

MINING DISTRICTS
OF IDAHO
1902

Jerome A. Day

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REPORT
OF THE
MINING DISTRICTS
OF IDAHO
FOR THE YEAR 1902.



BY
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Inspector of Mines.

OFFICE OF THE
INSPECTOR OF MINES
STATE OF IDAHO.

Boise, Dec. 31, 1902.

To His Excellency, Frank W. Hunt, Governor of Idaho:

Sir: I have the honor to submit herewith my report as Inspector of Mines for the year ending December 31, 1902:

During my term of office there has been collected specimens of ore from all of the leading mines of the State. These specimens, which were on exhibition at the session of the International Mining Congress, held in the city of Boise in July, 1901, have been numbered and a record properly made giving the value of the assays, character of the ore and from what mine taken. Since the session of the Mining Congress, these specimens were kept on exhibition in the Hall of Representatives in the State House, until removed in order that the hall might be used by the approaching session of the Legislature. The exhibit is now stored in the State Capitol building, and as it is a very valuable one, I desire to recommend that a suitable place be provided at the State Capitol where this collection can be placed on permanent exhibition.

TAXATION OF MINES.

The question of how that class of property known as

mines should be taxed, is one that has agitated the minds of the people all over the mining states at different times and the different states have passed various laws for the purpose of collecting a fair proportion of the revenue to pay the expenses of the State from this class of property. It was generally supposed in the public mind in this State for many years that mining claims, whether patented or unpatented, were exempt from taxation under our revenue law and no attempt was made by the assessors and tax collectors to tax this class of property.

In 1897 the Governor of this State, in his annual message, recommended to the Fourth session of the Legislature that a proper law be passed which would place a just tax upon all producing mines in the State. A bill was introduced but the Legislature failed to enact it into law, and nothing was done in this direction until in 1898, when the Assessor of Custer county assessed the patented mining claims in his county. The mine owners refused to pay the tax, claiming that under the Statute their property was exempt from taxation. A suit was brought to collect this tax and the Supreme Court declared that under the law as it then existed, patented mines were not exempt. The Legislature, which convened the next year, 1900, seemed to be satisfied with this construction and in the adoption of a General Revenue Act at that session, specifically limited the exemption to mining claims not patented, leaving mines patented to be taxed as other property of the State—that is, at their full cash value. It is from this condition that much of the confusion and injustice in regard to the taxation of this class of property has arisen, many of the assessors in the various counties appearing to be unable to decide upon a fair cash valuation for the property and in but very few cases has the mine owner and the assessor or the County Board of Equalization been able to agree upon the cash valuation of the property for the purpose of taxation, and much litigation and consequent delay in the collection of the public revenues from that source is likely to

occur, and unless such change is made in our laws as will fix a means of ascertaining the proper valuation to be placed upon this class of property for the purpose of taxation, this litigation and consequent delay and loss is likely to occur each year. It is certainly in the interests of the people of this State that this important question should be settled by laws so certain and specific that no chance for a dispute or quibble will remain. As the law stands it is in a measure unjust for the reason that a mining claim, if unpatented, though producing annually hundreds of thousands of dollars, entirely escapes taxation, while a patented claim, though non-producing, is required to contribute its share of the expenses of the State.

It is not fair to the farmer, stock raiser, merchant and the owner of all other classes of property that mines—one of the most valuable classes of property in this State—should escape taxation entirely, as has been the case until recently, and is still the case with that class of mining property which is unpatented.

For the purpose of ascertaining, if possible, a just method of taxing this class of property and aiding in some measure in solving this vexed problem, I have made careful examination of the conditions and laws in other states in regard to the taxation of this class of property, and have, from this careful examination, arrived at the conclusion that the legislation herein recommended would be just alike to the mine owner and other property owners of the State. I have fully realized that in a measure investment in mines and their development are precarious, that many times thousands of dollars are expended in the development of mining claims, which after development make a small or an inadequate return for the money invested, that the value of this class of property is not perpetual as that of agricultural lands, but must, in the course of years be exhausted and that in taxing mining claims and fixing their values, due allowance should be made on account of these conditions. However, improve-

ments placed upon mining claims, in my judgment, should be assessed for taxation, as all other improvements upon real estate, that, is, at their full cash value. It seems to me that no argument is needed to justify the statement that every patented mining claim must be worth the amount charged for the land so patented by the Government, and that all classes of mines, whether patented or unpatented, that are producing, should pay upon a valuation in proportion to the amounts which their owners annually receive from them.

I would therefore recommend that a law be enacted by our incoming Legislature which will provide for the assessment and taxation of this class of property as follows:

1st. That all improvements upon mining lands and property shall be assessed and taxed at their full cash value.

2nd. That all patented mineral lands be assessed, and taxed at the price at which such lands were sold by the Government to the patentee.

3rd. That the net proceeds of all producing mineral lands, patented or unpatented, be valued for taxation, assessed and taxed upon the basis of such product for the preceding year, dating from the first day of January preceding the date of levy.

The meaning of the term "net proceeds" should be clearly defined by Statute so as to avoid any possible grounds for difference of opinion in determining the basis of taxation. Deductions to be made from the gross proceeds should be clearly defined and I would suggest that they would be for betterments, freight and treatment and the cost of mining. That no deduction should be made for the salaries of general officers or office expenses, except at the mine.

