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Twenty-third Annual Report  
OF THE  
MINING INDUSTRY  
OF IDAHO

FOR THE YEAR

1921



STEWART CAMPBELL

*Inspector of Mines*

MISS A. F. MAHAN

*Secretary*



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OF THE  
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## Letter of Transmittal

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To His Excellency,

The Honorable D. W. Davis,

Governor of Idaho.

SIR:

In compliance with the provisions of section 5480, Idaho Compiled Statutes, I have the honor to transmit herewith the annual report of the inspector of mines for the year ended December 31, 1921.

Respectfully submitted,

STEWART CAMPBELL,

*Inspector of Mines.*

## INTRODUCTION

The publication of this report is required by law, and the data and information presented represent the best effort that one year's time and a limited appropriation would permit.

The list of mining companies and prospects contained in this report is by no means complete. Some companies have been omitted, and very few prospects are included. The companies that are omitted have only themselves to blame for not complying with the State mining, blue sky and corporation laws. The failure to list prospectors was due solely to lack of information. The inspector would be greatly assisted in his work, and it would result to the benefit of those concerned if the delinquent companies would put themselves in good standing, and if the prospectors would submit complete information on their properties to the inspector's office.

It will be noted that there are no discussions on geology, either general or economic, contained in this report. In the past it has been customary for the mine inspector to include these discussions, but the act creating the Idaho Bureau of Mines and Geology made it the duty of the bureau to conduct geological and economic investigations and to publish bulletins and reports on these investigations. This work has been in progress for three years; four bulletins have been issued, and additional ones will be published during 1922.

The information being furnished by the bureau, and the large amount of data on Idaho's geology and mineral resources which has been published by the United States Geological Survey, the United States Bureau of Mines, various journals dealing with mining and geology, and in all former reports issued by the inspector of mines, constitute a wealth of existing information. This material is widely scattered, and the bibliographies compiled on it have all appeared in technical publications that are not extensively distributed. These bibliographies are no longer up-to-date and are arranged to meet the requirements of the technical investigator, so are of but little value to the nontechnical man, who has seldom, if ever, heard of them. The many inquiries for this information that have come into this office show that there is a large demand and an urgent need for these references. Realizing this demand and knowing that it will be of immeasurable value to the investigator and the State a bibliography of publications dealing with the geology and mineral resources of each county has been included. This compilation is not absolutely complete nor does it refer to all publications issued, but it does contain sufficient references to satisfy the requirements of the investigator. It is arranged in a nontechnical manner so that it may be of value to everybody.

In compiling the bibliographies the information contained in Bulletin 166, U. S. Bureau of Mines (in cooperation with the University of Idaho), A Preliminary Report on the Mining Districts of Idaho, by Thomas Varley et al., and Bulletin 507, U. S. Geological Survey, the Mining Districts of the Western United States, by James M. Hill, was used, and to these publications credit is given. Many of the publications cited are out of print and can only be consulted at large public libraries. However, practically all of those issued by the United States Geological Survey and the United States Bureau of Mines and most of the mining journals are in the mine inspector's library.

This library is the largest one of its kind in southern Idaho; it is open to the public, is filling a long-felt want and is in continual use. During the year over 2000 separate volumes were acquired. The library represents one of the important new features added to the office, and it could not have materialized without the consistent effort, hard work and many courtesies extended by the Hon. Burton L. French, M. C., in obtaining and having bound numerous government publications. The donations made by the Idaho Supreme Court, Raymond Guyer, Mining Engineer, Spokane, Washington, Charles W. Harkinson, Mining Engineer, Boise, Idaho, and Stewart Campbell include many publications which are of great value as they could not have been obtained elsewhere.

## MINING INDUSTRY OF IDAHO

In addition to the five principal metals, practically all other metal and nonmetal products in use are found in Idaho. A great many of these are of commercial importance and are being developed; others are attracting attention from prospectors and are being sought. In the past it has been almost impossible for the people interested to find a market or purchaser; and as there was no general source available where this information could be obtained, a list of the purchasers or users in the United States of the following products was prepared:

Antimony; Asbestos; Barytes; Bauxite (aluminum); Bismuth; Cadmium; Chromium (chrome ore); Cobalt; Diatomaceous Earth; Feldspar; Fuller's Earth; Graphite; Gypsum; Magnesium; Magnesite; Manganese; Mica; Molybdenum; Monazite; Nickel; Platinum; Pumice; Radium; Silica Sand; Sodium; Talc; Tin; Titanium (rutile); Tripoli; Tungsten; Uranium; Vanadium.

