

STATE OF ALASKA

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DEPARTMENT OF NATURAL RESOURCES

Phil R. Holdsworth — Commissioner

**Report**

of the

**Division of Mines and Minerals**

for the year

**1959**

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# REPORT OF DIVISION OF MINES AND MINERALS

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# THE DIVISION OF MINES AND MINERALS

## General Information and Activities

This report is the successor to the former biennial **Report of the Commissioner of Mines**. It is thought that it should be continued on an annual basis for the benefit of those who wish to be informed on the status and possibilities of Alaska's mineral industry and what the Division of Mines and Minerals is doing to assist it.

The First State Legislature of the new State of Alaska organized the State government into twelve principal departments. One of these is the Department of Natural Resources. Mr. Phil R. Holdsworth was appointed Commissioner of Natural Resources and is head of the Department. The Department of Natural Resources is presently composed of four Divisions, one of which is the Division of Mines and Minerals. The Division of Mines and Minerals is the successor to the former Territorial Department of Mines, with additional duties and powers. The other three Divisions within the Department are the Division of Lands, Division of Agriculture, and the Division of Economic and Tourist Development.

The State Division of Mines and Minerals has charge of matters affecting mining and minerals exploration, development, and production in Alaska; collects and disseminates official information relative to the mineral resources and production, and mining and petroleum projects of the State, and administers the laws with respect to all kinds of mining, mining safety, and conservation of oil and gas.

The Division of Mines and Minerals (DM&M) conducts a continuing survey of the mineral resources and operations of the State and disseminates information in regard thereto with a view toward perpetuating and assisting prospectors and miners; safeguards the lives and health of miners; protects investors in the mineral industry; and otherwise fosters and promotes the best interests of the mining, mineral, and related industries of the State.

For the purpose of directly and personally aiding miners and prospectors and stimulating mineral discoveries, the Division maintains four public assay laboratories at district offices in the State located at Ketchikan, College, Anchorage, and Nome. Mining engineers travel "into the bush" to give advice and help. Assistance is also rendered to mining people and others at the Juneau office.

In view of the extreme need for increased mineral production in Alaska, the Division is exerting every effort within its means to obtain basic information on mineral deposits of possible commercial importance and to distribute this information to interested miners and venture capital. Much time is spent in all offices in giving advice and assistance to exploration parties, researchers, and engineers or geologists representing mining companies who are looking for mining or investment opportunities. Mining companies and investors outside of Alaska are contacted and urged to investigate Alaska's mineral possibilities. These efforts by the DM&M have helped create a marked increase of venture capital expenditures in Alaska within recent years. This increase has resulted in important discoveries.

The Division also works continually for needed changes in mining, land, and tax laws which will make new mineral or mining ventures easier to achieve.

Protection of investors is another field of endeavor in which the Division is active. At the request of past, present, and prospective investors, various organizations and individuals are investigated and reported on as to their reliability, reputation, or methods employed. This is a distinct service to the legitimate operators, as it helps maintain a good reputation for Alaskan mining in general.

The Division publishes a monthly mining news and information bulletin called the **Mines Bulletin**. It has been widely praised by all who have read it, and has many times received national recognition by the mining industry. Its primary aim is to keep Alaskan miners and prospectors informed on mineral and mining matters, but "outside" companies have found it useful to maintain Alaskan contacts. Even some of the top administrators in Washington, D.C., use it to help keep informed on Alaskan affairs. Circulation at present is nearly 1,650. As petroleum production in Alaska increases, the information in the Bulletin will be slanted more toward the oil industry and will contain a larger percentage of oil information and news. Information circulars are also published as the need arises. Technical and informational papers are written for mineral industry conventions and conferences to spread information on conditions and opportunities in Alaska. Personal contacts at these gatherings have been responsible for some of the venture capital being expended in Alaska for mineral exploration.

The staff of the Juneau office of the Division includes James A. Williams, Director; an Administrative Assistant; a Mineral

Analyst; and a Clerk-Stenographer. Ordinarily, a mining engineer is stationed at Juneau for service to the First District, but that position is vacant at the time of writing. Located in the Anchorage District Office are Martin W. Jasper, Mining Engineer; Wiley D. Robinson, Coal Mine Inspector; Irwin W. Mitchell, Assayer; Richard V. Murphy, Petroleum Engineer; Donald D. Bruce, Petroleum Geologist; and a Clerk-Stenographer. The two petroleum men comprise the Oil and Gas Section of the Division and are to cover the whole State. Robert H. Saunders, Mining Engineer, and Donald R. Stein, Assayer, are stationed at College in the Fairbanks area. The Ketchikan District Office is operated by Ralph E. Pray, Assayer. The position of Assayer-Engineer at Nome is filled by Willow M. Burand. The Oil and Gas Section and the mineral analyst are the only additions to the Division of Mines and Minerals staff since 1953.

Libraries of Alaskan publications issued by the U. S. Geological Survey, U. S. Bureau of Mines and the Atomic Energy Commission are maintained at the district offices and the Juneau headquarters. These libraries are open to the public and, in addition to these publications, the Juneau office has collected much additional information on various properties throughout the State resulting from examinations and reports by engineers of the DM&M and others. The offices also maintain collections of classified rocks and minerals, including those of Alaskan origin, as a means of ready reference or identification by the prospector and miner.

Countless inquiries in regard to the mining and petroleum industries and mining opportunities by visitors and by correspondence were answered during the year. Professional advice in the way of examinations and reports is offered to the prospector and miner by the Division mining engineers. This service is offered to those who cannot afford the employment of a private consultant. Reports of examinations by DM&M engineers for private individuals are for their information only, and results of same are only made public upon authorization by the property owners, which is usually given. Many requests for this type of advice were received and resulting examinations made by members of the Division staff. Services include making contact between holders of mining ground and prospective purchasers, when requested. Geophysical exploration projects on a small scale are also carried out by Division engineers.

The Division's mineral analyst continues on a full-time basis the work on the complete bibliography and inventory of Alaskan

mineral deposits. This project has been of great assistance to many individuals and mining company representatives who have come to the Juneau office in search of information on mining areas and properties for possible future operations. The work of detailed compilation is a continuing function, but is sufficiently well organized so that nearly all information on specific areas or properties can be obtained in a few minutes. The DM&M files of mineral information are organized so that all reports, maps, correspondence and data relating to area, prospects, or properties are filed according to geographical location in the State. The system of USGS quadrangles is used as a basis for the filing system. This makes an efficient arrangement, and eliminates almost entirely the possibility of accidentally missing important information on a particular property or area.

The Central Recording function is continuing, and the claim location and assessment work affidavits are coming in regularly from the various U. S. Commissioners who are the recorders for their respective recording districts. At the end of 1959, there was a total of 19,135 documents in the files, 2,926 having been received during 1959. The average number of documents received each year has been running between 2,500 and 3,000. These documents represent ownership and other information on an estimated 17,500 unpatented mining claims in Alaska. In addition to being cross-indexed under three headings, this information is also being incorporated into the above-mentioned mineral deposit inventory so that current ownership of prospects can be easily determined from one record. An unforeseen use for this claim ownership information is proving highly valuable to the new State. This is discussed under "Cooperation with Other Agencies." A discussion and illustration of the trends of claim staking as indicated by the documents coming into Central Recording is included under "Prospecting and Exploration." The U. S. Commissioners are now being replaced by Magistrates and Deputy Magistrates under the new State Court System. These magistrates will do the recording in the future.

Chapter 129 enacted by the 1955 Legislature put the Department into the prospectors' equipment rental business. Under the provisions of this Act, drills, Geiger counters, and Mineralights were purchased for rental. This equipment has been rented out to many prospectors, helping their prospecting ventures greatly. The proceeds from the rentals are turned into Alaska's General Fund.

The DM&M was given the task of examining and licensing explosives handlers in the construction industry in 1955. The law

requires that all men hired for the purpose of detonating explosives must be certified by the DM&M as fit and competent, and that the DM&M must determine their fitness by examination. Miners, prospectors, and self-employed persons are exempt. Although it has been felt by the Division that this function should more properly be administered by the Department of Labor, since the Act was passed expressly for the benefit of construction workers, the DM&M has nevertheless done the work to the best of its ability without an increase in personnel. The 1960 Legislature may enact a law to change this function over to the Department of Labor.

The 1957 Legislature passed a law creating a Prospector Assistance Program to be administered by the Division. Since the funds for the program were not available until July of 1957, the program was not started until 1958. The results during 1958 and 1959 were not encouraging and show that there is little demand from truly qualified prospectors for this type of assistance. The law requires that a person must prospect for at least 30 consecutive days and shall be allowed a maximum of \$200 for transportation for the trip and \$100 per month for supplies while "in the bush." Only bona fide residents of Alaska are eligible, and in case of a surplus of qualified applicants, lots are to be drawn to determine who shall be on the program. Of the few who applied for assistance under this program, only a very small percentage carried out their plans and completed their prospecting ventures. Funds for further assistance will probably not be available.

### Oil and Gas Section

Chapter 40, SLA 1955 created the Oil and Gas Conservation Commission and made the basic provisions for enforcing conservation of oil and gas in Alaska. The Commission was abolished by the State Organization Act of 1959, and the Division of Mines and Minerals now has the Commission's duties and functions under the overall supervision of the Commissioner of Natural Resources.

The Oil and Gas Section of the Division was established in early 1959 and the Section's office was opened in June at the DM&M Anchorage District Office. A Petroleum Engineer and a Petroleum Geologist presently comprise the Section staff. The duties of the Oil and Gas Section include the advance approval of permits to drill which outline the equipment and materials to be used, and the periodic inspection of drilling operations to assure orderly and efficient development of oil and gas deposits. It is

also the responsibility of this Section to maintain proper records of production and to enforce the general rules and regulations governing the conservation of oil and gas in Alaska (Title 11 Alaska Administrative Code) under the authority of the Oil and Gas Conservation Act (Chapter 40). Eventually, the Section will accumulate and correlate stratigraphic, geologic, production and graphic records for use in engineering studies, and will assist the oil industry in Alaska to develop improved production techniques applicable to any given field to assure optimum production rates and to prevent underground waste of oil and uneconomical expenditure of reservoir energies.

The Section cooperates closely with the State Division of Lands in giving it technical advice on petroleum operations and information as to the geological possibilities of lands, enabling that Division to more effectively classify lands and determine how to handle them to the best financial benefit of the State.

As a result of the Richfield oil discovery in the Kenai Peninsula on July 23, 1957, Alaska was admitted as a full member to the Interstate Oil Compact Commission. A member of the staff attends its meetings annually as Alaska's representative and keeps it informed on Alaskan oil matters as well as receiving information of benefit to Alaska.

### Assay Laboratories and District Offices

The assay laboratories at the district offices of the Division of Mines and Minerals at Ketchikan, College, Anchorage and Nome continued to perform analyses and mineral determinations during the year. This service is offered free of charge to prospectors and miners and serves to encourage the search for minerals in the State. The following tabulation compares the number of assays made during the past four years:

	1956	1957	1958	1959
Gold and silver .....	1535	2118	1606	1101
Chemical analyses .....	1517	1175	1835	869
Mineral identifications .....	628	471	435	240
Spectrographic analyses .....	339	151	196	166
Coal analyses .....	9	4	12	17
Totals .....	4028	3919	4084	2393

District offices and assay laboratories of the Division are satisfactory and adequate with the exception of the situation at College. As stated in several preceding reports, the College assay

laboratory has for many years been housed in quarters that are entirely inadequate and positively unsuitable for the large work load of the Fourth District. The lab is in the basement of the old former University power plant. This building has been condemned, and will be razed as modernization of the campus continues. For these reasons, a move of this office is imperative. It is hoped that funds will soon be forthcoming to make this move, and to provide space in the same new quarters for the Division's mining engineer stationed at College. This will allow closer cooperation between the assayer and engineer and provide better service to prospectors, miners, and the general mining-minded public than is presently possible.

The District Office at Ketchikan is in an old building which was remodeled into a suitable office and assay laboratory.

The Nome District Office operated satisfactorily during the year. The Assayer stationed at Nome also serves as a field engineer for the Second District. Though the building is owned by the DM&M, the office space is shared with the State Department of Revenue, resulting in a saving on expenses to both agencies.

The DM&M District Office building at Anchorage is modern and adequate for the present. It contains the offices of the mining engineer, the coal mine inspector, and the petroleum engineer and geologist, as well as the assay laboratory.

Spectrographic and coal analyses are made at the College laboratory. A charge is usually made for coal analyses. Spectrographic analyses provide a means of determining quickly all the major and minor and most of the trace elements in an ore sample. This quite often results in finding certain valuable elements in a sample that otherwise may be accidentally missed by ordinary assay methods, and hence is a valuable addition to the DM&M services.

### Field Investigations

Field examinations and technical assistance were given by members of the DM&M staff to those requesting this service. Examinations were made, and reports written or professional advice given, on mining properties and prospects throughout Alaska. Reports and recommendations were made to mining companies and other potential purchasers of mining prospects on behalf of property holders, and assistance was given in a few of the negotiations. Technical advice was given at active mining operations,

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when requested, on mining methods and problems. Exploration drilling projects were assisted. The commercial possibilities of undeveloped coal beds were investigated.

### Safety Inspections

In addition to geological and other types of examinations, the DM&M engineers also examined properties visited for safety conditions. Other properties were visited for safety reasons only. Tunneling projects were also visited for the purposes of safety inspections and enforcement, since by law all underground work is under the jurisdiction of the Division even though not connected with mining.

The Division is jointly responsible with the U. S. Bureau of Mines for the inspection and enforcement of safety conditions in Alaskan coal mines for the protection of the coal miners. Joint inspections with the Bureau of safety inspector are made. Also the regular monthly inspections of the coal mines by the DM&M Coal Mine Inspector continued.

### Cooperation with Other Agencies

The DM&M and the U. S. Bureau of Mines have in effect a formal signed agreement for the mutual cooperative interchange of information. This eliminates duplication of effort and is a saving of time and money. There has also been a free exchange of information with the U. S. Geological Survey and the Atomic Energy Commission.

Since the U. S. Bureau of Mines uses a system of mining district designations for its statistical reporting, and the U. S. Geological Survey now bases its geological information on its quadrangle system, the Division of Mines and Minerals has adopted both systems in order to facilitate exchange of information with both agencies. In the text of this report, mining district designations are used in describing mining operations, etc., because the watershed boundaries of the districts seldom divide mining areas. In the appended tabulated list of active mining operations, both district and quadrangle designations are used in order that interested persons may also become familiar with the locations with respect to the USGS quadrangle maps, which are published for the entire State and widely used.

By law, the State is now divided into four State Superior Court Districts, but these new Districts coincide exactly with

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the old District Court Judicial Divisions. Hence the term "District" is now used instead of "Division" to denote the four principal parts of Alaska.

The U. S. Geological Survey sends to the Department copies of "open file" reports pertaining to Alaska that are not available for public distribution, but which may be consulted at DM&M offices. The USGS also keeps the DM&M apprised of its field work plans and other matters of importance so that the DM&M can act accordingly in the best interests of the industry.

The U. S. Bureau of Land Management and the Forest Service have cooperated to the best of their ability in supplying information on the status of mineral lands and claims when requested. The Forest Service has received much information and help from the DM&M in gathering information on mining claims and mineralized areas for their various programs, including the Public Law 167 program, which has to do with determining surface rights on unpatented claims.

