurrah Mine, Hurrah Cr., trib. Solomon R.	C. Nome	Gold lode and mill	9
Rosander & Reed, Ophir	Yankee Cr.	Innoko	Dragline-bulldozer-hydraulic	4
Ruppe, Ray, Ferry	Moore Cr.	Nenana	Hydraulic	2
Rylander & Hagberg, Fairbanks	Dime Cr.	Koyuk	Bulldozer-hydraulic	4
Saarela, Leo & Swanson, Albert & Emil, Rampart	Hunter Cr.	Rampart	Hydraulic-bulldozer (stripping)	3
Salen, Frank, Flat	Granite Cr., trib. Otter Cr.	Otter	Hydraulic	1
Samuelson, Martin, Jack Wade	Poker Cr.	Fortymile	Ground sluice	1
Sanford, Jess, Fairbanks	Ester Dome	Fairbanks	Gold lode	1
Santiago-Alaska Mines, Inc., 712 Robson St., Vancouver, B. C.	Valparaiso-Amazon, Dolomi, Prince of Wales I.	Ketchikan	Gold lode development	6
Savage, Patrick, Flat	Flat Cr.	Otter	Dragline-bulldozer-hydraulic	8
Schwaesdall, Andy & Krize, R., Fairbanks	Bonanza Bar, Fortymile R.	Fortymile	Hydraulic-bulldozer	8
Scott, J. H. Co., 465 California St., San Francisco	Riverside Mine, Hyder Dist.	Hyder	Lead-silver-gold-tungsten lode and mill	35
Scott, Tolbert, Nome	Iron Cr.	C. Nome	Gold dredge	6
Shaw, Frank, Bonanza	Hopeful Gulch, Ungalik R.	St. Michael	Gold dredge (maintenance)	1
Shimrock, Mike, Tofty	Shirley Bar	Hot Spgs.	Bulldozer	1
Silver, R. W., Nome	Solomon R.	C. Nome	Gold lode and mill	1
Slate Creek Mining Co., Inc., c/o U. S. Corp., Dover, Delaware	Slate Cr.	Chitina	Hydraulic	8
Smith, Frank, Wild Lake via Wiseman	Spring Cr.	Koyukuk	Shovel-in	1
Snowbird Mining Co., Inc., Anchorage	Reed Cr., trib. Little Susitna R.	Wasilla	Gold lode development	12
Socha & Agostino, Anchorage	Harrison Bay	Valdez	Lode prospect	2
Sourdough Dredging Co., Council	Ophir Cr.	C. Nome	Gold dredge	9
Sourdough Mining Co., Fairbanks	Sourdough Cr.	Fairbanks	Hydraulic-bulldozer	5
South Fork Mining Co., Nulato	South Fk. Koyukuk R.	Koyukuk	Dragline-bulldozer-hydraulic	9
Sparks, Howard, Fairbanks	Copper Cr., trib. Charley R.	Eagle	Copper lode prospect	1