The minerals are listed separately, and the list of purchasers of the particular mineral in which one is interested is furnished on a request to the office. The compilation of these lists required considerable work, and it was not completed until October 1, at which time notices were given to the press that it was available. Requests immediately began to pour in; and the addition of this new feature to the office has proven to be a success, and it is very materially assisting in promoting the State's mineral resources.

Idaho's area is 83,888 square miles, which is almost equal to that of Pennsylvania and Ohio combined. The State is approximately 486 miles long and 312 miles wide at its southern end. It contains 44 counties, 30 of which can be classified as mining counties, although only 26 have mines of any importance. As these counties are widely separated, and the State is intricately divided by high mountain ranges and deep canyons, particularly the Salmon River Canyon, a large amount of time and travel is required to visit all of them, so the visit to each one is necessarily very brief. These short visits are insufficient to enable the inspector to keep in touch with all of the mining activities of the State, yet it is expected that he do so. Accordingly the inspection work has been supplemented by gleaning from the press all the information possible. As the maintenance appropriation is insufficient to permit the office to subscribe for all of the newspapers of the State, it was necessary to ask for complimentary copies. These greatly assisted the inspector, the hearty cooperation of their editors is appreciated; and the State of Idaho, through the mine inspector, extends its thanks to the following:

The Arco Advertiser, Arco  
 Bonners Ferry Herald, Bonners Ferry  
 The Grangeville Globe, Grangeville  
 The Idaho Recorder, Salmon  
 Kellogg-Wardner News, Kellogg  
 The Mackay Miner, Mackay  
 Northern Idaho News, Sandpoint  
 Northwest Mining Truth, Spokane  
 The Owyhee Avalanche, Silver City  
 Pend d'Oreille Review, Sandpoint  
 Priest River Times, Priest River  
 The Salt Lake Mining Review, Salt Lake City  
 Times-News-Miner, Hailey  
 The Wallace Miner, Wallace  
 The Weekly Press-Times, Wallace.  
 J. G. Fralick for copies of Spokesman Review.

The duties that are required by law and the new features added to the office, together with the work involved in this report, have kept the inspector's office very busy throughout the entire year; and much credit is due to Miss Mahan, the inspector's secretary, for the efficient manner in which she has assisted.

## ABBREVIATIONS USED IN BIBLIOGRAPHIES

Am. Geology .....	American Geology
Am. Jour. Sci. ....	American Journal of Science
California Jour. Tech. ....	California Journal of Technology
Canada Geol. Survey Ann. Rept. ....	Canada Geological Survey Annual Report
Colorado Sci. Soc. Proc. ....	Colorado Scientific Society Proceedings
Columbia School of Mines Quart. ....	Columbia School of Mines Quarterly
Econ. Geology .....	Economic Geology
Eng. and Min. Jour. ....	Engineering and Mining Journal
Jour. Canadian Min. Inst. ....	Journal of Canadian Mining Institute
Min. and Eng. World .....	Mining and Engineering World
Min. and Sci. Press .....	Mining and Scientific Press
Min. Reporter .....	Mining Reporter
Min. World .....	Mining World
Nat. Geog. Mag. ....	National Geographic Magazine
No. ....	Number
p., pp. ....	page, pages
pt. ....	part
Proc. Int. Min. Cong. ....	Proceedings International Mining Congress
Salt Lake Min. Review .....	Salt Lake Mining Review
Sci. Am. Suppl. ....	Scientific American Supplement
ser. ....	series
sess. ....	session
Trans. Am. Inst. Min. Eng. ....	Transactions American Institute of Mining Engineers
Trans. New York Acad. Sci. ....	Transactions New York Academy of Science
U. S. Bureau of Mines Bull. ....	U. S. Bureau of Mines Bulletin
U. S. Geol. Survey Bull. ....	U. S. Geological Survey Bulletin
U. S. Geol. and Geog. Survey .....	U. S. Geological and Geographical Survey
U. S. Geol. Survey Ann. Rept. ....	U. S. Geological Survey Annual Report
U. S. Geol. Survey Bull. ....	U. S. Geological Survey Bulletin
U. S. Geol. Survey Geol. Atlas .....	U. S. Geological Survey Geologic Atlas
U. S. Geol. Survey Mon. ....	U. S. Geological Survey Monograph
U. S. Geol. Survey Prof. Paper .....	U. S. Geological Survey Professional Paper
Univ. of Idaho .....	University of Idaho
vol. ....	volume