I have examined the Statutes of Colorado, Utah, Arizona, Nevada and Montana and it seems to me that the laws of Montana, with some slight modifications suggested by those of the other States mentioned, would come more nearly meeting the conditions existing in Idaho, than the Statutes of any other State. The laws of Utah, New Mexico and Nevada

are practically the same as those of Montana. These laws have been enforced a sufficient length of time to test their practicability and no serious mistake can occur from a practical adoption thereof.

Very respectfully,

M. H. JACOBS,
Inspector of Mines.

INTRODUCTION.

Idaho comprises an area of over 80,000 square miles; is 410 miles long from north to south and from 30 to 300 miles in width and at the taking of the national census in 1900 had a population of 161,772, which it is safe to say is now upwards of 200,000, as the State is witnessing an era of most rapid growth and development.

The mineral resources of the State are most varied and important, it having been a leading producer of gold, silver, copper and lead since the earliest settlement and containing vast mineralized areas as yet untouched. Great mines are being developed in various sections of the State annually and new discoveries made that attract the attention of the mining world.

During the past year there has been noticeable progress in the discovery of coal, which up to the present time has not been recorded among the mining industries of the State. But locations have been made and desultory work done in this branch of mining in Ada, Boise, Idaho, Fremont, Lemhi and various other counties of the State, and indications all point to a rapidly approaching era when Idaho will take rank among the coal producing states of the Union. At the present writing there are claims put forth that oil has been struck

in the Teton range of mountains in Fremont county.

The press of the State of Idaho devotes most generous space to the mining industry, to the writing-up of new discoveries and the recording of general mining news.

ADA COUNTY.

Is one of the smallest in area, but most populous of Idaho's counties, within whose borders is located the city of Boise, the capital of the State. Boise is the natural center of a great mining section and there is a growing demand for a custom smelter at this place, which, it is to be hoped will be constructed in the near future.

The Black Hornet gold district, ten miles from the city of Boise, sprung into prominence in November, 1902, by the discovery of fabulously rich free milling ore on claims owned by George W. Baker. Since then locations have been filed in the district for a territory of two miles in width and eight miles long, and the coming season will be one of great activity in this district.

The Twin Springs Placer company has done the usual amount of work with good results during the year.

In the immediate vicinity of Boise are excellent quarries of building stone of fine quality.

BANNOCK COUNTY.

During the past year a large section of the Indian reservation near Pocatello was thrown open for settlement. The territory comprises mineral as well as agricultural lands and a large number of mining claims have been located. These claims are of sufficient importance to attract the attention of W. A. Clark, of Montana, and other mining men of international reputation, who had representatives upon the ground who participated in the stampede on opening day to secure locations. Development work has been in progress in the district ever since the locations were filed. Among the claims upon which considerable work has been done are those of the Great Western Mining, Milling and Smelting company, of which G. D. Hoover is president; J. E. Kirkpatrick, vice president, and W. A. Sample, a director and active manager. The property is located about four miles from Pocatello, a

wagon road leading directly to the mines. Ore from the various claims run from \$20 to \$57 per ton in silver, copper and lead. The property is showing up finely, the veins constantly improving in width and value with the extension of tunnels.

Another company which is doing much development work on its properties in Bannock county is the Intermountain Gold and Copper Mining company, of which George Rogers is president. This company is arranging to put in a large hoisting plant, is to sink a shaft 200 feet deep and cross-cut the vein at the lower depth, which is 50 feet in width and rich in copper. This is a very promising property and is being intelligently developed in a business like manner. Many other properties in this section are showing up well and gold, silver, copper and lead are all found upon the reservation lands and Bannock county will now take rank among the mining counties of Idaho.

BEAR LAKE COUNTY.

This section was noted in early days for the placer mines of the Idaho Cariboo district, one of the most famous districts of pioneer times. These placers are still being worked in many cases and promising ledges have been opened of recent years, although agriculture and stock raising have become the chief industries of the county. During the past year development work has progressed upon copper properties of Bear Lake county and an initial trial shipment of ore has been made to the Salt Lake smelter. The county borders on Utah in the extreme southeastern section of the State.

BLAINE COUNTY.

Blaine county, which in the early days comprised a section of old Alturas county, is one of the oldest mining counties in the State, having been a famous producer of silver and lead. Among the mines which give it a record of shipments of nearly \$20,000,000 of silver-lead bullion can be named the Minnie Moore, the Idahoan, the Queen, the Mayflower, the Bullion and Muldoon. Owing to the low price of silver and other causes, a number of the Wood River mines were closed down a number of years since.

The Minnie Moore mine, Irvine Rockwell, general manager. This is one of the most famous of the Wood River

mines and has a production record of \$6,500,000 up to the time of its closing down several years since. Some two years ago a Chicago company undertook to re-open the mine and expended upwards of \$100,000 in pumping out the water, putting in new machinery and in re-opening the shafts and drifts. During the present year the mine has once more become a shipper, gives employment to one hundred men and is paying handsome dividends. Much of the credit for the good results shown are due to the indefatigable work and unfailing faith of General Manager Rockwell, and James McPherson, the active foreman in charge of the underground workings. The old town of Bellevue, among the most famous of Idaho's pioneer camps, has taken on a new lease of life due solely to the resumption of work at this great producer. This mine ships approximately one car load of ore per day, which is valued in excess of \$100 per ton.

The Tip Top mine, J. A. Lusk, general manager. Extensive work continued on this property during the year, the east shaft now being down to a depth of 900 feet, with additional extension of cross-cut and winz. This is a gold property and is well equipped with hoisting plant, engines, compressed air working pumps and drills and an electric power plant and a 20-stamp mill. This mine is located on what is known as the Camas gold belt of Blaine county.