Stanich & Stanich, Wiseman	Porcupine Cr.	Koyukuk	Hydraulic	2
Stephans & Stanton, Talkeetna	Notabec Cr.	Talkeetna	Sniping	2
Stewart, A. C. & Associates, Juneau	Shuck R. Placers, Windham Bay	Juneau	Gold placer development	3
Stoll, W. W., 1616 Hoge Bldg., Seattle, Wash.	Lower Peters Cr.	Talkeetna	Hydraulic	2
Stout, Al, Chicken	Ostegard property, Napoleon Cr.	Fortymile	Hydraulic	3
Stout, Terwilleger & Lundstrom, Eagle	Napoleon Cr.	Fortymile	Hydraulic-bulldozer	3
Strandberg & Sons, Anchorage	Candle Cr.	Mt. McKinley	Dragline	7
Strom Mining Co., Fairbanks	Rose Cr., trib. Gilmore Cr.	Fairbanks	Dragline-bulldozer hydraulic	3
Stronks & Murray, Talkeetna	Home Cr.	Talkeetna	Sniping	2
Stuver, Jules, Flat	Head of Happy Cr.	Otter	Hydraulic	2
Suhonen & Son, Nome	Dahl Cr.	C. Nome	Hydraulic-bulldozer	3
Summers, Joe, McCarthy	Williams Peak	McCarthy	Gold lode development	1
Sunshine Mining Co., Ruby	Greenstone Cr., trib. Long Cr.	Nulato	Hydraulic-bulldozer	7
Superior Portland Cement, Inc., 1003 Seaboard Bldg., Seattle, Wash.	View Cove, Dall I.	Ketchikan	Limestone quarry (rehabilitation)	15
Swanberg & Sons, Council	Niukluk R.	C. Nome	Gold dredge	9
Swanberg & Sons, Council	Ophir Cr.	C. Nome	Hydraulic-bulldozer	5
Swanson Bros., Haycock	Dime Cr.	Koyuk	Placer drift	4
Tanner & Taylor, Nome	Ophir Cr.	C. Nome	Placer drilling	2
Taraski, A. J., Talkeetna	Cache Cr.	Talkeetna	Hydraulic	1
Tatlanika Mining Co., Fairbanks	Grubstake Cr., Bonnifield Dist.	Nenana	Hydraulic-bulldozer	7
Thunder Creek Mines, Inc., Anchorage	Thunder Cr.	Talkeetna	Hydraulic	3
Trinity Mining Co., Nome	Trinity Cr.	C. Nome	Bulldozer	3
Turnbarge, D. E., Fairbanks	Emma Cr., trib. Cripple Cr.	Fairbanks	Gold lode development	3
Tweet Bros., Teller	Igloo Cr.	C. Nome	Bulldozer-hydraulic	6
U.S.S., R. & M. Co., 1 State St., Boston, Mass.	Hogatza R.	Nulato	Placer drilling	10
U.S.S., R. & M. Co.	Cripple Cr., Ester Cr., Goldstream Cr. & Chatanika R.	Fairbanks	4 gold dredges	198
U.S.S., R. & M. Co.	Vicinity of Nome	C. Nome	Placer drilling and maintenance	50
Uotilla & Hard, Ophir	Ophir Cr.	Innoko	Dragline-hydraulic-bulldozer	12
Uotilla & Ogriz, Flat	Slate Cr.	Otter	Dragline-hydraulic bulldozer	9

Usibelli Coal Mine, Suntrana	U. S. Army Permit, Healy R. field	Nenana	Strip coal mine	20
Utopia Mining Co., Anchorage	Utopia Cr.	Ft. Gibbon	Dragline-bulldozer-washing plant	5
Verdin, Ed., Fox	Near head of Fox Cr.	Fairbanks	Hydraulic	1
Vibe, N. J., Ophir	Little Cr.	Innoko	Dragline-bulldozer-hydraulic	5
Vogt, Ed., Tanana	Morelock Cr.	Ft. Gibbon	Hydraulic	1
Wade Creek Dredging Co., Fairbanks	Wade Cr., trib. Walkers Fk.	Fortymile	Bulldozer	8
Wade-Hampton Mining Co., Fortuna Ledge	Disappointment Cr.	Wade-Hampton	Bulldozer-hydraulic	5
Waldhelm, Geo., Nome	Quartz Cr.	C. Nome	Bulldozer-hydraulic	4
Wallin, Geo., Deering	Kugruk R.	Fairhaven	Coal mine	1
Walwith, R. D., Copper Center	Klutina Lake	Chitina	Gold lode prospect	1
Wanamaker, H. S., Wiseman	Smith Cr.	Koyukuk	Hydraulic	1
Warwick, A., Livengood	Wilbur Cr.	Tolovana	Hydraulic-bulldozer	2
Waskey, Wren & Wolfe, Aleknagik	Marsh Mt., Wood R. Dist.	Bristol B.	Mercury prospect	3
Watts, Verne, Wiseman	Hammond R.	Koyukuk	Hydraulic	2
Weatherall, Geo., Talkeetna	Nugget Cr.	Talkeetna	Sniping	1
Webb, Herman, Chandalar	Little Squaw Cr.	Chandalar	Placer drift	4
Weinard, Fritz, Candle	Mud Cr.	Fairhaven	Bulldozer-hydraulic	3
Wells, Cecil, Fairbanks	Amy Cr.	Tolovana	Bulldozer-hydraulic-dragline	6
Whelan, E. M., Medfra	Hidden Cr., Nixon Fk.	Mt. McKinley	Hydraulic	2
White, Paul & Ted., Gulkana	Eagle Cr. Chistochina Dist.	Chitina	Hydraulic	4
White & Strand, Wiseman	Archibald Cr.	Koyukuk	Hydraulic	2
Whitehead & Wilson, Chicken	Upper Chicken Cr.	Fortymile	Hydraulic-bulldozer	2
Willow Creek Mines, Luckyshot	Craigie Cr.	Wasilla	Gold lode and mill (watchman only)	1
Willow Creek Mining Co., Marshall	Willow Cr.	Wade-Hampton	Dragline-bulldozer-washing plant	12
Wilson & Horner, Bethel	Canyon Cr.	Bethel	Bulldozer-hydraulic	4
Wilson, Hugh, Folger	Cripple Cr.	Innoko	Hydraulic	1
Wirig & Yrjana, Fairbanks	Spring Cr., Wild Lake	Koyukuk	Bulldozer	2
Wiurm, Otto, Nome	Windy Cr.	C. Nome	Bulldozer-hydraulic	2
Wolf Creek Mining Co., Fairbanks	Wolf Cr., trib. Cleary Cr.	Fairbanks	Dragline-washing plant	5
Young-Garner Mining Co., Valdez	Granite Mine, Port Wells	Valdez	Gold lode and mill	2
Yukon Engineering Co., Fairbanks	Miller Gulch	Fairbanks	Placer drilling	3
Yukon Mining Co., Anchorage	Kako Cr.	Wade-Hampton	Dragline-bulldozer-washing plant	8