In the matter of protection of the investor, there is good cooperation and exchange of information between the DM&M and the Federal Securities Exchange Commission on questionable activities in the minerals industry.

In the selection of State lands under the Statehood Act, the U.S.B.L.M. must, among other things, determine conflicts within the areas selected by the State Division of Lands before the State may obtain title to the land. The Central Recording function of the Division of Mines and Minerals has unexpectedly turned out to be invaluable to this program because of its information on active mining claims within the selected areas. Areas included within the boundaries of valid mining claims cannot be acquired by the State. The BLM has only to request of the DM&M advice as to claims within certain described areas of State selection, and the Juneau office of the Division can report back immediately on the matter. This saves much time and uncertainty in searching through the various recorders' records in different locations in the State, and is hastening the overall State land selection program.

### Plans for the Future

Planned for the future, and as soon as possible, is a modest Geological Survey Section. It is unthinkable that a State with the size and mineral potential of Alaska should be without some State geological survey activities in mapping, searching for min-

erals, investigating water resources, analysing oil well and other cores, and doing engineering geology where needed. The Survey Section work will be directed toward areas of commercial mineral possibilities and the assisting of the minerals industry toward new discoveries. It will also assist the Oil and Gas Section and the Division of Lands in classification of lands according to prospective values and purposes, determination of mineral possibilities, stratigraphic studies, and other related matters. At the start, it is hoped that the new section will include a water resources geologist and an engineering geologist for assistance to other State agencies in those two important fields.

## THE MINING INDUSTRY

### Production

Alaska's total mineral production, dollarwise, for 1959 decreased by nearly 9% from that of 1958. Since the post-war peak year of 1957, the decrease has been nearly 37%. See Table I and Figure 1. Production of gold and coal has dropped during each of the past two years, though for both years they have been the top commodities. Sand and gravel is third highest in value and shows a large increase over that of 1958, which increase is more than offset by the decrease in stone production. Production of mercury and platinum both increased moderately from 1958 to 1959, and starting in late 1958, crude petroleum has been produced in significant amounts for the first time since 1933. No antimony or chrome have been produced since 1957.

TABLE I

## Mineral Production in Alaska, 1957-1959

	1957		1958		1959 (1)	
	Quantity	Value	Quantity	Value	Quantity	Value
Antimony ..... short tons	17	\$ 4,000	—	—	—	—
Chromite ..... short tons	4,207	431,000	—	—	—	—
Coal ..... short tons	842,338	7,296,000	759,000	\$6,931,000	602,000	\$5,558,000
Copper ..... short tons	—	—	5	3,000	—	—
Gas, natural ..... million cu. ft.	—	—	50	6,000	133	15,000
Gem Stones ..... —	(2)	(2)	(2)	(2)	(2)	(2)
Gold ..... troy ounces	215,467	7,541,000	186,000	6,525,000	171,000	5,985,000
Lead ..... short tons	9	3,000	2	(2)	—	—
Mercury ..... 76-lb. flasks	5,461	1,349,000	3,380	774,000	3,750	852,000
Petroleum, crude ..... barrels	—	—	(2)	(2)	(2)	(2)
Platinum ..... troy ounces	(2)	(2)	(2)	(2)	(2)	(2)
Sand and Gravel ..... short tons	6,096,000	8,799,000	4,255,000	3,871,000	5,600,000	5,100,000
Silver ..... troy ounces	28,862	26,000	24,000	22,000	22,000	20,000
Stone ..... short tons	528,000	1,953,000	615,000	2,065,000	54,000	210,000
Uranium ..... —	(2)	(2)	—	—	—	—
Undistributed (3) ..... —	—	2,751,000	—	695,000	—	1,338,000
Totals .....		\$30,153,000		\$20,892,000		\$19,078,000

(1) All figures for 1959 are preliminary and subject to revision.

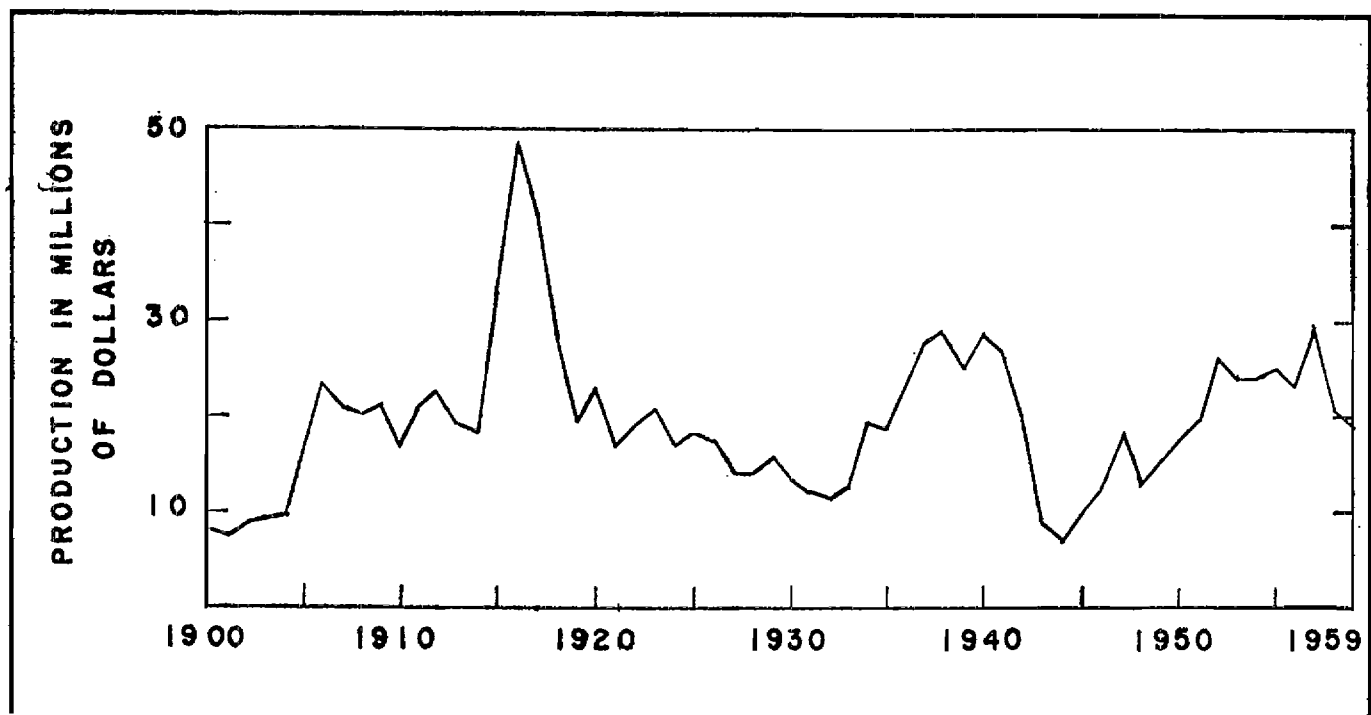
(2) Values included with "Undistributed" to avoid disclosing individual company incomes.

(3) Includes all values indicated by footnote (2).

Note: Above statistics prepared in cooperation with the U. S. Bureau of Mines, Juneau, with the exception of the 1959 coal value and undistributed figures, which are presented on authority of the DM and M only. Note also that sand and gravel are not true minerals, but are carried by the U.S.B.M. for statistical reporting of mineral production throughout the U. S.

FIGURE 1.

## Annual Mineral Production, 1900-1959



It will be noticed in Table I that the three top commodities, gold, coal, and sand and gravel, have each had a turn being the highest in value produced during one of the past three years. Because of an unforeseen drop in gold production late in 1958, last year's estimate of the 1958 gold production turned out to be \$975,000 too high. As a result of this, coal was higher than gold for that year. Gold appears to be the highest in value for 1959, but it is now declining each year at a more rapid rate than was forecast last year. The drop in gold production for 1958 to 1959 was 8%. A large portion of this drop was caused by reduced output from the USSR&M Co. dredging operations at Nome and Fairbanks. Gold production will continue to decline until its production is less than half the present level unless there are improvements in the price or economic conditions. Silver is produced only as a by-product of gold.

Sand and gravel, as usual, help swell the production total significantly, but as pointed out in the footnotes beneath Table I, they are not true minerals. Also, their production in Alaska depends mostly on government construction activity, a function which is not dependent on economic conditions and has no connection with the mining industry. However, production of sand and gravel are reported throughout the United States by the U. S. Bureau of Mines in its statistical work, so is reported here for purposes of comparison.

Mercury is the only base metal presently produced in significant quantities. The chief hope of increased mining production in Alaska lies in her copper, nickel, iron, and coal resources. A uranium mining operation was under way late in 1959, and ore was moved to the beach, but not shipped. Oil and gas production started in late 1958 and increased through 1959, but is still confined to one field and no pipeline is yet constructed. Future oil and gas production will increase, barring unforeseen economic upsets and harsh tax measures applied before the industry gains momentum.

Total mineral production in Alaska since 1880 now adds up to \$1,203,461,000. Of this total, gold has accounted for 61%, or \$734,632,000. Copper production has created 19% of the overall total, and totals \$226,890,000, although no copper in significant quantities has been produced in Alaska since 1938 when the famous Kennecott Mines shut down. Coal production has reached a total of \$91,823,000 and accounts for over 7% of Alaska's overall total.

TABLE II  
Average Metal Prices as Quoted by E. & M. J.

	1957	1958	1959	1/6/60
Copper, domestic, f.o.b. refinery	29.58	25.76	31.18	33.60
Copper, foreign, f.o.b. refinery ..	27.16	25.12	28.89	31.08
Lead, common, New York .....	14.66	12.11	12.21	12.00
Lead, common, St. Louis .....	14.46	11.91	12.01	11.80
Zinc, Prime Western, St. Louis ...	11.40	10.31	11.45	12.50
Tin, Straits, New York .....	96.26	95.13	102.05	99.25
Silver, foreign, New York .....	90.82	89.04	91.20	91.38
Quicksilver (flask, 76-lb.) .....	\$246.98	\$229.06	\$227.48	\$211.00
Antimony, New York (cases) ....	36.59	33.08	32.59	32.59
Antimony, bulk, Laredo .....	33.00	29.49	29.00	29.00
Platinum, refined .....	\$ 89.45	\$ 64.93	\$ 73.25	\$ 77.00
Cadmium (producers quotation)...	169.65	152.30	134.58	130.00
Aluminum, 99+%, ingot .....	27.52	26.89	26.84	26.00
Magnesium, ingot .....	35.25	35.25	35.25	35.25
Nickel, electrolytic .....	74.00	74.00	74.00	74.00

In studying the production curve shown in Figure 1, several things should be kept in mind: (1) the curve represents only the dollar value of each year's production, (2) the price of gold increased from \$20.67 to \$35 per ounce in 1933, (3) although gold represents 61% of Alaska's total production since 1880, it is currently only 30 to 35% of the yearly production, and (4) while sand and gravel production was negligible and coal production slight before the war, they each have represented from 25 to 35% of Alaska's production for the past several years.

### Prospecting and Exploration

The number of individual and independent prospectors in the field continues to decline since the big uranium excitement in 1955. The number of mining companies and syndicates engaged in organized prospecting reached a peak in 1957 and have declined since then because of falling metal prices. However, the total money spent in Alaska on mining exploration has continued to increase each year because the prospecting operations are going more into drilling and geophysical projects, and are using helicopters more extensively than formerly. Also, these projects are using larger crews than formerly, accounting for a larger manpower total as reflected in Table V. This type of exploration is expected to continue on at least the same level, and will probably expand because of presently improving metal prices. Of the independent prospectors, only a relative handful of serious

professionals are active for a significant period of time each summer. A large number of the "weekend" variety make short trips, but many of these have scant prospecting knowledge and experience. The poor response to the Prospector Assistance Program, as related earlier in this report, is indicative of the small interest in bona fide independent prospecting in Alaska. Also, the demand for the Division's rental prospecting equipment is decreasing each year.

The largest and most enthusiastic number of independent prospectors appear to be working out of Ketchikan, as has been the case for several years. In 1958, two of them purchased newly-developed aerial magnetometers and have been flying them all over that section of Southeastern Alaska in the search for more iron deposits. Several favorable appearing discoveries have been made by this method. The DM&M Assay Office in Ketchikan has been particularly valuable to the prospectors there in helping them with their mineralogical and other problems. Also, the Ketchikan assayer, Mr. Pray, is teaching a course in elementary geophysical prospecting for the benefit of the local prospectors. The course is well attended and the students are enthusiastic.

Anchorage is also an important center for prospecting activities. Several hundreds of visitors interested in some phase of mining or prospecting are accommodated by the DM&M personnel there every year. Two Anchorage prospectors, Richard Clement and John Baker, recently made a molybdenum discovery near Hayes Glacier, west of Anchorage, which may turn out to be of major proportions.

The year 1959 was not so important for discoveries as 1958. The only reported new discoveries that may develop into ore bodies of commercial importance are mentioned in the preceding two paragraphs.

The three major discoveries of 1958 were all subjected to drilling projects in 1959. Last year's nickel discovery in Southeast Alaska was a scene of a very interesting drilling project this year, and work will continue there in 1960. A copper body discovered south of Juneau last year was also drilled. Further plans for this prospect are not known. Humble Oil Company drilled the iron prospect that it discovered in 1958 near Dillingham when doing aerial magnetic work in searching for oil. It is completely covered with overburden. Future plans for this prospect are also not known.

C. T. Takahashi Company caused the North Bradfield River iron deposit (east of Wrangell) to be drilled, and Mt. Andrew Mining Company (subsidiary of Utah Construction & Mining Company) continued drilling on iron and copper properties in Kasaan Peninsula of Prince of Wales Island in Southeast Alaska. One other large company was reported drilling iron prospects in Southeast Alaska also. Totem Exploration Company of Ketchikan continued the investigations of properties in that district as did Don Ross and other independents of that city. Admiralty Alaska Gold Mining Company continued its investigations and underground exploration work of its nickel-copper property at Funter Bay near Juneau, and Newmont Mining Corporation carried out reconnaissance prospecting with a helicopter and did geophysical work in the north part of the Alaskan Panhandle. A syndicate managed by Moneta Porcupine Mines, Ltd. of Canada continued its reconnaissance work with a party of prospectors and a helicopter in Southeastern Alaska. Phelps Dodge Mining Corporation and Anaconda both had reconnaissance field parties working in Central Alaska with helicopter support, and Cordero Mining Co. continued work in the mercury belt along the lower Kuskokwim River. The Bear Creek Mining Company continued their drilling and exploration on the copper property north of the Kobuk River for the third year with a crew of approximately 40 men. Jewell Ridge Coal Company of Tazewell, Virginia continued its investigations of coal beds in the Bering River coal field near Cordova. Expanded operations are planned for next year there with a view of developing an export business to Japan.