Upon this belt are also located many other properties, the most promising and best developed of which are the Golden Star, the Hattie, Camas No. 1, Camas No. 2, Black Cinder, Croesus and Liberal.

The Black Cinder and Camas No. 1 are being developed by Charles McClure, a well known Montana mining man. These properties adjoin and a deep shaft is being sunk upon them.

The Liberal mine has been extensively developed, and is in excellent condition. It has been incorporated by a stock company capitalized at \$2,000,000.

The Muldoon district, a famous lead-silver camp in pioneer days, is witnessing renewed activity and much development work on a number of properties which are showing up excellently.

The Little Smoky district is becoming famous as a gold producer, owing to development work on veins, which have

been long known to exist, but which were overlooked in the bonanza days of silver and lead mining. This season several New York companies have taken hold of properties in this district, and Charles McClure, of Montana, has also invested heavily here. The ledges are easily traced for miles and while not large, the ore is regular and of good value, and if the values continue with depth, which there is every reason to believe will be the case, Little Smoky will take rank as a great producer.

The Lava Creek district during the last two years has witnessed a resumption of work and some very fine properties—principally gold and silver, are being developed.

On the divide between Cottonwood creek and Fish creek, a company has re-opened the old Cranston copper and lead mine, and a force of 40 men is kept constantly at work and the owners expect to put in a concentrator soon.

The Idaho Democrat, a silver-lead property near Hailey, is proving a bonanza to its owners, Hon. W. H. Watt and Thomas Brennan, who keep a force of men steadily at work. This mine has been a regular producer for years and bids fair to be better than ever.

BOISE COUNTY.

Boise county has been a world famous producer of gold for years. The estimates of the production of placer gold in Boise Basin, which comprises an area of fifteen miles in width by thirty miles in length, since the discovery of the precious metals in the early 60's, is given at \$150,000,000 by the best authorities. These fabulously rich placer beds, according to officials of the United States Geological Survey, were dependent upon quartz ledges. These ledges are being discovered and worked, and present a vast field of endeavor to the prospector. The quartz belt of the Basin is known to extend for a distance of 40 miles, including among others the Quartzburg, Gambrinus and Elkhorn districts.

Among the mines of Boise county can be mentioned the Washington, which under the active management of Charles Balbach, is being constantly developed, is a good producer and has a 10-stamp mill. The Illinois, Mountain Ram, Gold Bug, Mollie McCarthy, Golconda and Mineral Hill are among the other numerous good properties of the county.

The Lucky Boy is a steady producer. The company has extended its shaft another 100 feet, running a drift from the bottom of it, cutting the vein which is 48 feet wide, and of good ore. The mill has been kept running the latter part of the season.

Especial mention is deserved for a mineral district about four miles from Idaho City, where in the last two or three years discoveries of base ore in gold, silver, copper and lead have been made. These ores run in value from \$40 to \$50, and interested parties are endeavoring to secure the erection of a smelter so that the ores can be worked. When this is accomplished the district will leap into prominence.

Pearl district, situated in the southwestern part of Boise county, is a thriving mining camp. Here is the famous Checkmate mine, which has paid from the "grass roots" and has developed into a well-equipped mine, for several years past being a regular shipper of high grade concentrates. The Lincoln group is another property being rapidly developed, and there are a score or more of other promising properties in the district, the best known of which are the I. X. L., King, Red Warrior, Comrade, Friday and Superior.

Miller Mountain. Thirty miles north of Idaho City, on the road to Thunder Mountain, is the Miller Mountain district, which is attracting increasing interest. In 1901, a company with former Governor Frank Steunenberg and Major George A. Williams at the head, bonded for \$55,000 the Marsh group of claims in this section and have pushed development work ever since with flattering prospects. There is an immense reef of ore in sight upon this property. Other prospects are also being developed in the Miller Mountain district.

The War Eagle placer claims in this county have been worked the past season with the usual good results. There are many other placer claims being operated and several dredges are worked on Moore creek with good results, the output of placer gold being still a source of great wealth to Boise county.

CASSIA COUNTY.

Cassia county is essentially an agricultural and stock raising county, but valuable placer and quartz veins have been discovered from time to time, with every assurance that

development work would be successful. Deposits of mineral paint, marble, sandstone, mica and lignite have also been found, but lack of railroad facilities have proven detrimental to development. Dredge mining for gold on the Snake River has been carried on for years, more or less successfully, in this county.

CUSTER COUNTY.

Custer county, in central Idaho, is very rich in mineral wealth, whose development in former years has been retarded by the lack of railroad facilities, a defect partly remedied by the building of a branch road in 1901 by the Oregon Short Line from Blackfoot to Mackay, where are located the mines of the White Knob Copper company, of which the late multimillionaire, John W. Mackay, at the time of his death, was president. Percy L. Earne is the present general superintendent, having succeeded Wayne Darlington, who was connected with the company for many years.

This company has erected a smelter of 500 tons daily capacity and built an electric railway from it to the foot of the hill upon which is located the principal claim. Work is now being pushed on a long cross-cut tunnel from the head of the railway to tap the lowest workings of the mine, and upon its completion the smelter will be started.