		Fortymile	Bulldozers	14
		Fairbanks	Bulldozer	4
		Nenana	Shovel-in	1
		Circle	Bulldozer-hydraulic	1
Yukon Placer Mining Co., Fairbanks	Walkers Fk.			
Zehnder, Richard & Associates, Fairbanks	Nome Cr.			
Zielkie, Charles, Ferry	Moose Cr.			
Zimmerman, A. A., Miller House	Independence Cr.			

LIST OF REPORTS ISSUED BY THE COMMISSIONER OF MINES AND CORRESPONDING PRECEDING OFFICIALS

*Report of the Mine Inspector for the Territory of Alaska to the Secretary of the Interior, fiscal year ended June 30, 1912.

*Report of the Mine Inspector for the Territory of Alaska to the Secretary of the Interior, fiscal year ended June 30, 1913.

*Report of the Mine Inspector for the Territory of Alaska to the Secretary of the Interior, fiscal year ended June 30, 1914.

*Report of the Territorial Mine Inspector to the Governor of Alaska for the year 1915.

*Report of William Maloney, Territorial Mine Inspector, to the Governor of Alaska for the year 1916.

*Report of the Territorial Mine Inspector to the Governor of Alaska for the year 1917.

Annual Report of the Territorial Mine Inspector to the Governor of Alaska, 1920.

*Annual Report of the Territorial Mine Inspector to the Governor of Alaska, 1921.

Annual Report of the Mine Inspector to the Governor of Alaska, 1922.

*Anual Report of the Mine Inspector to the Governor of Alaska, 1923.

Report upon industrial accidents, compensation and insurance in Alaska for the biennium ending December 31, 1924.

*Report of the Territorial Mine Inspector, calendar years 1925-1926.

Report of cooperation between the Territory of Alaska and the United States in making mining investigations and in the inspection of mines for the biennium ending March 31, 1929.

*Report on cooperation between the Territory of Alaska and the United States in making mining investigations and in the inspection of mines for the biennium ending March 31, 1931.

*Mining investigations and mine inspection in Alaska, biennium ending March 31, 1933.

*Report of the Commissioner of Mines to the Governor, biennium ended December 31, 1936.

Report of the Commissioner of Mines to the Governor, biennium ended December 31, 1938.

Report of the Commissioner of Mines to the Governor, biennium ended Deceember 31, 1940.

Joesting, Henry R., Strategic mineral occurrences in interior Alaska: Pamphlet No. 1, May 1942.

Joesting, Henry R., Supplement to Pamphlet No. 1—Strategic mineral occurrences in interior Alaska: Pamphlet No. 2, March 1943.

Anderson, Eskil, Mineral occurrences in Northwestern Alaska: Pamphlet No. 5, May 1944.

Stewart, R. L., Prospecting in Alaska (26-page pamphlet), December 1944.

Report of the Commissioner of Mines to the Governor, two biennia ended December 31, 1944.

Glover, A. E., Industrial minerals as a field for prospecting in Alaska, including a glossary of elements and minerals (82-page booklet), March 1945 (Revised to May 1946).

Anderson, Eskil, Asbestos and jade occurrences in the Kobuk River region, Alaska: Pamphlet No. 3, May 1945.

Roehm, J. C., Some high calcium limestone deposits in Southeastern Alaska: Pamphlet No. 6, March 1946.

*Out of print—on file in certain public and university libraries.