Prospecting and exploration expenditures in Alaska for the last five years are estimated as follows:

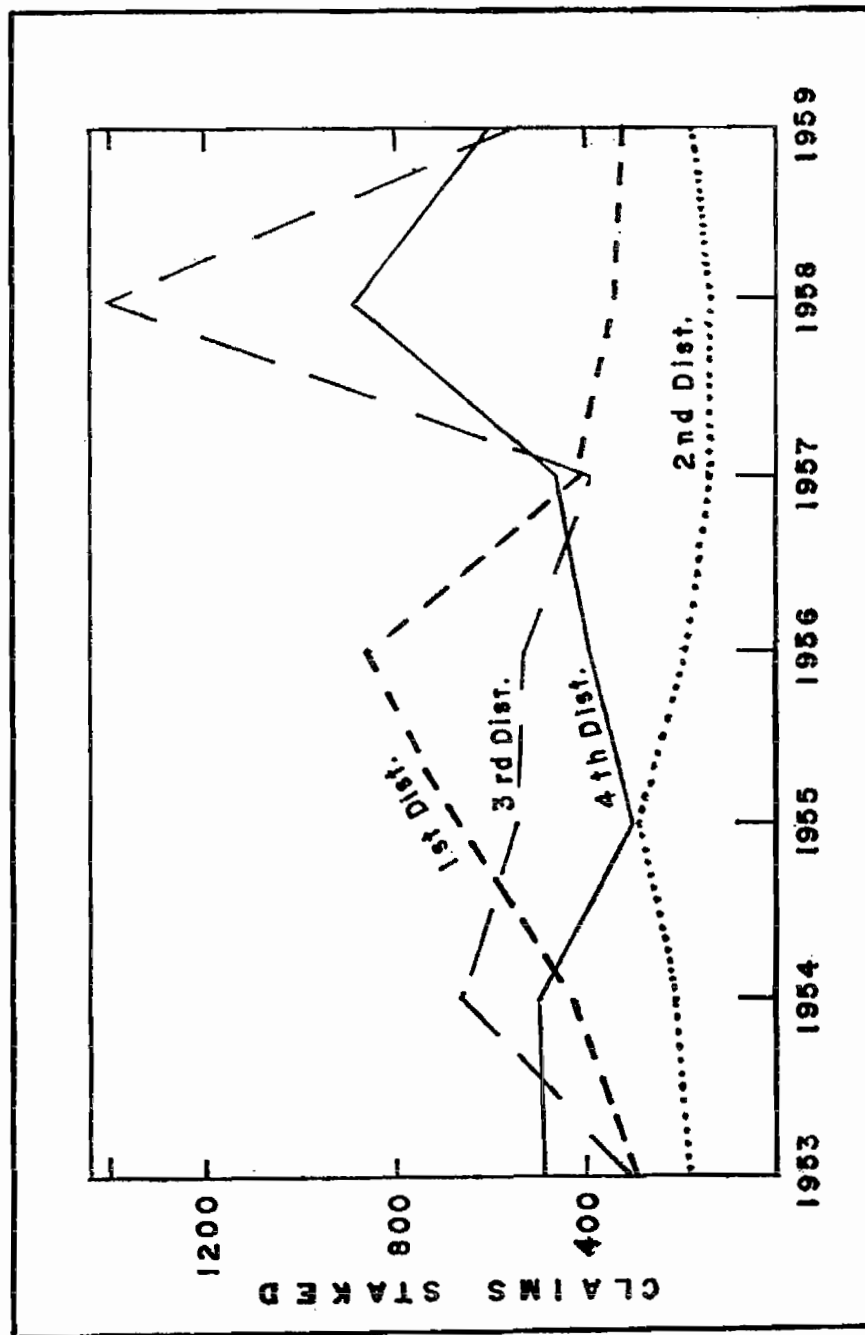
	1955	1956	1957	1958	1959
SE Alaska .....	\$280,000	\$655,000	\$690,000	\$850,000	\$750,000
Central Alaska .....	215,000	340,000	245,000	120,000	275,000
NW Alaska .....	10,000	5,000	205,000	210,000	260,000
Totals .....	\$505,000	\$1,000,000	\$1,140,000	\$1,180,000	\$1,285,000

Records received from Mining Recorders throughout Alaska indicate the yearly number of claims staked and claims for which assessment work is recorded to be as follows:

	1954	1955	1956	1957	1958	1959*
Claims staked .....	1811	1821	1990	1481	2744	1630
Assessment work ....	6179	6508	6871	7330	7900	8000

\*1959 figures estimated

FIGURE 2  
Claims Staked by Division and Year



The unusually high number of claims staked in 1958 was due to a group of 815 that Humble Oil Co. staked on its iron discovery that year. Otherwise, the claims staked each year vary between 1500 and 2000. Large numbers of gold claims continue to be staked each year which is surprising, but may be due lately to the strengthening talk and rumors of a gold price increase. Other minerals for which the larger numbers of claims are being staked are copper, nickel, iron and molybdenum. Figure 2 shows the trends of staking in the four State Supreme Court Districts for the past several years. The trends for 1959 are estimated because of the time lag in receiving the mining documents from the recorder. It is interesting to note that although most of the exploration activity is in SE Alaska, more claims are being staked in the Third and Fourth Districts. However, a decided swing in organized prospecting by companies to the Third District was noted in 1959, and this is borne out by the above tabulated exploration expenditure figures. Claims for which assessment work is recorded continue to increase each year.

No important changes in mining law were enacted during the year. A bill has been introduced in the 1960 State Legislature to change the assessment work date from July 1st to September 1st to conform to the 1958 change in the Federal law. Another bill will be introduced to provide for a geophysical, geochemical, and geological assessment work law similar to recent provisions added to the Federal law.

On the subject of prospecting, a point that is not well understood yet is that claims may be staked and mined on State public domain without permits and leases. After the State obtains title to land it selects and receives from the Federal Government under the Statehood Act, the land is State public domain until the State sells, leases, or otherwise disposes of it to someone. Until such disposal, the land is open to prospecting and mining in the old traditional manner. When disposal of State land takes place, then the State is required by law to reserve the minerals in it to itself, and it can only lease them to miners for extraction. As a result of this arrangement, strange as it may seem, an unpatented claim on State public domain will provide its holder with the mineral rights so long as he fulfills the requirements of keeping the claim legal, but if he should apply for and receive a patent from the State, he would then lose the mineral rights, and would have to acquire a lease on them from the State. Practically all of the public domain of interest to hardrock or placer miners and prospectors is still owned by the Federal government at this time.

### Future and Needs of the Industry

We must report once again that gold mining is disappearing from the Alaskan scene because of the fixed price of gold and the continued inflationary spiral of operating costs. Government and defense construction, which has had the largest part in causing increased costs and wages in Alaska, is a permanent Alaskan feature. Technologies of weapons and communication are advancing so rapidly that before a defense or communication system is completed, it is outmoded and another one must be started. Since Alaska is considered to be an outpost and a frontier, warning systems, communication systems, and various types of missile bases, etc., are constantly under construction. A raise in the price of gold would help the gold miner, but it would have to be over twice the present price to achieve any significant lasting results. For the past year, pressure for it has been accelerated, and many authorities think it is assured. However, as of this time, the Federal administration and the International Monetary Fund are solidly opposing it. Anything that will help gold mining will benefit Alaska, and it is hoped that the raise is not too far in the future.

Coal mining is presently on the decline, but this trend may well be reversed. Military use accounts for about 70% of the coal consumption in Alaska, and that demand has been partly supplied from stockpiles remaining from earlier years. The Anchorage and Fairbanks areas are in need of additional power, and it may develop that steam plants will be built to fill the need before more hydroelectric power is developed. Although coal faces stiff competition in the coming years from oil, gas, and more hydroelectric plants, its future is not black. The need for additional power is growing rapidly in the Anchorage and Fairbanks areas, and steam plants are likely yet to be built to help supply these needs before the hydro plants are in action. Even though one hydro project is under way on the Kenai Peninsula, an electric cooperative in the Matanuska Valley is considering construction of a new steam plant. A mine-mouth plant in the Nenana Coal Field for power for Fairbanks has been intermittently considered. A vigorously pushed sales campaign and stoker service might capture a bigger portion of the home heating market if the product is clean and competitively priced with oil and gas. Investigations are under way which may lead to large exports of Alaskan coal for the Japanese steel industry.

The future of base metals in Alaska continues to appear better with each passing year. Discoveries continue to be made and the metal markets are mostly slowly improving. Of greatest im-

portance to Alaska is the increasing interest of the Japanese in our base metals—chiefly iron, but also copper, mercury, and others. Production of the iron deposits held by the large steel concerns will probably not be accomplished as soon as those in the hands of the smaller and more aggressive companies who have their sights on the foreign market. Hopes are also high for early production of a large copper deposit in the Kobuk country now being drilled, and possible good results from the drilling of the copper and nickel properties in Southeast Alaska.

As nearly always, the mining industry needs more prospectors in the field, and more and more, as the grass-roots deposits are harder to find, the prospector needs a thorough knowledge of geology and mineralogy. If he can take advantage of the modern geophysical and geochemical methods available today, so much the better. The man on foot is still indispensable for most discoveries, and new discoveries must be made for the mining industry to grow, or even hold its own. The big problem is finding the man on foot, for he is becoming a rare individual.

Huge parts of Alaska continue to be withdrawn, or be requested by Federal agencies for withdrawal, from prospecting and mining. Withdrawn areas, of course, are detrimental to the future of Alaskan mining, and are not necessary for the stated purpose of the withdrawals, as far as mining is concerned. It has been shown many times that mining and petroleum production can generally be carried on with no damage to the wilderness aspect, scenery, wildlife or other desired features of the surrounding country that the withdrawal is intended to preserve. When an area is closed to prospecting, there is no telling what deposits of strategic minerals may remain undiscovered there that might be of great help to the nation, and also to Alaska in increased revenues and population.

The mining industry still needs a means of obtaining the right to develop the many old patented claims in Alaska that have no legal owners. The Land Registration Law was to have cured this ill, but the legal procedures have slowed its workings down to the point where the law has not been effective in making the old patented claims available to those who wish to explore and develop them. A proposed amendment to the State Land Act and new regulations forthcoming will probably solve this problem before much longer.

Of prime importance is the need for a real incentive that can be offered to investment capital to attract it to Alaska's mineral

resources. Part of this incentive would be a tax structure favorable to prospective investment capital. Alaska was quite generous in this respect when in 1953 a 3½-year mining tax exemption was granted to all new operations. But the Alaska tax is small in comparison to the Federal tax. If the U. S. would follow the example set by the Dominion of Canada in this matter, the effect would soon be shown in an increase in Alaskan mining. Canadian mining has shown a phenomenal growth since the War, and American capital is going into these Canadian developments by the billions of dollars. One Canadian province—British Columbia—made the mistake of passing some restrictive taxes against mining in 1957, only to see a large number of producing mines and exploration projects shut down practically overnight. It is reported that the mistake has been at least partly rectified.

Access roads are badly needed by many promising Alaskan mining properties and areas. Several large scale developments and smaller exploration projects are hampered right now for a lack of roads. State and Federal assistance seems to be out of the question because the modern policy is to build only carefully designed and engineered highways, and a mining prospect does not warrant that much expense. Some way needs to be found to open up promising prospects and areas with minimum expense roads that will suffice for truck travel. Once a property is found to be economically minable, the mining company should be willing to make such improvements as will be necessary for the operation of the mine.

### Precious Metals

Alaska's **lode gold mining** is practically nil. A few small intermittent operations of not more than 3 or 4 men are all that are active. A small tonnage of gold-silver ore was mined in the Fairbanks District by Arctic Alaska Fisheries & Enterprises, Inc. and was milled at the Cleary Hill Mill. The ore was mined from the top of a narrow vein by use of a small backhoe. The Little Squaw Mining Company did some exploration work on the Mikado lode in the Chandalar District, and also in the Chandalar District, Ed Tous-saint completed the construction of a small mill and did some development work on the Summit Claim. Fred Jenkins (Alaska Nickel Company) worked at a property near Flume Creek in the Eagle District but did not produce.

Yellinore, Inc. did a little producing at the old Yellowband Mine in the Bremner area of the Nizina District. G. F. Kalmbach has a lease on the Fern Mine in the Willow Creek District. Joe

Lynch is active intermittently in the same district. Bill Knaack and Associates of Seward are doing some work on a gold lode prospect in the Nuka Bay District. Frank Bunnell has been driving a crosscut to intersect a vein at Eldorado Creek in the Kantishna. A little development work is being done on one or two properties in the Moose Pass-Hope District. The famous huge Alaska Juneau Mine is selling its equipment and machinery for use elsewhere and scrap.

**Placer gold mining** is still caught in the same squeeze between the fixed price and increased operating costs. In addition to these two factors, the ground being mined is poorer as the seasons go by. Statistics gathered by the U.S.B.M. indicate that the average ground worked in 1956 was worth 46¢ per cubic yard, while in 1957 and 1958 the average values were 45¢ and 36¢ respectively. The decline in values from 1957 to 1958 seem inconsistent since more gravel was actually washed in 1958, yet the total amount of gold produced was less. As noted earlier in this report, gold production will be cut to less than half in a few more years, barring unforeseen change in the economic situation.

Some of the placer operations will be mentioned here, and a complete list of active operations is included later in this report.

In the **First Judicial District**, the only placer activity was the operation of a suction dredge at Windham Bay by the Davis Mining Corporation of Juneau.

In the **Second Judicial District**, Herb Engstrom operated a dredge on Eldorado Creek and Pat Bliss mined in the Koyuk District. The Far North Mining & Development Company mined on Candle Creek with a crew of eight. The Lee Brothers dredged as usual on Solomon River and the Lucky Syndicate dredged on the Kougarak River, as did N. B. Tweet & Sons.

The **Third Judicial District's** most active placer camp is the Yenta District. Several operations have started and stopped there, and others have changed hands, but little production has resulted. The Monte Cristo Mining Company mined on Slate Creek in the Chistocrina in 1959, but in that district, little else happened. Lawrence Coffield & Associates mined on Black Creek in the Valdez Creek District.

In the **Fourth Judicial District**, the U.S.S.R. & M. Co. operated six dredges in the Fairbanks District during the year, but two of these completed their dredging programs and will be idle next

year. The Pedro Creek dredge was moved to Mosquito Fork in the Fortymile District and was reassembled in time to operate for a few weeks near the end of the season. Nineteen small placer operations that were active in 1958 became inactive in 1959. Eleven small placer operations that were not active in 1958 were started during 1959, but five of these were old operations that had been idle for a year or two. The number of men employed in placer mining decreased, partly because there were fewer operations and partly because many of the operations are on a smaller scale than they were in former years.

### Base Metals

Though no new production has yet resulted—and may not for several more years — Alaska continues to make progress towards a base metals industry. The most important advances have been mentioned earlier, but they will be elaborated on here, together with other base metal information.

**Iron.** As in previous years, the search for new deposits was confined mostly to Southeastern Alaska because of the need for cheap transportation for that type of ore. Among the favorable bodies of magnetite are those at Klukwan, Port Snettisham, Union Bay, Duke Island, Bradfield Canal area, and several on Prince of Wales Island. In addition there is the new discovery of Humble Oil and Refining Co. near Dillingham, discussed earlier. The Klukwan deposit is being drilled and sampled by Columbia Iron Mining Co., a subsidiary of the U. S. Steel, who also has intermittently operated a pilot concentrating plant there. Most attention so far at Klukwan has been given to the alluvial portion of the deposit, which contains hundreds of millions of tons of material, but there is also a large lode above the placer. More drilling and sampling has been done by Fremont Mining Co. at Port Snettisham on their claims and those of W. S. Pekovich of Juneau, and some exploration has been continued on Columbia's property at Union Bay near Ketchikan. Mt. Andrew Mining Co. drilled iron properties on Kasaan Peninsula of Prince of Wales Island, investigated others, and will increase its work next year. The deposit on the North Bradfield River was drilled at the instance of C. T. Takahashi of Seattle and further work is planned. Totem Exploration of Ketchikan, Don Ross of the same city, and others of that area have been very active and persistent in their efforts to locate more iron, and staked several good possibilities, some of which have been the subject of negotiations with mining companies for further exploration.