At Bay Horse there has been the usual amount of work upon the mines of the district and large shipments of lead-silver ore of high grade made from the Sky Lark and Ram's Horn to the smelter at Clayton. The Clayton Milling and Smelting company has made a successful year's run under the able management of Lawrence Greene, the output from upward of 1,000,000 pounds of lead-silver bullion being upward of 100,000 ounces of silver, with a small quantity of gold. The Red Bird mine, one of the principal properties of the company, contributed largely to this production.

The Livingstone group at the head of Slate and Boulder creeks has been successfully worked during the year by A. S. Livingstone, manager, and there are numerous other promising lead-silver properties in this section.

The Lucky Boy Gold Mining company at Custer City has been steadily at work during the year with the usual large force of men and has extended the shaft down an ad-

ditional 200 feet, all the new development work shows up remarkable bodies of good ore. Hon. Ravenal McBeth is the able and efficient general manager of this property. This company keeps a 30-stamp mill running day and night.

The McFadden group at Estes mountain have been operated with excellent results all season, keeping the 10-stamp mill of the company constantly running. In this district are also some famous properties having a record of an output of \$12,000,000, of which may be mentioned the General Custer, Charles Dickens, Lucky Boy, Summit, Unknown, Atlantic, Continental and Anna.

A large section of Custer county is mountainous, being contiguous to the vast section known as the Thunder Mountain country. In the rush to this latter section, many prospectors the past year made discoveries in the Custer county territory, some of which are of great promise. In fact there is a vast extent of territory here as yet unprospected and still in its native wild.

ELMORE COUNTY.

This county has been a famous producer for many years, gold having been discovered in 1863, when the territory now known as Elmore county was a part of famous old Alturas county. In the northern section of the county are located Atlanta and Rocky Bar, with their numerous well known mining properties.

The Monarch mine, near Atlanta, one of the oldest properties in Idaho, has been worked during the present year, showing excellent results. This mine is equipped with a 15-stamp mill.

The Baltimore, also in the Atlanta district, is being operated successfully.

The Tehoma mine is also a famous property near Atlanta, which is now owned by a syndicate of eastern capitalists, who are pushing extensive development work.

The Sawtooth mine, near Rocky Bar, is equipped with a 20-stamp mill and is being worked constantly.

The Neal district has been pushing into prominence for several years and comes to the front the present season by the sale of the Daisy mine to Chicago and Wisconsin capi-

talists for \$225,000. This property was developed by George Bredehoft, who, in spite of lack of capital, pushed its development from a prospect into the acknowledged making of a great mine.

The Hidden Treasure is another valuable property in the Neal district in which New York capitalists are interested, whose declared intentions it is to erect a mill the coming spring for the reduction of the ore which has been previously taken to the Balbach mill.

The Overlook mine, in this district, the property of eastern men, is being systematically developed under the supervision of J. W. Murphy and gives great promise of being a prolific producer.

In the Pine district of this county is the Franklin mine—a gold producer—running a 10-stamp mill night and day on ore from two drifts that are being run. The ore averages from 5 to 7 feet wide.

There are other valuable properties in this district, one of which is being developed by Major Fred Reed.

On Skeleton creek is a new district opened about a year ago by Robert Chattin, Martin King and others. Here are properties making an excellent showing of large bodies of free milling ore.

IDAHO COUNTY.

Occupies a commanding position upon the map of north central Idaho, being an empire in extent and possessing a vast as yet undeveloped mineral territory. Here are the famous placers of Warren and Florence, as well as the great Buffalo Hump and Thunder Mountain quartz sections, together with the unexplored and practically unknown fields of the Clearwater and Salmon River countries.

Extensive development work has been continued during the past year in the Buffalo Hump district, with the result that the controlling interest of the Jumbo mine has been bonded to Patrick Clark, a millionaire mining man of Spokane, on the basis of \$250,000 for the property. From a 4-stamp mill in the last season's run this mine produced \$60,000 in gold bullion. The property has been developed under great difficulties through the lack of funds, but, nevertheless, two tunnels have been run, one going a depth of 225 and the

second 450 feet, showing a vein 20 feet wide, with ore averaging \$22 per ton on seven feet of the vein, which has been milled. A 20 or 30-stamp mill is to be put on the property and the force of 25 men greatly increased. Great credit is due to Frank Brown for his able management of this property.

The Big Buffalo mine has been worked continuously this year and has kept its mill running night and day. This ledge is from 30 to 60 feet wide and is plainly visible in croppings for 4,000 feet.

The Dewey mine in this district is also undergoing rapid development work, arrangements now being made for an extensive hoisting plant to replace the windlasses now in use.

The Wise Boy, which a year ago was considered a good prospect, now has a 10-stamp mill, which made an initial run in November of \$1,000 in 20 hours on five stamps. Additional water has been secured and the mill will be kept running to its fullest capacity day and night. Hons. A. W. Moore and son, Avery C. Moore, are the principal owners of this property, for which they have refused an offer of \$225,000.

The Crackerjack is another property being rapidly developed, during the year having put up a stamp mill and is now a regular producer. It possesses great bodies of ore, the veins averaging from 4 to 15 feet in width, a chute having been prospected for a depth of 300 feet showing good values and no decrease in width. This property is owned by W. H. Stevens and others.

The Atlas, Clarence, Ray, Buffalo Hump, Louise and St. Louis are among the other promising properties of this gold belt and Buffalo Hump is destined in the near future to take a commanding position in the great mining sections of the State.

Elk City, Dixie, Newsome, Florence, Marshall Lake, Bear Creek and Warren are also among the good quartz and placer camps of Idaho county.

The Evergreen, near Grangeville, on the Clearwater, is being developed under the careful management of Superintendent A. A. Kincaid with excellent results..

In the Elk City district during the past year the Ameri-

can Eagle Mining company has made wonderful development upon its claims. The quartz is literally covered with gold and it is estimated as much as \$500,000 worth of ore has been brought in sight in this property with a small force of men.

THUNDER MOUNTAIN.

Thunder Mountain, which for the past two years has been heard of in mining circles throughout the world, has reached that stage of progress in its development into a mining camp, where the tenderfoot has given away to the real miner, who knows a good thing when he sees it and has settled down to work.

The Dewey mine—the purchase of the claims comprising which was made by Col. W. H. Dewey and associates for \$100,000 when it was but a mere prospect, gave the camp its initial advancement, has a large force of men at work in development work. As the property is owned by a close corporation, who give out but little information, its progress can only be recorded in general terms. The 10-stamp mill has been kept busy, large bodies of ore exposed to view and work done on the site for the big 100-stamp mill which has been purchased and there is every reason to believe it will be installed the coming season.

The Fairview group, in the immediate vicinity of the Dewey, is being opened up and developed under the able management of Frank E. Johnesse, with Alexander Urdal as superintendent. They have cut a vein 48 feet wide, while running on a long cross-cut tunnel. Eight feet of this vein goes \$60 per ton and the balance of 40 feet about \$8 per ton, and 60 per cent of the ore is free milling. The company expect to put in a mill the coming season.

The famous Sunnyside mine, for which \$125,000 was paid when it was only a hole in the ground 10 feet in depth, is being rapidly developed. The company has cross-cut the country with a tunnel and opened up a vein of ore 60 feet in width, averaging \$20 per ton. Work is constantly progressing upon this group and a mill is to be placed upon it in the immediate future.

The Wisdom mine makes another flattering showing and lies near the Sunnyside and the development work shows

a 40-foot vein has been cross-cut and the ore is supposed to average about \$20 per ton.

On Rainbow Peak and also on Lightning Peak a great number of fine showings are being developed.

THE BIG CREEK DISTRICT.

Adjoins the Thunder Mountain district and will be a close rival, as the showings are phenomenal. Space is too limited to mention the many good claims in this district, among them being the Silent Friend group, which consists of eight claims and is owned by the Blackfoot Gold Mining and Milling company. Two parallel veins run the entire length of the group, work having been done on both. On the smaller vein, which is 20 feet wide, samples from the bottom of shafts on the various claims average from \$60 to \$200 per ton. The company anticipates doing active development work in the spring and will drive a long tunnel to tap the ledge at a depth of 500 feet.

The Empire group also has a very flattering showing, having exposed a ledge 50 feet wide with assays running from \$10 to \$12 up to several hundred dollars per ton, all along the vein for hundreds of feet.

The Cleveland group has had more work done upon it than upon any other claims in the district. Pack trains of ore have been taken out and shipped to mills for treatment, returning over \$100 per ton. The ledge is 20 feet wide and work is being actively pushed.

The Glasgow group makes a fine showing, the ore averaging six feet in width and being exposed by cuts and shafts for several hundred feet in length, and the values are such that the owners contemplate erecting a mill in the spring and are engaged in development work this winter.

The Dundee group adjoins the Glasgow, with practically the same ledge of ore upon which active development work is being done this winter.

The Tellurium group shows a big vein of good ore and is being rapidly developed by its owners.

There are a great many men at work in this district, some for companies and others independently and there can be no doubt of the future prosperity of the camp. Plenty of wood and water, absolute necessities for successful mining, are convenient in the district.

KOOTENAI COUNTY.

This county, the most northern in the State, possesses a vast unexplored mineral territory, with sufficient discoveries and development to warrant a golden future.

At Lake Pen D'Oreille is the Lakeview mining camp, where are numerous good properties. The Weber mine is well developed and has been a large shipper of ore to the Tacoma smelter. Hon. S. P. Donnelly is the general manager of this mine.

The Keep Cool and the Conjecture have continued development work the past season, with flattering prospects. A movement is now on foot by the owners of the Keep Cool to erect large reduction works, which would insure the prosperity of the camp.

Across the lake from Lakeview, about half way between the Lakeview district and Hope, the nearest station on the Northern Pacific railroad, is the Black Tail district, where are located the Blue Bird, Little Joe, Black Jack, B. F. & H. and Keystone and other properties, all of which are being developed, with excellent results.

The placer discoveries on St. Mary's River, which have been worked for some time, have been followed by the discovery and location of many quartz claims in that section, some of which show up large bodies of free milling ore and the erection of a stamp mill is being urged and is destined to become a realization.

A company of capitalists has bought all the placer ground at Tyson, in this county, and have shipped in machinery for a dredge, which is being built and will engage in dredge mining the coming season and great activity is prophesied in this section for the coming year.

LEMHI COUNTY.

Another county made famous by its placer mines in pioneer days is Lemhi county, in the northeastern section of the State. Leesburg was an early-day Idaho camp, whose placer claims were worked in 1866 and have been among the large contributors to the total gold product of the State. Lemhi county has within her borders gold, silver, lead, copper and coal, besides extensive deposits of brick clay, fire clay, building stone and recent discoveries of nickel and cobalt. The

county is still held back by lack of railroad facilities—the nearest railway stations from Salmon City being Red Rock, Montana, 70 miles distant, and Mackay, in Custer county, the terminus of the O. S. L. branch from Blackfoot.