**Copper.** The Prince William Sound, Nizina, and Ketchikan Districts seem the most promising areas for future production of copper, but it may come from the far north Kobuk country first. Bear Creek Mining Co., Kennecott exploration subsidiary, has been drilling a large and promising copper property north of the Kobuk River for three years, and will return again in 1960. Large areas are being covered in various parts of Alaska by geochemical methods as well as general reconnaissance for copper. A prospecting group financed by a syndicate managed by Moneta Porcupine Mines, Ltd. of Canada staked a large block of claims on a promising copper show on both sides of Sumdum Glacier at Endicott Arm south of Juneau in 1958. This prospect was drilled in 1959, but future plans for it are not known at the present. The MacLaren River property near the new Denali Highway saw intermittent development work during the year. Ray Trotochau reportedly mined and shipped a small amount of copper from the long-dormant Kennecott Mine at McCarthy.

**Nickel.** A very promising nickel show was found in Southeast Alaska in 1958 and was the scene of extensive drilling and geo-physical work in 1959. Further work is scheduled for the property in 1960. Devamin Company did not return to the Yakobi Island nickel deposits after its intensive drilling project of 1958. An interesting belt of nickel deposits extends from Yakobi Island south along the west coasts of Chichagof and Baranof Islands to Snipe Bay. The Admiralty Alaska Gold Mining Co. is still exploring its much-publicized deposit at Funter Bay on Admiralty Island. Some activity was noted at the Spirit Mountain occurrence in the Copper River country, and another interesting nickel prospect is in the Salcha River area, held by Dean Ricks.

**Tin.** Tin is found in placer deposits in many locations in Alaska, but the Seward Peninsula is the area of most importance. Lode tin deposits are common there and considerable tin placer mining has been done in the past. However, because of economic conditions, all placer tin mining has been at a standstill since 1953, and the only significant lode operation that has ever existed under the U. S. flag was forced to close in 1955. This was the U. S. Tin Corp. mine at Lost River. It was supported by government loans. The mine has since been offered for sale at auction, but the government repurchased it because of lack of suitable bids. Because of the fact that the U. S. tin supply is located in countries that could be overcome by the communist influence, it is surprising that more interest, official or private, is not shown in our Alaskan tin. Large placer tin reserves were outlined by drilling near Cape Mountain in 1952 and 1953, and make an attractive-appearing mining possibility, but no action has been taken. Placer tin has also

been found in the Hot Springs District, Melozitna District, Fairbanks District, and others. Many years ago, a piece of tin "float" was found along Lynn Canal in Southeastern Alaska, indicating a possible source of lode tin somewhere in that country.

**Mercury.** An impressive belt of cinnabar prospects extends from around the Red Devil mine near Sleetmute on the Kuskokwim River to the Marsh Mountain prospect near Dillingham. High mercury prices have kept exploratory and prospecting activities in this belt at a fairly high level, but the Red Devil remains the only producer except the one-man operation of Russel Schaefer on Cinnabar Creek. Cordero Mining Company and Western Alaska Mining Company investigated various prospects. A promising discovery made in 1958 was developed further in 1959 and will receive still more work in 1960. Alaska Mines and Minerals, Inc., successor to the DeCoursey Mountain Mining Company as operator of the Red Devil mercury mine, is planning exploration work for the Barometer property, near the Red Devil.

**Tungsten.** The Alaska Metals Mining Co. maintained its tungsten property at Gilmore Dome in the Fairbanks District. The mill that was built there in 1956 has not been put into production because of the withdrawal of the tungsten price support in 1957. Rehabilitation work was continued by Hyder Mines, Inc. at the Riverside Mine in the Hyder District. A tungsten property of the Kodiak Exploration Co. on Kodiak Island may be drilled in 1960. Tungsten, in the form of scheelite, is found in veins and in gold placer deposits in various sections of Alaska.

**Chromium.** The Kenai Chrome Co., a major chrome producer, shut down its operation early in 1958 upon expiration of the government purchase program. The company was left holding several thousand tons of ore and concentrates which it had thought would be purchased. Other companies have been active in the past, but not lately. The chromite has all come from the Red Mountain area near Seldovia, but other chromite is known to exist on Baranof Island in Southeastern Alaska, near the Richardson Highway south of Tonsina, and other localities.

**Molybdenum.** This metal, too, is found in nearly every section of Alaska. Several of the prospects may have commercial importance. Representatives of American Metals Climax Co. did some exploratory work on one promising prospect in Southeast Alaska and investigated other molybdenum deposits throughout Alaska. The demand for molybdenum is on the increase.

**Lead and Zinc.** Though many claims continue to be located for these metals, particularly on silver-lead prospects, there was little activity beyond the claim staking. The main hope for lead or zinc mining in Alaska is that there will be sufficient silver or copper with it to "sweeten" it sufficiently to pay the transportation bill. Production of lead and silver is planned at the Riverside Mine near Hyder. That ore body also carries scheelite.

**Antimony.** Although there are antimony deposits in all sections of Alaska, activity in this metal was nil. Not even a single assay for antimony was requested at any of the assay laboratories during the year. Considering the number of antimony deposits in Alaska, a good market would undoubtedly create many small antimony mining ventures.

**Barium.** Deposits of barite are located in Southeastern Alaska in the Petersburg and Ketchikan Districts, but are somewhat small.

**Bismuth.** A bismuth prospect exists in the Nome District.

#### Nonmetallics

Other than in sand and gravel, activities in nonmetallics remained relatively quiet in 1959. Alaska has deposits of asbestos, mica, sulphur, pumice, graphite, building stone of various types, silica, rare earths, gypsum, and unlimited quantities of high-calcium limestone. Other deposits include garnet, marble, fluorite, calcite, kyanite, and bentonite. Interest in gem stones and suitable lapidary materials continues to grow, and the market for mineral specimens and jewelry materials from Alaska is improving steadily. A few independent mineral specimen dealers report a brisk business.

The best mica deposits known so far are on Sitklan Island, south of Ketchikan, and on the Seward Peninsula. Asbestos deposits are fairly widespread, but the Kobuk River asbestos is the best known to date. A large deposit of graphite is located on the Seward Peninsula. Pumice is available near Mt. Katmai on the shore of Cook Inlet.

The only known Alaskan jade is found in good quantities in the vicinity of the Kobuk River in Northwest Alaska. The Shungnak Jade Project, operated by the Eskimos and sponsored by the Indian Arts and Crafts Board, purchases jade from the Eskimo claim holders and cuts and polishes it for souvenirs and jewelry.

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In 1959, the Project also purchased a large amount from Al Stout, who placer mines on Dahl Creek and supplies other jade outlets. No report was received on the Empire Jade Co., but it probably shipped jade to Germany for cutting as in past years.

Local clays are being utilized in a small brick-making venture in Anchorage.

### Coal

A total of 12 coal mines were active during the year, of which only three were underground. One of these is an intermittent operation and another was inactive during the second half of the year, leaving Alaska with only one steadily-producing underground coal mine at the year's end. Of the nine strip mines, two are one-man operations, two were intermittent through the year, and two produced only during the latter half of 1959. A list of the operations by name and address, etc., will be found in the last part of the report. As pointed out under the heading "Future and Needs of the Industry", Alaskan coal mining is likely to have a brighter future than is generally supposed. At least three major mining companies are investigating possibilities of exporting coal from Alaskan coal deposits.

**Matanuska Field.** The Evan Jones Coal Co. closed its large underground operation down in mid-year, but continued subcontracting a stripping operation to Minor Roop. Mrak Coal Co. continued its stripping operation on a steady basis. Pioneer Mining Co. changed hands twice and mined strip coal intermittently at the old Premier Mine. The Castle Mountain Coal Co. mined only intermittently on a small scale.

**Nenana Field.** Suntrana Mining Co. abandoned its haulage system and now transports its coal from underground to the tippie by conveyor belt. Usibelli Coal Mine mined only strip coal. Cripple Coal Co. and Arctic Coal Co. mined only during the latter half of the year after each received a military contract. A mine-mouth power plant for the Nenana Field has been under consideration for quite some time. The latest development on this proposal is not known. Power would be transmitted to Fairbanks.

**Kenai Field.** Two strip pits near Homer were operated occasionally by Jack Gist and Bruno Agostino.

**Point Barrow Field.** Although no reports were received, it is assumed that the Meade River Coal Mine continued to provide

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coal for the residents of the village of Point Barrow. Efforts of the village to obtain some of the gas from the Naval Petroleum Reserve No. 4 well that is piped into the village for use of the government agencies has so far been unsuccessful.

**Bering River Field.** Great interest is being shown in the possibilities of this undeveloped field for mining and shipping coking coal to Japan. In 1958 a group of Japanese engineers, geologists, and industrialists visited the field with Alaskan engineers and representatives of the Jewell Ridge Coal Co. of Virginia, which is presently shipping coal to Japan from the East Coast. Exploration in late 1958 and 1959 resulted in coal bids being exposed and large samples being shipped from the field for testing. The program is expected to accelerate into a several hundred thousand dollar program before it will finally determine if a large scale mining and shipping operation can be made economically feasible. A survey for a road into this field from the existing portion of the Copper River Highway has been completed by the U. S. Bureau of Public Roads.

**Beluga Field.** Preliminary investigation by the former Territorial Department of Mines and the U.S. Bureau of Mines have shown that some large coal beds exist in this field that should provide for economical mining operations. The U.S.B.M. is now carrying out a core drilling project there. This field would provide an excellent site for a mine-mouth power plant for transmission of power to the Anchorage area.

### Radioactives

Uranium mining was again started in Alaska late in 1959, but no actual production resulted since the ore mined was not shipped. The Jott Mining Co. of Oklahoma mined the property near Kendrick Bay on the south part of Prince of Wales Island that was discovered by Ross and Adams in 1955. In 1957 the Climax Molybdenum Co. formed the Kendrick Bay Mining Co. and mined the property but did not return in 1958. Jott Mining Co. took over the property, did some mining, moved the ore to the beach, but did not ship. Operations are scheduled to resume in the spring of 1960.

Except for holders of properties adjacent to and in the vicinity of the above mentioned mine, interest in uranium in Alaska seems to have almost disappeared.

## THE PETROLEUM INDUSTRY

The enthusiasm generated by Alaska becoming the 49th State was shared by the oil and gas operators doing business in Alaska as sixteen wells were spudded during 1959, while but four were started in 1958. A well activity tabulation is shown in Table III.

Standard Oil Company of California, operator, continues to develop the Swanson River Unit Field in the northwest region of the Kenai Peninsula and presently is drilling the tenth well. Three of the SRU wells spudded during 1959 were directional holes. The soil mechanics of the low, swampy area in which the SRU Field is located limits the desired straight-hole well locations; thus future plans of the operator call for several directional holes to be drilled from each future site. Tentative plans to build a pipeline from the SRU Field to Nikishka on Cook Inlet some 22 miles southwest are dependent upon subsequent development proving the reserves necessary for payout and an announced maximum efficient rate of 3,000 barrels of oil per day. Production at the end of the year averaged 750 BOPD. Salt water disposal became a problem in 1959 and as a result the operator now uses SRU (22-23) as a disposal well. A well location map of the SRU is shown in Figure 3.

TABLE III  
Oil and Gas Well Activity, 1959

Operator	Well No.	¼ Sec.	Twp.	Range & M	B	Spud date	Completion date	TD (ft.)	Status 12-31-59
Anchorage G & O Dev. Co.	Rosetta (1)	NW 20	18N	3W	S	6- -54		4260	DSI(a)
Alaska Consolidated Oil Co.	Beal (1)	NW 17	5S	23W	S	8- 4-54		9746	WO(b)
Anchorage G & O Dev. Co.	Rosetta (3)	SW 21	18N	3W	S	7-25-56		6109	DSI(c)
Humble O & R. Co.	Bear Creek Unit (1)	SE 36	29S	41W	S	9-23-57	3- 4-59	14375	P&A
Colorado O & G Corp.	Yakutat (3)	SE 3	28S	34E	CR	7-21-58	4-23-59	10494	P&A
Alaska Consolidated Oil Co.	Iniskin Unit-A. Zappa (1)	NE 18	5S	23W	S	12-25-58		11200	DSI(d)
Standard Oil Co. of Cal.	Swanson River Unit (34-16)	SE 16	8N	9W	S	1- 4-59	3-26-59	12582	P&A
Standard Oil Co. of Cal.	Swanson River Unit (14-15)	SW 15	8N	9W	S	3-29-59	7-25-59	11460	POW(e)
Halbouty Alaska Oil Co.	Halbouty-King (1)	SE 6	7N	9W	S	1-31-59	5-13-59	12037	P&A
Union Oil Co. of Cal.	Kenai Unit (14-6)	SW 6	4N	11W	S	5-28-59	10-11-59	15047	GSI
Standard Oil Co. of Cal.	Swanson River Unit (12-27)	NW 27	8N	9W	S	7- 4-59	11-30-59	11500	POW
General Petroleum Corp.	Great Basins (1)	NE 2	27S	48W	S	7- 6-59	9-14-59	11080	P&A
Standard Oil Co. of Cal.	Swanson River Unit (32-15)	NE 15	8N	9W	S	8- 5-59	10-24-59	11982	POW(f)
Anchorage G & O Dev. Co.	Rosetta (4)	NW 21	18N	3W	S	8-24-59		1614	DSI(g)
General Petroleum Corp.	Great Basins (2)	NE 35	25S	50W	S	10-10-59	11-11-59	8865	P&A
Union Oil Co. of Cal.	Kenai Unit (34-31)	SE 31	5N	11W	S	10-28-59	11-24-59	5809	GSI
Standard Oil Co. of Cal.	Swanson River Unit (32-22)	NE 22	8N	9W	S	10- 3-59		11773	drlg
Union Oil Co. of Cal.	Kenai Unit (33-30)	SE 30	5N	11W	S	11-28-59	12-21-59	5011	GSI
Benedum & Associates	Nulato Unit (1)	SW 7	10S	2 E	KR	11-29-59		1850	drlg
Richfield Oil Corp.	Kaliakh River Unit (1)	SW 34	20S	14 E	CR	12- 3-59		5493	drlg
Standard Oil Co. of Cal.	Swanson River Unit (14-27)	SW 27	8N	9W	S	12-26-59		2900	drlg(h)
Standard Oil Co. of Cal.	Soldotna Creek Unit (41-4)	NE 4	7N	9W	S	12-31-59		251	drlg

(a) DSI 6-30-59. Deepened from 4049 ft. to 4260 ft. (b) Havenstrite Oil Co. well spudded 8-4-54. Hydrofractured 11-59. (c) DSI 10-58. No progress on attempt to recover fish during 7-59. (d) DSI 10-59, unrecoverable fish. (e) Surface location SE/4, Sec. 16; sidetracked out of SRU 34-16 at 3759 ft. to total depth of 11460 ft. (f) Surface location NW/4, Sec. 15. (g) DSI 10-13-59. (h) Surface location NW/4, Sec. 27.