The Blackbird district, a copper zone, carrying also gold, with some nickel and cobalt, has some fine properties, the Blackbird Copper Gold Mining company and several other companies having done some extensive development work.

The Indian Creek district is pushing rapidly to the front, here being located the group owned by the Kittie Burton Mining company, who also own the Ulysses group on the opposite side of the creek, upon which a reserve of ore equal to 60,000 tons is shown, which will average in value \$10 per ton and keep a 15-stamp mill busy for many years.

At Shoup are a number of good properties, the Clipper Bullion operating a mill upon a large body of ore running from \$8 to \$10 and more per ton.

The Keno No. 2 is a property showing excellent values, and the location of the country being deeply cut by the Salmon river, shows the veins run to a great depth.

The Italian mine, on Arnett creek, has recently been purchased by Van Horn & Co., of Fremont, Nebraska, for \$20,000, and rapid development work will be pushed under the management of E. B. Randolph.

The Yellow Jacket mines possess a large body of free milling ore, with a 60-stamp mill and the property is being constantly worked with good results.

On the Middle Fork of the Salmon river S. B. Wyatt and others are developing the True Fissure claim—a free milling property, with a large ore body exposed for a length of 300 feet. They are now driving a tunnel to cut the vein at greater depth. The ore runs from \$40 to \$50 per ton.

Lemhi county claims the only working coal mine in the State, the Pollard mine near Salmon City showing six feet of clean, merchantable coal, which is now producing from 12 to 15 tons daily, which supplies the local demand, and which output could be greatly increased.

A company of Nampa men have recently purchased of W. H. Goss six claims on Indian creek which are rich in nickel and cobalt. These claims were located in 1897 by Mr. Goss, who was prospecting for copper.

OWYHEE COUNTY.

This famous section is witnessing a revival of the production of the precious metals and enjoys the confidence of all mining men, as is evidenced by the large investments of capital in the development of its resources. Here are the world-famous properties of De Lamar, Trade Dollar and the Golden Chariot. The completion of the Sinker tunnel on War Eagle mountain for the double purpose of tapping the "Chariot" vein and of draining the old bonanza mines thereon was the most important work accomplished during the year. The tunnel is 6,300 feet in length and the undertaking has been entirely successful. The vein was struck and the company is now engaged in drifting and raising to connect with the upper workings, and there is 1,200 feet of backs or virgin ground to be stoped. Frederic Irwin has been in charge of this work for an eastern syndicate since its inauguration in November, 1899. The mines tapped and drained by the tunnel include the Tunnel Site, Quartz No. 1, Quartz No. 2, South Oro Fino, Summit, South Chariot, Grover Cleveland, Mahogany, Tipton and Philadelphia, some of which have been among the greatest of Idaho's producers.

De Lamar Mine—Operations at this well known producer have continued during the past year under the general management of E. V. Olford, with Thomas Davey as general superintendent. The usual monthly dividends have been made and the famous old property bids fair to be among the big mines of Idaho for many years to come.

Continuous development work, with excellent results, has been in progress on the Howe-Manhattan group adjoining the De Lamar.

The Trade Dollar Mining company, which during the year 1901 expended more than a quarter of a million of dollars in bringing in electric power from Swan's Falls on the Snake river, during the present year completed the long tunnel, which tapped the ledge some 700 feet below the former lowest working level. Connection has been made with the higher level and the annual output of the mine is being maintained at figures in excess of three-quarters of a million of dollars. In November of the present year Frederic Irwin succeeded James Hutchinson as general manager of this property. Much credit is due to Mr. Hutchinson, who for nine years success-

fully managed this property until it became one of the great ranking mines of Idaho, known the world over. Mr. Hutchinson retired this winter in order to remove from the high altitude and to lay down the heavy duties the position demands.

The Poorman, the Pauper and the Cumberland group are among the other most famous of Owyhee county properties.

During the past year there has been unusual activity in the mineral belts of Owyhee and large numbers of new locations made, with more or less extensive development work.

SHOSHONE COUNTY.

Shoshone county produces more in value from its lead, silver and gold mines than all the other counties of Idaho combined, and the lead product of the Coeur d'Alene forms approximately half of the product of the United States of this metal.

This year there has been greater activity in the mines of the Coeur d'Alenes than for years past, due to the fact that the smelter trust has increased by one-third the quantity of lead which it will purchase. This increase has been a decided stimulus to the lead-silver properties of this far-famed region.

The Murray district to the north of the Coeur d'Alenes comprises one of the gold belts of Shoshone county, and during the past year extensive development work has been prosecuted in all of the properties of this district, with good results and the outlook is extremely bright for the future of this section.

The Morning mine, in the Mullan district, is among the great dividend paying lead-silver properties of the Coeur d'Alenes. This company has a mill with a capacity of 900 tons daily, the ore being delivered thereat over a 2½-mile standard gauge railroad owned by the company. The product of the mine was limited to 100,000 tons in 1901, but will reach 135,000 tons the present year, and could be much larger if the market conditions would permit. The company owns and conducts a large and well-furnished hotel for the accommodation of its employes. T. L. Greenough, as general manager, has shown a keen perception of the duties of his responsible position.

The Gold Hunter, of which J. S. Olin is superintendent and manager, is a lead-silver property situated about two miles from the town of Mullan and continues its record as a steady producer. This property has a concentrating plant of 350 tons daily capacity, and is well and ably managed.

The Bunker Hill and Sullivan is the most famous and largest property of the Coeur d'Alenes, comprising about 80 claims. It is not directly hampered by the smelter trust, as it owns and operates a smelter of its own. Some 500 men are steadily employed upon this great property, which possesses many miles of tunnels and a bucket tramway of 1,200 tons daily capacity to conduct the ore a distance of $2\frac{1}{2}$ miles to the mill. The company completed last year a $2\frac{1}{4}$ -mile tunnel, running from the mill and tapping the ledge 1,200 feet below the former lowest workings and have finished an upraise to connect therewith. The company operates its own smelter, which is located at Tacoma, Wash., and it is to be hoped that the other large companies of the Coeur d'Alene will ultimately free themselves from the dictations of the smelter trust.

The Last Chance mine, of which Clayton Miller is general manager, has maintained its high standard as a lead and silver producer. This property, which consists of upwards of 40 claims is thoroughly equipped, having two mills, one of 300 tons and one of 800 tons daily capacity. Upon the property are several miles of tunnels and drifts and the production is only limited by the demands of the smelter trust, and approximate 25,000 tons of concentrates per year.

The Mammoth mine has felt the stimulus of the increased market and has added to its production 35 per cent in lead and silver. During the year the company has made connection from the lower tunnel with about a 600-foot upraise to the higher working level. The mine has been steadily worked under the able management of Richard C. Wilson and is recognized as one of the best dividend payers of the Coeur d'Alenes, its milling process being the very best in the region.

The Standard, of which E. H. Moffitt is general manager, has also shared in the general prosperity of its section, having increased its output of silver and lead to the full demands of the market and keeping a large force working night and day. The mill of the company, with a daily ca-

capacity of 400 tons, is located at Wallace, to which the ore is taken on an electric railway and steam cars.

Tiger and Poorman, another famous property of this great lead-silver region, of which Clayton Miller is general manager. This property is thoroughly equipped, possessing one of the most powerful pumps in the northwest, which is capable of raising 1,500 gallons of water 1,600 feet every minute. The company also possesses an 800 horse-power Corliss hoisting engine. The mine has a 3-compartment shaft to a depth of 1,750 feet, in which skips are used holding about $4\frac{1}{2}$ tons each. The mill has a daily capacity of 800 tons.

The Hecla Mine—This valuable property, which was closed down for some time, was re-opened this year and much development work done. A two-compartment shaft has been sunk to the 300-foot level and drifting on the vein has been carried on for hundreds of feet, and the company is now engaged in upraising to the upper level, which work will be completed in two or three months. Large bodies of ore have been exposed by the development work and a large ore house has been constructed with the view of doubling the annual output. E. W. Moffitt is the energetic manager of this property.

The Helena-Frisco, one of the earliest and heaviest producers of the Coeur d'Alenes, has recently resumed operations after a shut-down for a period of 18 months under an agreement with the smelter trust limiting production. A force of about 250 men is employed, with the mill running night and day, with a large output of concentrates. During the shut-down extensive development work was carried on, and the mine put in excellent condition. The property has a 1,600-foot, three-compartment shaft and is equipped with an 800 horse-power hoisting engine with a concentrator at the mine. It will add materially to the total silver-lead output of Shoshone county.

The Snowstorm, located about three miles above Mullan, differs from any other vein in the district in being a copper property, carrying also gold and silver. It is located on the copper belt of the Saltese range extending from Montana.. The ledge has been cut by cross-cut tunnels, one 100 feet deep and the other 400 feet deep and the vein is found to be 40

feet wide on the 400-foot level, and runs from 4 to 6 per cent copper, \$4 in gold and 8 ounces in silver per ton. The company is now driving a deep tunnel to tap the vein at a depth of 1,000 feet, and when this is successfully accomplished there is every indication that it will become one of the largest properties in the northwest.

The Hercules, of which H. L. Day is general manager, is a mine like unto King Solomon's of old. It could be regarded as a prospect up to 18 months ago and was owned by poor and struggling prospectors and miners, who succeeded in running a 1,600-foot tunnel cutting the vein and finding great bodies of high grade ore, such as had never been found in the Coeur d'Alenes before. The owners have been enabled to make large shipment of the richer ore to the smelter, leaving the lower grades to be worked by a mill which they will erect. The original owners are still the possessors of this valuable property, having refused many flattering offers, including one of \$1,800,000 for it. The mine is located two miles from Burke, and is one of the latest additions to the famous properties of this great mineral section. The company is now running a long tunnel 800 to 1,000 feet deeper than the present lowest workings and Manager Day is to be congratulated upon his foresight and perseverance in the splendid development of this property.

The Humming Bird is a lead and silver property located between the Tiger-Poorman and the Hercules. The stockholders are principally local people of moderate means who are gradually and successfully developing the property. They have cut the vein at a depth of 300 feet and for more than a year have been driving a deep tunnel from the bottom of the canyon to tap the vein at a great depth. The property is showing up some rich values in the tunnels and drifts.

The Powhatan group lies on the East Fork of Big creek, some four miles east of the Bunker Hill and Sullivan mine and is supposed to be on the same ledge. The ledge has just been cut by a cross tunnel and is found to be 40 feet wide in concentrating ore. The owners contemplate drifting on the vein and will constantly gain depth until a depth of 2,000 feet is reached. Alexander McKinlay, M. J. Dowd and others are the owners of this property, which is one of great possibilities.