Abbreviations: DSI—drilling suspended indefinitely; WO—workover; P&A—plugged and abandoned; GSI—gas well shut-in; POW—producing oil well; drlg—drilling. S—Seward Baseline and Meridian; CR—Copper River Baseline and Meridian; KR—Kateel River Baseline and Meridian.

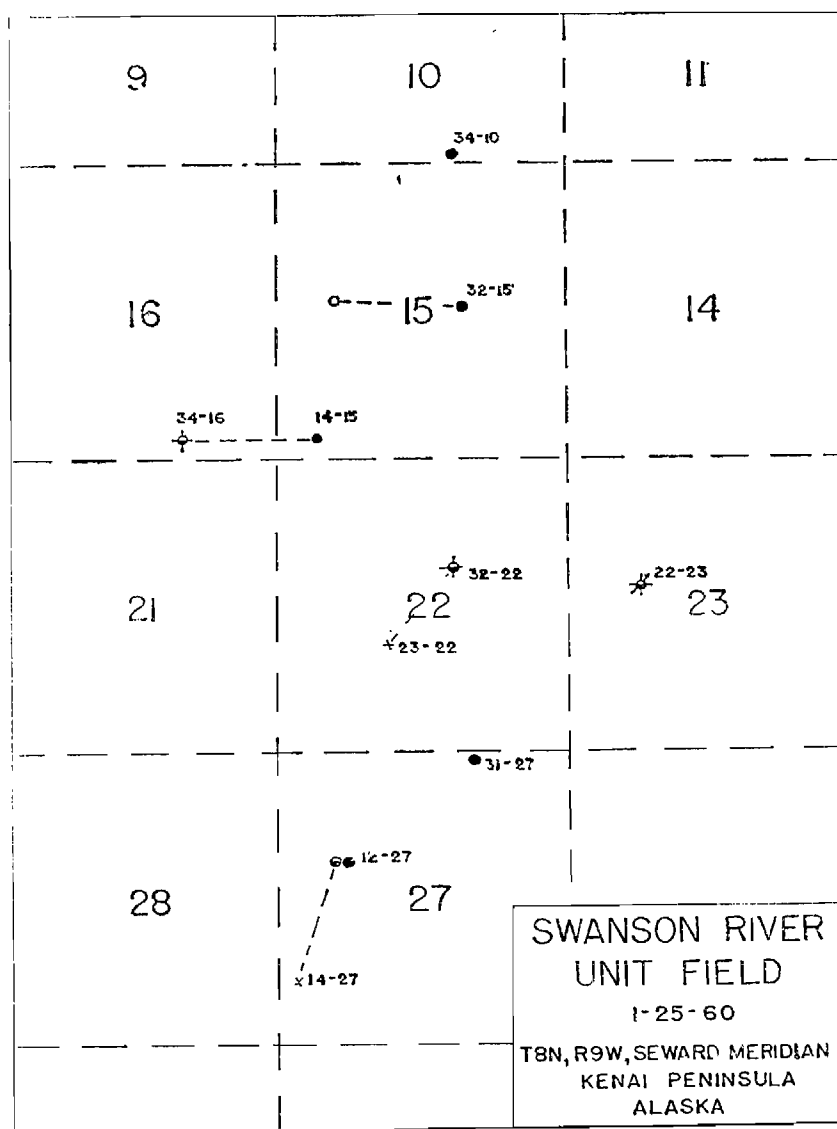


FIGURE 3

On May 28, 1959, Union Oil Company of California and the Ohio Oil Company, with Union as operator, spudded Kenai Unit (14-6) near Kalifonsky Beach on Cook Inlet about 25 miles south west of the Swanson River Unit Field. Kenai Unit (14-6) was drilled to 15,047 feet, which established a new Alaskan depth record, and gas was discovered at approximately 5,000 feet. Two development wells were drilled approximately one mile and two miles north, respectively, of the discovery well. All three wells are shut-in waiting on marketing facilities.

The Nulato Unit well No. 1, which can be considered the first well ever drilled in interior Alaska, was spudded on November 29, 1959, with Paul Benedum as operator. This well is located in the SW/4, Section 7, T.10 S., R.2 E., Kateel River Meridian and proposed total depth is 10,000 feet. Supplies and equipment for this well were brought up the Yukon River to Nulato, about 490 miles, via LST and also were barged approximately 375 miles downstream from Fairbanks.

In addition to the sixteen wells spudded during 1959, drilling on four other wells was performed. The footage drilled as reported by the operators totaled 137,902 feet. Pan American Petroleum Corporation also drilled a 1,200 foot core hole about 30 miles west of Bethel in October.

Seven geophysical exploration companies operated in Alaska in 1959, and seismic crew-months totaled ninety-two, while gravity meter crew-months totaled 7.5. A marine seismic survey of Cook Inlet was completed in May after four months of shooting. Standard Oil Company of California was operator for this joint venture of eleven major oil companies. Eighteen oil companies had a total of 36 geologic field parties operating in Alaska and the USGS had two parties. The 36 geologic field parties contributed 552 party-weeks in all parts of Alaska covering every major sedimentary basin.

The table in the last part of the report lists all the oil and gas companies which actively explored for oil and gas by drilling, or by having seismic, gravity, and/or geologic field parties in Alaska during 1959.

The State received unanimous response to its request that the operators reveal their respective drilling and exploration costs for 1959 so that cumulative figures could be publicized. Drilling and producing costs amounted to \$13,940,000 and exploration expenditures totaled \$16,714,000. Although these figures include

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4 to 6 weeks end-of-the-year projected expenditures of some of the operators, the magnitude of the costs for the year shows the extent to which the operators are searching for oil in Alaska. These figures are much larger than in preceding years, but some of the difference must be attributed to a more complete and accurate canvass of the industry.

Following a hearing in Anchorage on July 9th, Alaska's Oil and Gas Leasing Regulations became effective on September 14th. The State's first competitive lease sale followed on December 10th which included 88,035 nominated acres of offshore areas within historical bodies of water. An average acre-bid of \$51.66 was offered on 77,831 acres, totaling \$4,021,031.43. At the end of the year there were 32,611,079 acres under Federal oil and gas leases and 101,639 acres under State oil and gas leases.

Five development contracts were authorized by the USGS during the year and the area involved totaled 2,210,596 acres:

(1) **Yakataga** — Richfield Oil Corporation holds this contract involving 489,622 acres which calls for a well to be spudded by 12-31-59 and another by 12-31-60; (2) **Katalla** — this contract stipulates that Richfield Oil Corporation agrees to spud a well before 12-31-61 and another by 12-31-62 within an area totaling 571,121 acres; both the Yakataga and Katalla Development contracts are located adjacent to the Gulf of Alaska, west of the Malaspina Glacier and east of the mouth of the Copper River; (3) **Napatuk Creek** — the 465,200 acres in this contract are situated approximately 50 miles west southwest of Bethel in southwestern Alaska, and the contract states that the Pan American Petroleum Company will spud their first well before 3-1-61 and another within the following year; (4) **Great Basins 1 and 2** — these two contracts involve 455,573 acres west of Lake Becharof in the Alaska Peninsula, and after the drilling of a dry hole within each contract area, General Petroleum Corporation suspended operations and has no definite plans for further drilling; (5) **Knik Arm** — the 229,000 acres described in this contract are located within 5 miles of Anchorage across Knik Arm, and the contract provides for the drilling of 3 wells, the first by 2-17-61, by the combine of the Union Oil Company of California and the Ohio Oil Company.

In 1959 five unit agreements were approved or were pending approval by the USGS and the State: (1) **Kenai** — this unit is located immediately south of Kenai and involves 61,024 acres with the Union Oil Company of California as operators; (2) **Nulato** —

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Paul G. Benedum is operator and the 99,840 acres comprising this unit are located in west central Alaska approximately 14 miles southwest of Nulato which is near the junction of the Koyukuk and Yukon Rivers; (3) **Kaliakh River** — the Richfield Oil Corporation is operator of this unit comprising 86,500 acres located some 20 miles west of Yakataga which is situated on the shore of the Gulf of Alaska about half-way between the Malaspina and Bering Glaciers; (4) **Soldotna Creek** — this unit area of 70,720 acres is located south of and adjacent to the Swanson River Unit area and has Standard Oil Company of California as operator; (5) **Bishop Creek** — M. T. Halbouty is operator of this 38,557 acre unit and it is located just west of the Swanson River Unit.

## EMPLOYMENT AND ACCIDENTS AT MINES

### Employment and Nonfatal Accidents

The following Table IV reveals the trend of employment in the mining industry from 1914, the first year for which records are available, through 1959. Accidents and employment at the various types of mines are shown for 1958 and 1959 in Table V. In this table, the accident figures for the placer operations other than dredging are not wholly accurate, for the accident reporting by the smaller operators is not complete. Table VI indicates the number of man-shifts, accidents, and resulting time lost at different types of mines in Alaska for all the years for which records are available.

Employment and accident statistics for the petroleum industry are not yet being collected by the DM&M.

Coal mining being the most hazardous of the various types, particular care is taken in noting accident trends in that field. Comparative nonfatal coal mine accident statistics for 1959 follow:

	Man Shifts	Nonfatal Accidents	Accidents Per M.M.H.
Underground .....	17,008	16	118
Strip .....	41,309	49	148
Total Alaska .....	58,317	65	139
U. S. Average .....			43

### Fatalities

Two fatalities occurred in mining activities during the year, one of them at a strip coal mine and the other in a mining exploration operation.

C. J. "Slim" McMahon was killed December 6, 1959, while operating a bulldozer at the Mrak Strip Mine in the Matanuska Field. He was moving the dozer from the pit to another location along a narrow road, when the dozer went off the road and rolled 65 feet down the steep hill, injuring him fatally. There were no witnesses to the accident. The victim was dead when found.

Robert W. Baldwin, geophysicist with Newmont Mining Corporation died July 26, 1959, a few hours after a helicopter crash on Gilman Glacier, Glacier Bay National Monument. In doing some reconnaissance searching for mineral indications, a landing was attempted on top of an exposed rock bluff. The landing failed and the helicopter fell down the face of the bluff. The pilot and another passenger survived with serious injuries, but the victim's injuries were fatal.

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TABLE IV

Employment at Mines, 1914 to 1959 Inclusive  
Number of Men Employed at:

Year	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	4,369
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
1947	1,824	384	280	2,488
1948	1,938	309	267	2,514
1949	1,838	262	323	2,423
1950	1,722	243	297	2,262
1951	1,219	202	287	1,708
1952	1,286	222	404	1,912
1953	1,460	270	394	2,124
1954	1,356	299	345	2,000
1955	1,331	420	287	2,038
1956	1,323	386	282	1,991
1957	1,166	415	314	1,895
1958	1,050	276	267	1,593
1959	1,043	370	288	1,701

## REPORT OF DIVISION OF MINES AND MINERALS

TABLE V

Summary of Accidents and Employment at Mines in Alaska  
1958-1959  
(1958)

Number of Mines	Group	Number of Men	Number Shifts	Results of Accidents		Total Time Lost
		Employed	Worked	Fatal	Nonfatal	Days
PLACER MINES:						
23	Dredges .....	712	137,638	0	46	339
78	Nonfloat .....	247	25,741	0	1	2
9	Hydraulic .....	23	1,907	0	0	0
8	Small scale hand .....	20	1,231	0	0	0
17	Others (1) .....	48	4,370	0	0	0
135		1,050	170,887	0	47	341
COAL MINES:						
4	Underground .....	130	27,551	0	24	603
9	Strip .....	137	32,304	0	31	212
13		267	59,855	0	55	815
LODE MINES:						
104	Metal (2) .....	264	31,700	0	7	57
2	Nonmetal (3) .....	2	240	0	0	0
106		266	31,940	0	7	57
MILLS:						
1	Metal .....	10	2,075	0	3	54
255	Totals .....	1,593	264,757	0	112	1,267

(1959) (4)

PLACER MINES:						
25	Dredges	715	138,000	0	50	205
76	Nonfloat	233	24,200	0	0	0
9	Hydraulic	13	1,080	0	0	0
14	Small scale hand	16	990	0	0	0
25	Others (1)	66	5,000	0	0	0
149		1,043	169,270	0	50	205
COAL MINES:						
3	Underground	122	17,008	0	16	149
9	Strip	166	41,309	1	49	311
12		288	58,317	1	65	460
LODE MINES:						
102	Metal (2)	352	37,000	1	6	156
5	Nonmetal (3)	8	800	0	0	0
107		360	37,800	1	6	156
MILLS:						
1	Metal	10	2,100	0	0	0
269	Totals	1,701	267,487	2	120	821

(1) Includes placer prospectors and exploration projects.

(2) Includes lode prospectors, exploration projects, and intermittent mining operations.

(3) Excludes sand and gravel and stone quarry operations.

(4) Figures for 1959 are preliminary and subject to revision.

For explanation of placer mining terms, see footnotes at end of list of Alaska Mining Operations.

TABLE VI

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

Year	Man-Shifts Worked at			Fatalities			Nonfatal Accidents			Time Lost (Days)		
	Placer Mines	Lode Mines and Mills	Coal Mines	Placer Mines	Lode Mines and Mills	Coal Mines	Placer Mines	Lode Mines and Mills	Coal Mines	Placer Mines	Lode Mines and Mills	Coal Mines
1912				6	6							
1913				10	15							
1914				5	14							
1915				4	19							
1916				7	22		27	736				
1917				9	24		11	705				
1918				1	12		0	199				
1919				0	13		5	350	5			
1920				0	9		0	302			2,831	
1921		568,615	103,389	0	12		0	249			3,519	471
1922		537,180	55,309	0	5	0	0	252			4,344	250
1923	84,948	618,359	66,927	2	9	0	7	230	42	394	3,991	673
1924	117,545	468,890	34,353	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

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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
1947	351,916	85,361	80,691	1	1	1	65	8	47	869	110	646
1948	390,566	66,602	74,273	0	0	1	55	7	48	1,003	322	613
1949	361,494	54,796	86,602	0	0	0	59	12	66	538	427	1,292
1950	343,974	52,850	70,364	0	0	1	38	14	63	656	596	941
1951	222,577	33,035	66,985	1	0	0	45	1	66	402	10	834
1952	246,065	40,060	85,438	1	0	0	27	0	88	200	0	904
1953	284,390	34,490	112,636	1	1	2	53	12	160	616	98	2,049
1954	265,820	43,410	81,049	1	3	1	46	20	71	374	190	1,048
1955	253,220	62,460	76,449	0	1	0	154	6	82	944	138	574
1956	252,005	61,900	79,489	0	1	0	124	32	74	918	317	691
1957	227,010	49,560	71,837	0	1	6	188	37	98	806	415	1,975
1958	170,887	34,015	59,855	0	0	0	47	10	55	341	111	815
1959	169,270	39,900	58,317	0	1	1	50	6	65	205	156	460

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# LIST OF ALASKA MINING OPERATIONS ACTIVE DURING 1959

Name and Address of Operator	Location of Mine	Recording Precinct and USGS Quadrangle	Type of Operation*	Approx. Crew
Admiralty Alaska Gold Mining Co. Box 2642, Juneau	Funter Bay Admiralty Dist.	Juneau (Juneau)	Nickel-copper lode development	4
Alaska Exploration & Mining Co. Talkeetna	Bird Creek Yenta Dist.	Talkeetna (Talkeetna)	Hydraulic	1
Alaska Horizons Co. Vic Fondy & Ray Jones	Treasure Creek Chelatna Lake Area	Talkeetna (Talkeetna)	Testing ground with caisson	2
48 Alaska Juneau Gold Mining Co. Box 2419, Juneau	A. J. Mine, Juneau Juneau Dist.	Juneau (Juneau)	Gold lode and mill (selling equipment & scrap)	21
Alaska Mines & Minerals Box 422, Anchorage	Red Devil Mine Aniak Dist.	Kuskokwim (Sleetmute)	Mercury production	36
Alaska Nickel Co. Fred Jenkins, Eagle	Flume Creek Eagle Dist.	Fairbanks (Eagle)	Gold lode development	5
Alaska Resources, Inc. Fairbanks	Goldstream Creek Fairbanks Dist.	Fairbanks (Fairbanks)	Limestone & peat	2
Alder Creek Mining Co. Box 1999, Fairbanks	Fairbanks Creek Fairbanks Dist.	Fairbanks (Livengood)	Nonfloat	8

\*Types of operations are explained at end of list.