The California, a valuable property about one and one-half miles from Wallace, is being worked successfully, the faulted vein having been re-struck and shipments renewed. The mill is kept running day and night.

WASHINGTON COUNTY.

Washington county lies upon the southwestern border of Idaho, being separated by the Snake river from Oregon. The most important and best known mineral section of Washington county is the Seven Devils district, so called from a range of mountains which the visitor will think was appropriately named. Here are copper mines, to reach which the P. & I. N. railroad has built a line from Weiser to Council and surveyed the route and done much grading work on to Cuprum, in the vicinity of the mines. Unfortunately the principal claims have been shut down through litigation as to ownership, in which some of the leading mining men of Montana are principals. With a termination of this litigation, great activity will take place in the district. Among the leading claims may be mentioned the Peacock, the South Peacock, Helena, Decorah and Blue Jacket, and there are many other properties under development. In fact a smelter has been erected near Weiser especially for the reduction of the ore of this district, and before the inauguration of law suits interferred with the operations of the district large quantities of ore were hauled in wagons to the railroad at Council, a distance of 40 miles, for shipment to the Denver and Utah smelters. The Blue Jacket is among the best developed properties, a shaft having been sunk a depth of several hundred feet and large quantities of ore shipped. Until the shutting down of the mine F. J. French, as general manager, personally superintended the development work.

The Heath district, also a copper belt, is located about 20 miles from the P. & I. N. railroad, and has shown some very high grade ore, the Heald claims, of which Fred Heald is a principal owner, being steadily developed.

Hon. Alexander Houlahan owns the Herculese property near this district, which he is constantly developing and which shows quantities of high grade ore. Mr. Houlahan expects to erect a working plant upon this property the coming spring.

The Black Lake is another prominent district of Washington county, where there are many properties in course of

development work, the Sulzer-Ford Gold Mining company having expended more than \$100,000 in development work and in installing a milling plant.

Eight miles from Black Lake is the Mountain View district, where good bearing quartz, principally gold, with some copper, has been discovered and the Rankin General Milling company has installed a 25-ton daily capacity mill, using a new method by which it is claimed ore as low as \$2 per ton can be profitably worked. This plant has been built with a view of increasing its capacity to 100 tons per day. Many prospectors are doing work this winter in this district.

Ada County.

Gold, fine ounces, 850 \$17,569.50
 Silver, fine ounces, 300 387.00
 Total value \$17,956.50

Bannock County.

Gold, fine ounces, 650 \$13,435.50
 Silver, fine ounces, 90 116.10
 Total value \$13,551.60

Bingham County.

Gold, fine ounces, 975 \$20,153.25
 Silver, fine ounces, 160 206.40
 Total value \$20,359.65

Blaine County.

Gold, fine ounces, 1,900 \$ 39,273.00
 Silver, fine ounces, 225,500 290,895.00
 Lead, pounds, 4,045,000 141,575.00
 Total value \$471,743.00

Boise County.

Gold, fine ounces, 19,200 \$396,864.00
 Silver, fine ounces, 6,700 8,643.00
 Total value \$405,507.00

Canyon County.

Gold, fine ounces, 450 \$9,301.50
 Silver, fine ounces, 72 92.88
 Total value \$9,394.38

Cassia County.

Gold, fine ounces, 1,575 \$32,555.25
 Silver, fine ounces, 103 132.87
 Total value \$32,688.12

Custer County.

Gold, fine ounces, 7,110 \$146,963.70
 Silver, fine ounces, 200,700 258,903.00
 Lead pounds, 1,465,000 51,275.00
 Total value \$457,141.70

Elmore County.

Gold, fine ounces, 4,355 \$90,017.85
 Silver, fine ounces, 3,840 4,953.60
 Total value \$94,971.45

Idaho County.

Gold, fine ounces, 12,794 \$264,451.98
 Silver, fine ounces, 4,345 5,605.05
 Total value \$270,057.03

Owyhee County.

Gold, fine ounces, 36,443	\$ 753,276 81
Silver, fine ounces, 1,075,000	1,386,750 00
Total value	<u>\$2,140,026 81</u>

Shoshone County.

Gold, fine ounces, 10,053	\$ 207,795 51
Silver, fine ounces, 3,688,413	4,758,052 77
Lead, pounds, 113,713,000	3,979,955 00
Total value	<u>\$8,945,803 28</u>

Washington County.

Gold, fine ounces, 702	\$ 14,510 34
Silver, fine ounces, 214	276 06
Total value	<u>\$ 14,786 40</u>

Totals for State of Idaho.

Gold, fine ounces, 119,363	\$ 2,467,233 21
Silver, fine ounces, 5,259,778	6,784,113 62
Lead, pounds, 119,223,000	4,172,805 00
	<u>\$13,424,151 83</u>

The coinage value of silver is given.

Kootenai County.

Gold, fine ounces, 4,112	\$84,995 04
Silver, fine ounces, 50,000	64,500 00
Total value	<u>\$149,495 04</u>

Lemhi County.

Gold, fine ounces, 16,500	\$320,385 00
Silver, fine ounces, 4,055	5,230 95
Total value	<u>\$325,615 95</u>

Lincoln County.

Gold, fine ounces, 2,054	\$42,456 13
Silver, fine ounces, 180	232 20
Total value	<u>\$42,688 33</u>

Oneida County.

Gold, fine ounces, 640	\$13,228 80
Silver, fine ounces, 106	136 74
Total value	<u>\$13,365 54</u>