Alluvial Golds, Inc. 4732 48th N. E. Seattle 5, or Coal Creek	Woodchopper Creek Circle Dist.	Fairbanks (Charley River)	Gold dredge	19
American Metal Climax, Inc. 718 Granville St., Suite 908 Vancouver, B. C.	Alaska general	Several	Mineral investigations	3
American Smelting & Refining Co. 718 Granville St., Vancouver, B. C.	Alaska general	Several	Mineral investigations	1
Amero, A. W. Chandalar	East Fork Chandalar River Chandalar Dist.	Fairbanks (Chandalar)	Prospecting	1
Anaconda Company, The Box 1764, Spokane 10, Washington	Alaska general	Several	Mineral investigations	4
49 Anderson, Einart 314 Front St. Graehl, Fairbanks	Goose Creek Tolovana Dist.	Fairbanks (Livengood)	Nonfloat	3
Anderson, Ellis Chandalar	Tobin Creek Chandalar Dist.	Fairbanks (Chandalar)	Small scale hand	1
Anderson, Tury and Associates Fairbanks	Fairbanks Dist.	Fairbanks (Fairbanks)	Lode prospecting	2
Arctic Alaska Fisheries & Enterprises, Inc. John Sheldon and Adolph and Roudolph Vettors 1314 Sixth Ave., Fairbanks	Head of Wolf Creek Fairbanks Dist.	Fairbanks (Livengood)	Lode prospecting and mining	3
Atlas Mines George J. Waldhelm Box 755, Nome	Dahl Creek Kougarok Dist.	Cape Nome (Bendeleben)	Nonfloat	1

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Barrett, Frank Chicken	Mosquito Fork Fortymile Dist.	Fairbanks (Eagle)	Prospecting	1
Basin Creek Mining Co. Herbert Engstrom Box 554, Nome	Eldorado Creek Nome Dist.	Cape Nome (Nome)	Dredge	3
Bear Creek Mining Co. W. 508 Cataldo Spokane, Washington	Ruby Creek Shungnak Dist.	Noatak-Kobuk (Ambler River)	Copper lode development	40
Beckwith, Rea Box 119, Anchorage	Alaska general	Several	Mineral investigations	3
Belanger, George Box 1771, Palmer	Nelchina Dist.	Chitina (Talkeetna Mts.)	Prospecting	1
Berg, L. C. Box 58, Sitka	Chichagof Dist.	Sitka (Sitka)	Prospecting	1
Berg, Rhinehart (Bear Creek Mining Co.) Chitina	Ruby Creek Shungnak Dist.	Noatak-Kobuk (Ambler River)	Copper lode development	1
Beshores, Paul & Assoc. Box 1161, Mollala, Oregon	Kugruk River Fairhaven Dist.	Fairhaven (Bendeleben)	Nonfloat	1
Bittner, Paul Central	Deadwood Creek Circle Dist.	Fairbanks (Circle)	Hydraulic	1
Bittner, Paul Central	Hot Springs Dist.	Hot Springs (Tanana)	Prospecting	1

Blackjack Mining Assoc. Mile 1½ S. Tongass, Ketchikan	Southeast Alaska	Several	Prospecting	1
Bliss, Patrick J. Ungalik	Ungalik Creek Koyuk Dist.	Cape Nome (Norton Bay)	Nonfloat	3
Brandl, P. & R. Box 4042, Star Route, Spenard	Nugget Creek Yenta Dist.	Talkeetna (Talkeetna)	Nonfloat	4
Breseman, John W. Box 796, Pelican	Chichagof Dist.	Sitka	Prospecting	1
Brockway, John T. and Ellis, Sid 2500 E. Street, Bellingham, Wash.	Chichagof Dist.	Sitka (Sitka)	Gold lode development	2
Brown, Erwin General Delivery, Petersburg	Southeast Alaska	Several	Prospecting	1
Burnette, Dewey and Hunter, Martha Box 1995, Fairbanks	Crooked Creek Kantishna Dist.	Fairbanks (Mt. McKinley)	Nonfloat	2
Canyon Creek Mining Co. Jens Kvamme & Sons, Akiak	Marvel Creek Aniak Dist.	Kuskokwim (Bethel)	Nonfloat	4
Carr, G. W. Miller House	Miller Creek Circle Dist.	Fairbanks (Circle)	Nonfloat	2
Carr, Paul Big Lake	Bore Creek Chandalar Dist.	Fairbanks (Chandalar)	Prospecting	1
Carroll, Michael Fairbanks	Spruce Creek Innoko Dist.	Innoko (Iditarod)	Nonfloat	2

Carstens, Heine C. Central	Portage Creek Circle Dist.	Fairbanks (Circle)	Nonfloat	2
Casanoff, Jack Kiana	Klery Creek Kiana Dist.	Noatak-Kobuk (Baird Mts.)	Small scale hand	1
Cassell, J. B. Hollis	Hollis Ketchikan Dist.	Ketchikan (Craig)	Prospecting	2
Casto, Steve 33 Mile, Haines	Porcupine Creek Juneau Dist.	Haines (Skagway)	Small scale hand	1
Chandalar Mining Co. Hugh Matheson, Jr. 1075 Riverview Dr., Fairbanks	Big Creek Chandalar Dist.	Fairbanks (Chandalar)	Nonfloat	4
52 Chatham Creek Mining Co. Berg, Tveiten, & Wickstrom Box 64, Fairbanks	Last Chance, trib. to Eldorado Fairbanks Dist.	Fairbanks (Livengood)	Nonfloat	3
Cleveland, Robert Shungnak	Shungnak River Shungnak Dist.	Noatak-Kobuk (Shungnak)	Jade placer	1
Cline, Harvey Cordova	Yakataga Beach Yakataga Dist.	Cordova (Bering Glacier)	Small scale hand	1
Coffield, Lawrence Fairbanks	Black Creek Valdez Creek Dist.	Talkeetna (Healy)	Gold lode prospecting	1
Coffield, Lawrence; Layton, Ray; Robinson, Bruce Fairbanks	Black Creek Valdez Creek Dist.	Talkeetna (Healy)	Nonfloat	3

Collinsville Mines, W. W. Renfrew 1557 H Street, Anchorage	Mills and Twin Creeks Yenta Dist.	Talkeetna (Talkeetna)	Placer prospecting	2
Columbia Iron Mining Co. 525 William Penn Place Pittsburgh 30, Penna.	Southeast Alaska	Several	Mineral investigations, aerial recon., drilling	8
Conkle, Earl J., and Associates Box 423, Ketchikan	Clover Pass Ketchikan Dist.	Ketchikan (Ketchikan)	Prospecting & lode exploration	1
Connell, Paul A. Central	Circle & Black Dists.	Fairbanks (Circle and Charley River)	Prospecting	1
Consolidated Mining & Smelting Trail, B. C.	Prince of Wales Island Ketchikan Dist.	Ketchikan (Craig)	Diamond drilling	5
53 Cordero Mining Co. 131 University Ave. Palo Alto, California	Aniak Dist.	Several	Mercury lode explorations	3
Crane, Fred and Associates Kotzebue	Northwestern and Northern Alaska Regions	Noatak-Kobuk (Several)	Prospecting	2
Dahl Creek Mine Charles E. "El" Stout 709 5th Ave., Fairbanks or Kobuk	Dahl Creek Shungnak Dist.	Noatak-Kobuk (Shungnak)	Nonfloat	2
Davidson, Wes Davidson Log Ketchikan	Thorne River Ketchikan Dist.	Ketchikan (Craig)	Prospecting	1
Davis, Bon Box 45, Nome	Gold Run Port Clarence Dist.	Cape Nome (Teller)	Nonfloat	1

64	Davis Mines, Inc. Talbert E. Davis 1511 Mary Ann, Fairbanks	Shovel Creek Selawik Dist.	Noatak-Kobuk (Shungnak)	Nonfloat	2
	Davis Mining Corp., C. E. Davis Box 881, Juneau	Windham Bay Petersburg Dist.	Juneau (Sumdum)	Suction dredge	1
	Dawson Creek Mining Co. Rampart	Hunter Creek Rampart Dist.	Rampart (Tanana)	Nonfloat	3
	Degnan, Joseph A. Ophir	Mastodon Creek Innoko Dist.	Innoko (Ophir)	Nonfloat	2
	Dickman, O. J. Teller	Kigluaik Mtns. Nome Dist.	Cape Nome (Teller and Nome)	Prospecting	1
	Dotson, R. L. "Red" Mile 8½ N. Tongass Ketchikan	Ketchikan Dist.	Several	Prospecting	1
	Eckers, Theron Kasaan	Kasaan Peninsula Ketchikan Dist.	Ketchikan (Craig)	Prospecting	2
	Edgecumbe Exploration Co. C. T. & G. H. Morgan Box 758, Sitka	Silver Bay Chichagof Dist.	Sitka (Sitka)	Gold lode maintenance	2
	Eisenmenger, William 410 11th St., Fairbanks	Tibbs Creek Goodpaster Dist.	Fairbanks (Big Delta)	Lode prospect	1
	Emerick, Rollie Delta Junction	Several	Several	Prospecting	1

65	Empire Jade Co. Gene Joiner, Kotzebue	Jade Creek Kiana Dist.	Noatak-Kobuk (Ambler River)	Jade recovery and cutting	1
	Falls, Bentley Box 33, Livengood	Wilbur Creek Tolovana Dist.	Fairbanks (Livengood)	Nonfloat	1
	Far North Mining & Develoment Co. Candle or Kotzebue	Candle Creek	Fairhaven (Candle)	Nonfloat	8
	Flat Creek Placers Fullerton Brothers, Flat	Flat Creek Iditarod Dist.	Mt. McKinley (Iditarod)	Nonfloat	3
	Folwarzney, John Box 902, Ketchikan	Helm Bay & McLean Arm Ketchikan Dist.	Ketchikan (Craig & Dixon Entrance)	Prospecting and lode exploration	3
	Foster, Neal W. Box 279, Nome	Seward Peninsula Several	Fairhaven & Cape Nome (Several)	Lode prospecting	1
	Foster, Neal Box 279, Nome	Hannum Creek Fairhaven Dist.	Fairhaven (Bendeleben)	Nonfloat	2
	Fremont Mining Co. Box 125, Forest Grove, Oregon	First Division	Several	Mineral explorations and drilling	16
	Gagnon Placers Talkeetna	Cottonwood & Willow Creeks Yentna Dist.	Talkeetna (Talkeetna)	Placer testing	2
	Ghezzi, Alfred Sr. Box 1857, Fairbanks	Third & Fourth Divisions	Several	Prospecting	1

Gilbertson, Geo., and Associates  
Fairbanks

Mosquito Fork  
Fortymile Dist.

Fairbanks  
(Eagle)

Nonfloat

4

Gillette, B. F. Box 285, Nome	Anvil Bench Nome Dist.	Cape Nome (Nome)	Small scale hand	1
Gold Stream Mining Co. Denny G. Braid Box 2116, Fairbanks	Goldstream Creek Fairbanks Dist.	Fairbanks (Fairbanks)	Stripping only	2
Goodnews Bay Mining Co. 422 White Bldg., Seattle 1, or Platinum	Salmon River and tribs. Goodnews Bay Dist.	Bethel (Hagemeister Island)	Platinum dredge and nonfloat	40
Gordon, Tom Anchorage	Twin Creek Yentna Dist.	Talkeetna (Talkeetna)	Nonfloat	2
Grant Lake Mining & Development Corp. John Dyer & Associates Anchorage	Grant Lake Area Moose Pass Dist.	Seward (Seward)	Prospecting	4
Grant Mining Company Frank C. Edgington Box 53, Tanana	Grant Creek Melozitna Dist.	Ft. Gibbon (Melozitna)	Nonfloat	2
H & T Mining Co. Jack Haynes and Carl Thomas Box 1138, Seward	Last Chance Mine, Seward Seward Dist.	Seward (Seward)	Gold lode preparation	2
Hancock, K. S. Haines	Porcupine Creek Juneau Dist.	Haines (Skagway)	Small scale hand	1
Hansen, Burnett F. Eagle	Ben Creek Circle Dist.	Fairbanks (Eagle)	Nonfloat	2
Hansen, Burnett F. Eagle	Crooked Creek Eagle Dist.	Fairbanks (Eagle)	Nonfloat	3

Hassel Mining Co. Harold Hassel Box 1071, Fairbanks	Ready Bullion Creek Fairbanks Dist.	Fairbanks (Fairbanks)	Nonfloat	4
Havrilack, Harry Rampart	Ruby Creek Rampart Dist.	Rampart (Tanana)	Nonfloat	1
Henton, Fred Mile 42, Seward Highway	Slate Creek Old Bob Hatcher Prop.	Seward (Seward)	Gold lode development	2
Hibbard, Bill 1723 Tongass, Ketchikan	Ketchikan Dist.	Several	Prospecting	1
Hickok, Clara Talkeetna	Thunder Creek Yentna Dist.	Talkeetna (Talkeetna)	Hydraulic	2
Hofstad, Richard Petersburg	Petersburg Dist.	Several	Prospecting	1
Hogendorn, Jack Deering	Inmachuck River Fairhaven Dist.	Fairhaven (Bendeleben)	Hydraulic	1
Hope Mine R. V. Watkins Box 521, Fairbanks	Faith Creek Fairbanks Dist.	Fairbanks (Circle)	Nonfloat	1
Huff, J. W. Rte. 1, Box 567B, Ketchikan	Gravina Island Ketchikan Dist.	Ketchikan (Ketchikan)	Prospecting	2
Humble Oil & Refining Co. 1829 E. 5th Ave., Anchorage	Bristol Bay Dist.	Bristol Bay (Dillingham)	Iron lode exploration	10

Hyder Mines, Inc. 904 Fourth Ave., Seattle or Hyder	Riverside Mine Hyder Dist.	Hyder (Bradfield Canal)	Silver-lead-tungsten lode preparations	2
I-L & M Co. Box 2015, Ketchikan	Kendrick Bay & Others Ketchikan Dist.	Ketchikan (Dixon Entrance)	Air & ground prospecting	1
Inmachuck Mining Co. Grant H. Nelson, Nome	Inmachuck River Fairhaven Dist.	Fairhaven (Bendeleben)	Gold dredge	6
Jak Mining Company Fairbanks	Crooked Creek Circle Dist.	Fairbanks (Circle)	Dredge	4
Johansen, Engbret Chicken	Ingle Creek Fortymile Dist.	Fairbanks (Eagle)	Small scale hand	1
Johnson, Iver M. Fairbanks	Chisana Dist.	Fairbanks (Nabesna)	Nonfloat	2
Johnson, Pete Manley Hot Springs	Eureka Creek Hot Springs Dist.	Hot Springs (Tanana)	Small scale hand	1
Jott Mining Company Box 1122, Ketchikan	Prince of Wales Island Ketchikan Dist.	Ketchikan (Dixon Entrance)	Uranium mining	10
Kalmbach, G. F. Box 3686, Anchorage	Fern Mine Willow Creek Dist.	Wasilla (Anchorage)	Gold lode	2
Kettendorf, James Box 657, Hagamon Road Fairbanks	Rose Creek Fairbanks Dist.	Fairbanks (Fairbanks)	Small scale hand	1

Kloss, Herman & Davis, Jack (K & D Mining Claims) Sunset Cove	Sunset Cove Petersburg Dist.	Juneau (Sumdum)	Gold-antimony lode development and prospecting	2
Knaack, Wm. & Associates Seward	Beauty Bay Nuka Bay Dist.	Seward (Seldovia)	Gold lode	2
Koby, Jack Box 952, Juneau	Juneau Dist.	Juneau (Juneau)	Prospecting	1
Kodiak Exploration Co. Box 448, Kodiak	Kodiak Island Kodiak Dist.	Kodiak (Kodiak)	Tungsten & copper prospecting	3
Kopanski, Max Skagway	Juneau Dist.	Skagway (Skagway)	Prospecting	1
Koshalk, Louis & Associates 833 4th Avenue, Fairbanks	Crevice Creek, trib. John River Koyukuk Dist.	Fairbanks (Wiseman)	Nonfloat	3
Ladybird Mining Company Anchorage	Valdez Creek Valdez Creek Dist.	Talkeetna (Healy)	Placer preparations	3
Lake Creek Placers (Fred) Pitts, E. H. Big Lake, via Fairbanks	Lake Creek Koyukuk Dist.	Koyukuk (Chandalar)	Hydraulic	1
Langlow, Jens Central	Switch Creek Circle Dist.	Fairbanks (Circle)	Hydraulic	1
Lanning, Tony Manley Hot Springs	Thanksgiving Creek Hot Springs Dist.	Hot Springs (Tanana)	Nonfloat	1

Lee Brothers Dredging Co. Box 208, Nome	Solomon River Nome Dist.	Cape Nome (Solomon)	Gold dredge	12
Lemke, W. E. Box 628, Petersburg	Petersburg Dist.	Petersburg	Iron prospect	1
Leonard, Harry B. Wiseman	Smith Creek Koyukuk Dist.	Fairbanks (Wiseman)	Small scale hand	1
Lindquist, Hjalmer 133 N. Marion, Bremerton, Wash. or Ophir	Bedrock & Ester Creeks Innoko Dist.	Innoko (Ophir)	Nonfloat	1
Lindsay, George c/o R. E. Baumgartner Seward	Oracle property Hope Dist.	Seward (Seward)	Development work	1
60 Little Creek Mine Ivor C. Carlson Ophir	Little Creek Innoko Dist.	Innoko (Ophir)	Nonfloat	2
Little Squaw Mining Company	Mikado Lode Chandalar Dist.	Fairbanks (Chandalar)	Lode prospecting & development	2
Locke, Barney Anchorage	Third Division	Several	Prospecting	2
Long Creek Mining Co. Robert Deacon Ruby	Long Creek Ruby Dist.	Nulato (Ruby)	Nonfloat	4
Lucky Seven Mining Co. Walter E. Roman Miller House	Mammoth Creek Circle Dist.	Fairbanks (Circle)	Nonfloat	3

Lucky Syndicate A. L. Schneider & S. L. Godfrey Box 615, Nome	Kougarok River Kougarok Dist.	Cape Nome (Bendeleben)	Gold dredge	8
McGee, L. Anchorage	Canyon Creek Hope Dist.	Seward (Seward)	Nonfloat	4
McReynolds, Warren; Eichner, Ken; Williams, E. C.; Hawkins, W. A.; Peterson, K. C. Box 292, Ketchikan	Kasaan Peninsula Ketchikan Dist.	Ketchikan (Craig)	Prospecting	2
McWilliams, Howard F. Box 1317, Anchorage	Third Division	Several	Prospecting	1
61 Maclaren River Copper Corp. Copper Center or Box 981, Anchorage	Maclaren River Valdez Creek Dist.	Talkeetna (Mt. Hayes)	Copper lode development	2
Magill, Fred Box 444, Petersburg	Southeast Alaska	Several	Lode prospecting	1
Magnuson, Warren Ophir	Fourth Division	Several	Prospecting	1
Manske, Dan Fairbanks	Ingle Creek Fortymile Dist.	Fairbanks (Eagle)	Nonfloat	2
Marvel Creek Mining Co. Aniak	Marvel Creek Aniak Dist.	Kuskokwim (Bethel)	Nonfloat	2
Maurer, Ernest L. 513B Fourth Ave., Fairbanks	First Chance Creek Fairbanks Dist.	Fairbanks (Fairbanks)	Nonfloat	1

Meldrum, William Chicken	Stonehouse & Chicken Creeks Fortymile Dist.	Fairbanks (Eagle)	Stripping only	1
Mendenhal, Roy Deering	Milroy Creek Fairhaven Dist.	Fairhaven (Bendeleben)	Nonfloat	1
Miller, James, Lindgrin, Earl and Atwood, M. J.	Sheep Creek Koyukuk Dist.	Fairbanks (Wiseman)	Nonfloat	3
Minalaska, Inc. Magnuson Brothers, Ophir	Gaines Creek Innoko Dist.	Innoko (Iditarod)	Gold dredge	3
Mineral Basin Mining Corp. Arthur Moa Box 126, Hyder	Mountain View Property Hyder Dist.	Hyder (Ketchikan)	Lode development	7
3 Minerals, Inc. W. W. Gilkey	Yakutat Dist.	Juneau (Yakutat & Mt. Fairweather)	Beach placer investigation	4
Miscovich Brothers Flat	Otter Creek Iditarod Dist.	Mt. McKinley (Iditarod)	Nonfloat	6
Moneta Porcupine Mines, Ltd. 408-402 W. Pender St. Vancouver 2, B. C.	Southeast Alaska	Several	Mineral investigations & reconnaissance	8
Moneta Porcupine Mines, Ltd. 408-402 W. Pender St. Vancouver 2, B. C.	Endicott Arm Petersburg Dist.	Juneau (Sumdum)	Drilling copper lode	7
Montana Phosphate Products, Ltd. C. M. & S. Co., Ltd. Trail, B. C.	Trocadero Bay Ketchikan Dist.	Ketchikan (Craig)	Copper exploration	5

REPORT OF DIVISION OF MINES AND MINERALS

Monte Cristo Mining Company R. W. Beck, Gakona	Slate Creek Chistochina Dist.	Chitina (Mt. Hayes)	Nonfloat	8
Montgomery, Lou Box 2492, Juneau	Juneau Dist.	Juneau (Juneau)	Prospecting	1
Mt. Andrew Mining Co. Box 358, Ketchikan or 1011-1030 W. Georgia St. Vancouver, B. C.	Kasaan Peninsula Ketchikan Dist.	Ketchikan (Craig)	Iron & copper exploration drilling & geophysical	8
Mt. Parker Mining Co. A. F. Parker Box 2127, Juneau	Mt. Parker Mine Juneau Dist.	Juneau (Mt. Fairweather)	Gold lode maintenance	1
3 Nelson, Howard L. Gakona	Limestone Creek Chistochina Dist.	Chitina (Mt. Hayes)	Nonfloat	3
Newlun, O. H.	Prince of Wales Island Ketchikan Dist.	Ketchikan (Craig)	Prospecting	1
Newmont Mining Corp. of Canada, Ltd. Room 604, 749 W. Hastings Vancouver, B. C.	Southeast Alaska	Several	Mineral investigations & exploration	8
New York-Alaska Gold Dredging Corp. 2503 Smith Tower, Seattle or Nyac	Tuluksak River, California Creek, Rock Creek Aniak Dist.	Bethel (Russian Mission)	3 Gold dredges	50
Nielsen, Elwood Moose Pass	Crown Point Mine Hope Dist.	Seward (Seward)	Gold lode development	2

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64	North American Mining Company James, Yancey & Beistline, Earl College	Klery Creek Kiana Dist.	Noatak-Kobuk (Baird Mtns.)	Dredge preparations	2
	Northern Lights Mining Co. Patrick Savage Ruby	Long Creek Ruby Dist.	Nulato (Ruby)	Nonfloat	4
	Novatney, Robert 104 9th St., Juneau	Helm Bay Ketchikan Dist.	Ketchikan (Ketchikan)	Gold lode development	1
	Nugget Mining Co. Steven Peterson Nome	Niukluk River Council Dist.	Cape Nome (Solomon)	Gold dredge	2
	O'Brien, Jim and Dunsmire, Jim Cooper Landing	Surprise Creek Hope Dist.	Seward (Seward)	Placer drift	2
	Olive Creek Mines Carl Parker Box 552, Fairbanks	Little Eva Creek Fairbanks Dist.	Fairbanks (Fairbanks)	Nonfloat	5
	Olson, Henry T. "Tiger" Taku Harbor	Juneau and Admiralty Dists.	Juneau (Sumdum)	Prospecting	1
	O'Neill Ventures Wm. O'Neill 505 8th Ave., Anchorage	Dan Creek Nizina Dist.	(McCarthy)	Placer prospecting	2
	O'Neill Ventures 505 8th Ave., Anchorage	Upper Falls Creek Yentna Dist.	Talkeetna (Talkeetna)	Placer exploration	4
	Operators Unknown (2) Anchorage	Friday Creek Kantishna Dist.	Fairbanks (Mt. McKinley)	Nonfloat	2

65	Otter Dredging Co. Ogriz and Kobler Flat	Otter Creek Iditarod Dist.	Mt. McKinley (Iditarod)	Gold dredge	7
	Owen, Harry Fairbanks	Big Lake Chandalar Dist.	Fairbanks (Chandalar)	Prospecting	1
	Palmer, R. B. Fairbanks	Sourdough Creek Circle Dist.	Fairbanks (Circle)	Prospecting	1
	Pekovich, W. S. Box 2642, Juneau	Port Snettisham Juneau Dist.	Juneau (Sumdum)	Iron lode development	1
	Pettyjohn, Fred S. 4 Eleanor St., Fairbanks	S. Slope Alaska Range	Talkeetna (Several)	Lode prospecting	1
	Phelps Dodge Corp. Box 991, Douglas, Arizona	Alaska General	Several	Prospecting	8
	Pieper & Eichner 2312 Tongass, Ketchikan	Southeast Alaska	Several	Copper and iron prospecting	2
	Pratt, Jack and Dube, Tony Suntrana	No Grub Creek Fairbanks Dist.	Fairbanks (Big Delta)	Nonfloat	2
	Price, Stanton c/o Dean Goodwin Box 1262, Juneau	Windfall Harbor Admiralty Dist.	Juneau (Sitka)	Prospecting	1
	Prince Creek Mining Co. S. E. Agoff Flat	Prince Creek Iditarod Dist.	Mt. McKinley (Iditarod)	Nonfloat	4

66	Prince of Wales Mining Co. Box 898, Ketchikan or Room 3, 1807 Fir St., Vancouver, B. C.	Southeast Alaska	Several	Mineral reconnaissance & prospecting	4	REPORT OF DIVISION OF MINES AND MINERALS
	Purdy Brothers Chicken	Myers Fork Fortymile Dist.	Fairbanks (Eagle)	Nonfloat	2	
	Purkeypile, I. W. & Associates Fairbanks	Tonzona Dist.	Mt. McKinley (Talkeetna)	Lode prospecting	3	
	Quail Creek Mining Co. Wm. Redig & M. C. Haughdahl 512 Front St., Graehl, Fairbanks	Quail Creek Rampart Dist.	Rampart (Livengood)	Nonfloat	2	
	Quam, Eldred Fairbanks	Boulder Creek Hot Springs Dist.	Hot Springs (Tanana)	Prospecting	1	
	Quitsch, William Valdez	Mineral Creek Valdez Dist.	Valdez (Valdez)	Gold lode	1	
	Radovan, Martin McCarthy	Glacier Creek Nizina Dist.	McCarthy (McCarthy)	Copper lode prospecting	1	
	Rambaud and Hanks Chicken	Napoleon Creek Fortymile Dist.	Fairbanks (Eagle)	Hydraulic	3	
	Redstone Mining Company Clark, John and Hetlinger, Carl Fairbanks	Livengood Creek Tolovana Dist.	Fairbanks (Livengood)	Nonfloat	2	
	Rhode Island Creek Mines A. W. Pringle Manley Hot Springs	Rhode Island Creek Hot Springs Dist.	Hot Springs (Tanana)	Nonfloat	3	

67	Rice, Harry Palmer	Independence Mine Willow Creek Dist.	Wasilla (Anchorage)	Gold lode sniping	2	REPORT OF DIVISION OF MINES AND MINERALS
	Ricks, Dean Fairbanks	Fairbanks Dist.	Fairbanks (Big Delta)	Prospecting	1	
	Robinson, George F. Boundary	Wade Creek Fortymile Dist.	Fairbanks (Eagle)	Nonfloat	1	
	Rosander & Gates Ophir	Bear Creek Innoko Dist.	Innoko (Ophir)	Nonfloat	3	
	Rosander & Reed Ophir	Yankee Creek Innoko Dist.	Innoko (Iditarod)	Nonfloat	4	
	Schaefer, Russel Crooked Creek	Cinnabar Creek Aniak Dist.	Kuskokwim (Taylor Mtns.)	Mercury lode	1	
	Schulze, Henry McCarthy	Vicinity of McCarthy Nizina Dist.	McCarthy (McCarthy)	Copper lode development	2	
	Sheldon, Charlie Shungnak	Shungnak River Shungnak Dist.	Noatak-Kobuk (Shungnak)	Jade placer	1	
	Shotter, Frank Hoonah	Juneau and Sitka Dists.	Several	Prospecting	1	
	Sirilo, Julius Box 625, Bethel	Aniak Dist.	Kuskokwim	Prospecting	1	
	Spirit Mountain Mining Co. Ray Trotachau Sultan, Washington	Canyon Creek Nizina Dist.	Chitina (Valdez)	Nickel-copper prospecting	3	

68	Squaw Creek Mining Co. Jack Wilke Boundary	Canyon Creek Fortymile Dist.	Fairbanks (Eagle)	Nonfloat	1
	Stanich Brothers Wiseman	Porcupine Creek Koyukuk Dist.	Fairbanks (Wiseman)	Nonfloat and placer drift	2
	Steears, Al	Southeast Alaska	Several	Prospecting	2
	Strandberg Mines, Inc. 926-4th Ave., or Box 2099 Anchorage	Alaska general	Several	Mineral investigations	2
	Strandberg Mines, Inc., Box 2099, Anchorage	Eureka Creek Hot Springs Dist.	Hot Springs (Tanana)	Nonfloat	14
	Strandberg Mines, Inc., Box 2099, Anchorage	Indian River Hughes Dist.	Fort Gibbon (Hughes)	Nonfloat	10
	Strandberg Mines, Inc. Box 2099, Anchorage	Colorado Creek Innoko Dist.	Innoko (Ophir)	Nonfloat	9
	Strandberg Mines, Inc. Box 2099, Anchorage	Iron Creek Talkeetna River Dist.	Talkeetna (Talkeetna Mtns.)	Prospecting	2
69	Stuver, Jules Flat	Moore Creek Iditarod Dist.	Mt. McKinley (Iditarod)	Hydraulic	2
	Sultan Sawmill & Mining Company Ray Trotachau Sultan, Washington	Kennecott Mine Nizina Dist.	McCarthy (McCarthy)		8

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69	Sunshine Mining Co. 738 Peyton Bldg. Spokane 1, Washington	Kagati Lake Bethel Dist.	Bethel (Goodnews Bay)	Mercury lode exploration	3
	Sweepstakes Mine Charles Moon & Baldwin Box 371, Nome	Sweepstakes Creek Koyuk Dist.	Cape Nome (Candle)	Nonfloat	2
	T and T Mining Co. William Thomas 503 7th Ave., Fairbanks or Rampart	Hunter Creek Rampart Dist.	Rampart (Tanana)	Nonfloat	1
	Takahashi, C. T., & Co. 220-3rd Ave., South Seattle 4, Washington	North Bradfield River Petersburg Dist.	Wrangell (Bradfield Canal)	Drilling iron lode	7
	Taylor, Wm. & Associates	Eureka Creek Kantishna Dist.	Fairbanks (Mt. McKinley)	Nonfloat	1
	Tetinek, Eugene Fortuna Ledge	Willow Creek Marshall Dist.	Wade Hampton (Russian Mission)	Nonfloat	1
	Timroth Exploration Co. Grand Junction, Colo.	Alaska general	Several	Mineral explorations	5
	Titus, Jack and Cook, Fred Solomon	Shovel Creek Nome Dist.	Cape Nome (Solomon)	Small scale hand	2
70	Totem Exploration Co. Joe Blazek 317 Dock St., Ketchikan	Southeast Alaska	Several	Prospecting-exploration & diamond drilling	2
	Toussaint, Ed Fort Yukon	Big Creek Chandalar Dist.	Fairbanks (Chandalar)	Gold lode development	4

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70	Towle, George 2535-4th, Ketchikan	Southeast Alaska	Several	Aerial Magnetometer	2
	Tweet, N. B., and Sons Teller	Kougarok River Kougarok Dist.	Cape Nome (Bendeleben)	Nonfloat, hydraulic, and dredge	5
	Uranium & Strategic Ore Development Co. Mr. Hammond Anchorage	Craigie Creek Willow Creek Dist.	Wasilla (Anchorage)	Gold lode prospecting	3
	U.S.S.R. & M. Co. Box 1170, Fairbanks	Fairbanks Dist.	Fairbanks (Fairbanks & Livengood)	6 Gold dredges	350
	U.S.S.R. & M. Co. Box 1170, Fairbanks	Hogatza River Hughes Dist.	Ft. Gibbon (Hughes)	Gold dredge	35
	U.S.S.R. & M. Co. Box 1170, Fairbanks	Mosquito Fork Fortymile Dist.	Fairbanks (Eagle)	Dredge	20
	U.S.S.R. & M. Co. Box 438, Nome	Nome Dist.	Cape Nome (Nome)	Gold dredges	150
	Uotila, Gus Ophir	Ophir Creek Innoko Dist.	Innoko (Ophir)	Nonfloat	4
	Uotila, Gus and Yrjana, Albert Ophir	Birch Creek Ruby Dist.	Nulato (Ruby)	Stripping	1
	Uranium 56 Box 917, Ketchikan	Southeast Alaska	Several	Air and ground prospecting	1

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71	Vogler, Joe; Hirst, Earl; Martin, Albin	Morelock Creek Rampart Dist.	Rampart (Tanana)	Prospecting	3
	Wackwitz, Charles and Fred Box 1595, Fairbanks	Bedrock Creek Fairbanks Dist.	Fairbanks (Livengood)	Prospect development	2
	Wall, Melvin c/o Robert Hoedel Homer	Valdez Creek Valdez Creek Dist.	Talkeetna (Healy)	Placer & lode prospecting	4
	Watson, Mrs. Ben Cape Yakataga	Yakataga Beach Yakataga Dist.	Cordova (Bering Glacier)	Small scale hand	2
	Wattamuse Mining Corp. Nat Browne Route 1, Burton, Wash. or Goodnews Bay Village	Slate Creek Goodnews Bay Dist.	Bethel (Goodnews)	Nonfloat	2
	Weinard, Otto F. and Fred Candle	Mud Creek Fairhaven Dist.	Fairhaven (Candle)	Nonfloat	5
	Weisner Trading Co. Ira Weisner & Jim Pierce Rampart	Little Minook & Hoosier Creeks Rampart Dist.	Rampart (Tanana)	Nonfloat	4
	Western Alaska Mining Co. R. J. Anderson Box 121, Spenard	Kolmakof Property Aniak Dist.	Kuskokwim (Sleetmute)	Mercury lode development	1
	Williams, Burton A. May Creek via Cordova	Rex Gulch Nizina Dist.	McCarthy (McCarthy)	Small scale hand	1
	Withrow, Alfred W. Bettles Field	Koyukuk River Koyukuk Dist.	Fairbanks (Bettles)	Small scale hand	1

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	Wiurm, Andrew Box 491, Nome	Dome Creek Kougarok Dist.	Cape Nome (Bendeleben)	Hydraulic	1
	Wolf Creek Mining Co., Inc. Box 141, Fairbanks	Fish Creek Fairbanks Dist.	Fairbanks (Livengood)	Nonfloat	8
	Woodman, I. N. Box 573, Valdez	Nelchina Dist.	Several	Prospecting	1
	Yelinore, Inc. Paul Fretz, 947 Orcas Street, Anchorage	Yellow Band Property Nizina Dist.	McCarthy (McCarthy)	Gold lode prospecting	4
	Young, Frank R. Haines	Haines Dist.	Haines (Skagway)	Prospecting	1
72	Zaiser, Clarence Ruby	Greenstone Creek Ruby Dist.	Nulato (Ruby)	Nonfloat	2
	Zaiser, Leonard McGrath	Cache Creek Yentna Dist.	Talkeetna (Talkeetna)	Nonfloat	1
	Zimin, Nick South Naknek	Alaska Peninsula & Bristol Bay Dist.	Several	Prospecting	1
	Zukoev, James	Bonnifield Dist.	Nenana (Fairbanks)	Nonfloat	1

"Nonfloat" indicates mechanical placer gold operation using draglines and/or bulldozers to transport gravel to nonfloating washing plant, bedrock sluiceboxes, or elevated sluices.

"Hydraulic" indicates placer gold operation in which gravel is excavated and transported to sluiceboxes solely by water jets from hydraulic nozzles.

"Small scale hand" indicates placer gold operation in which gravel excavation and transportation is accomplished by hand or ground sluicing.

# ACTIVE COAL MINES, 1959

Name and Address of Operator	Location of Mine	Mining District and (USGS Quadrangle)	Type of Operation	Approx. Crew
Arctic Coal, Inc. 130 Lacey Street or Box 1386, Fairbanks	Lignite Creek Nenana Field	Bonnifield Dist. (Healy)	Strip	11
Agostino, Bruno Box 23, Homer	Near Homer Kenai Field	Homer Dist. (Seldovia)	Strip	1
Castle Mountain Coal Co. Box 1292, Palmer	Near Chickaloon Matanuska Field	Willow Cr. Dist. (Anchorage)	Strip	3
Cripple Creek Coal Co. Box 529, Fairbanks	Cripple Creek Nenana Field	Bonnifield Dist. (Healy)	Strip	26
Evan Jones Coal Co. Box 619, Anchorage or Jonesville	Jonesville Matanuska Field	Willow Cr. Dist. (Anchorage)	Underground	68
Gist, Jack C. Box 55, Homer	Near Homer Kenai Field	Homer Dist. (Seldovia)	Strip	1
Meade River Coal Co. Ed Burnell, Barrow	Meade River Pt. Barrow Field	Barrow Dist. (Meade River)	Underground	12
Minor Roop Strip Subcontracting under Evan Jones	Jonesville Matanuska Field	Willow Cr. Dist. (Anchorage)	Strip	61

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Mrak Coal Co. Box 16, Sutton	Near Eska Matanuska Field	Willow Cr. Dist. (Anchorage)	Strip	33
Pioneer Mining Co. 2405 Glenwood Ave., Anchorage	Moose Creek Matanuska Field	Willow Cr. Dist. (Anchorage)	Strip	5
Suntrana Mining Co., Inc. 525-3rd Ave., Anchorage or Suntrana	Healy Creek Nenana Field	Bonnifield Dist. (Healy)	Underground	39
Usibelli Coal Mine, Inc. Usibelli, Alaska	Healy Creek Nenana Field	Bonnifield Dist. (Healy)	Strip	30

REPORT OF DIVISION OF MINES AND MINERALS

## OIL AND GAS COMPANIES ACTIVE DURING 1959

Name and Alaskan Address of Company	Home or Regional Office	Type of Activity
Alaska Consolidated Oil Co., Inc. Box 7005, Anchorage	80 Wall St., New York City 5	Drilling
Amerada Petroleum Corp	417 South Hill St., Los Angeles	Geologic field party
Anchorage Gas and Oil Development, Inc., 134 East Second Ave., Anchorage	500 Wall St., Seattle	Drilling
76 Benedum, Paul G.	Benedum-Trees Bldg., Pittsburgh 22	Drilling
British American Oil Producing Co. 110 East Sixth Ave., Anchorage	Mercantile-Dallas Bldg., Box 749, Dallas 21	Geologic field party
Colorado Oil and Gas Corp. Yakutat	Box 749, Denver	Drilling, seismic, gravity meter
Continental Oil Co. 946 East Fifth Ave., Anchorage	1137 Wilshire Blvd. Los Angeles 17	Geologic field party
Cyprus Oil Co.	523 West Sixth St., Los Angeles 14	Seismic
El Paso Natural Gas Products Co.	Box 1161, El Paso	Geologic field party

General Petroleum Corp. Carrington Bldg. or Box 1734, Anchorage	612 South Flower St., Los Angeles 54	Drilling, seismic, gravity meter, geologic field party
Halbouty Alaska Oil Co. 110 East Sixth Ave., Anchorage	5111 Westheimer Road, Houston 27	Drilling, seismic
Honolulu Oil Corp.	215 Market St., San Francisco 5	Seismic
Humble Oil & Refining Co. 1829 East Fifth Ave. or Box 7-248, Anchorage	612 South Flower St., Los Angeles 17	Drilling, seismic, gravity meter, geologic field party
Hunt Oil Co.	700 Mercantile Bank Bldg., Dallas	Gravity meter, geologic field party
77 Ohio Oil Co. 520 K. St., Anchorage	550 South Flower St., Los Angeles 17	Seismic, geologic field party
Pan American Petroleum Corp. 522 K. St., Anchorage	Box 591, Tulsa 2	Seismic, gravity meter
Phillips Petroleum Corp. 211 Loussac-Sogn Bldg., 439 D. St., Anchorage	Bartlesville, Oklahoma	Seismic
Richfield Oil Corp. Fifth Ave. & E St., Anchorage	555 South Flower St., Los Angeles 17	Drilling, seismic, gravity meter, geologic field party
Shell Oil Co.	Suite 1055, Dexter Horton Bldg., Seattle 4	Geologic field party
Sinclair Oil and Gas Co. Third Ave. & C St., Anchorage	Box 521, Tulsa	Geologic field party

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Standard Oil Company of California 209 Fireweed Lane or Box 7-839, Anchorage	225 Bush St., Standard Oil Bldg., San Francisco 20	Production, drilling, seismic, geologic field party
Sunray Mid-Continent Oil Co. Carrington Bldg., 420 Post Road or Box 854, Anchorage	714 West Olympic Blvd. Los Angeles 15	Geologic field party
Superior Oil Co. 321 C St., Anchorage	550 South Flower St., or Box 3015 Terminal Annex Los Angeles	Geologic field party
Texaco, Inc. Loussac-Sogn Bldg., Anchorage	3350 Wilshire Blvd., Los Angeles 5	Seismic, geologic field party
Union Oil Company of California Carrington Bldg., 420 Post Road, Anchorage	Union Oil Center, Los Angeles	Drilling, seismic, gravity meter, geologic field party
Western Gulf Oil Co. 326 H. St., Anchorage	1200 Statler Center 900 Wilshire Blvd. Los Angeles 17	Seismic, gravity meter, geologic field party

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LISTS OF REPORTS ISSUED BY THE DIVISION OF MINES  
AND MINERALS AND CORRESPONDING PRECEDING AGENCIES

- \*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.
- \*Annual 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 1925-26.
- \*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 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, 1931.
- \*Mining investigations and mine inspection in Alaska, biennium ending March 31, 1933.
- \*Report of the Commissioner of Mines to the Governor, biennium ending December 31, 1936.
- \*Report of the Commissioner of Mines to the Governor, biennium ending December 31, 1938.
- \*Report of the Commissioner of Mines to the Governor, biennium ending December 31, 1940.
- \*Report of the Commissioner of Mines to the Governor, two biennia ended December 31, 1944.
- \*Report of the Commissioner of Mines, biennium ended December 31, 1946.

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- \*Report of the Commissioner of Mines, biennium ended December 31, 1948.
- \*Report of the Commissioner of Mines, biennium ended December 31, 1950.
- \*Report of the Commissioner of Mines, biennium ended December 31, 1952.
- \*Report of the Commissioner of Mines, biennium ended December 31, 1954.
- \*Report of the Commissioner of Mines, biennium ended December 31, 1956.
- \*Report of the Commissioner of Mines, biennium ended December 31, 1958.

- \*Joesting, Henry R., Strategic mineral occurrences in interior Alaska: Pamphlet No. 1, May 1942.
- \*Joesting, Henry R., Supplemental to Pamphlet No. 1 — Strategic mineral occurrences in interior Alaska: Pamphlet No. 2, March 1943.
- \*Anderson, Eskil, Mineral occurrences other than gold deposits in North-western Alaska: Pamphlet No. 5-R, May 1944.
- \*Stewart, R. L., Prospecting in Alaska (26-page pamphlet), December 1944. (Revised to November 1949).
- \*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-R, May 1945.
- \*Roehm, J. C., Some high calcium limestone deposits in Southeastern Alaska; Pamphlet No. 6, March 1946.

- Proper Claim Staking in Alaska; Information Circular No. 1, June 19, 1959.
- Rights of Canadians in Alaska under the Mining Laws; Information Circular No. 2, September 15, 1953.
- Hints for Prospectors on the Mainland of Southeastern Alaska; Information Circular No. 3, March 15, 1954.
- \*Alaska Uranium Information; Information Circular No. 4, March 15, 1955.
- General Alaskan Mineral Information; Information Circular No. 5, June 22, 1959.
- Alaskan Prospecting Information; Information Circular No. 6, November 5, 1959.
- Compulsory Assessment Work Affidavits; Information Circular No. 7, July 15, 1957.
- Mineral Industry Consultants Available for Work in Alaska; Information Circular No. 8, July 6, 1959.
- Dealers in Alaskan Rocks and Minerals; Information Circular No. 9, August 18, 1959.

\*Out of print. On file in certain public and university libraries.