## MINING INDUSTRY OF IDAHO

## GENERAL CONDITIONS.

The Idaho mining industry, which has turned out products having a total value of over \$925,000,000, began in 1860 with the first discovery of gold in the placer mines of the Pierce City district, Clearwater County. Of this total mineral production the larger part is credited to lead, silver, gold, zinc and copper; but the mines have also produced antimony, bismuth, tungsten, cobalt, nickel, molybdenum, quicksilver, barytes, mica, sulphur, asbestos, phosphate rock, coal, salt, building stone and limestone.

Before the war Idaho's annual production of the five principal metals was approximately \$24,500,000, with gold averaging about \$1,200,000. During the war there was a large increase in the production of lead, silver, zinc and copper, owing to the high prices of these metals; while there was a corresponding decrease in the production of gold; as this metal did not increase in value and the cost of production increased so greatly that practically all gold mining companies were compelled to suspend operations. This situation is well shown by noting that in 1917 the total mineral production was \$54,845,153, of which \$804,809 was gold; an increase of over 100 per cent in lead, silver, zinc and copper, and a decrease of over 60 per cent in gold.

After the war the decline in prices and market demand, combined with the excess profit tax, high freight rates, cost of commodities, and high wages, had such a demoralizing effect on mining that the State experienced the greatest depression it has known for over 20 years. This depression is reflected in the mineral production of 1921, which was approximately one-fourth that of 1917. This large decrease in production is attributable to the suspension of operations by four large lead producers and all of the copper and zinc producers because of the adverse conditions mentioned. But during 1921 the excess profit tax was repealed, a substantial reduction in freight rates was made, and the prices of metals were increasing, so that the closing months witnessed the approach of normal conditions under which profitable production can be maintained. This relief permitted the copper mines to open up, and an early resumption of operations by the large lead and zinc producers is anticipated.

The prospecting and development work that has been done in Idaho's mining districts has proven that there are a great many wonderful opportunities in the State. These possibilities are being investigated and developed, new companies are being formed to operate them, the mining spirit has returned, industrial and general conditions are improving, the price of silver will remain at a dollar an ounce for at least three years, the investing public is beginning to realize that gold mining companies are exempt from the provisions of the income tax law, mining is experiencing a revival, and 1922 will probably show a complete recovery.

The mining industry of the State is suffering greatly from the effect of illegitimate promotions and mismanagement, and of the two, illegitimate promotions with their fraudulent literature are doing the greater harm. This literature is designed to mislead and to convey ideas which generate hopes that can never be fulfilled. Undertakings financed through these means are generally of short life, and the temporary benefit derived is of no value, as the great harm lies in the fact that the investor does not condemn the promoter or the property, but lays the blame entirely upon the State and its possibilities. The reaction is such that it is almost impossible to finance a legitimate proposition unless the same means are resorted to by the honest promoter or owner, and rather than lower himself in such a way many properties that are worthy of development are lying dormant awaiting a time when they can be promoted upon their merits.

The proper management and direction of the operation and affairs of a mining company require more good judgment, coupled with business and technical ability, than any other business undertaking. The men who are holding the executive offices of every dividend paying mine in the State did



not acquire their positions overnight, but through long years of hard work and association with mining, coupled with technical training, natural business ability and honesty. Where the management does not lie in the hands of a technically trained man, his knowledge and judgment are such that he realizes the importance of this training and surrounds himself with a competent staff. If the investing public would realize that these requirements are necessary for a successful undertaking, the popular belief that mining is a gamble would be without foundation, because when a property is properly equipped with intelligence and honesty the proportion of failures in mining is far less than in any other business undertaking; since an honest management will not permit the expenditure of money on worthless property, and modern methods and improvements in mining and metallurgy eliminate many doubtful features.

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### MEN EMPLOYED, WAGES AND ACCIDENTS.

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It is practically impossible to obtain complete and accurate statistics of the number of men employed in the mines of the State, as a great many are employed by prospectors and small companies that do not report to the inspector of mines, and the companies reporting continually vary as to the days in operation and the number employed. It was necessary, therefore, to estimate the total men employed. This was done by proportioning time and days operated by reporting companies into a yearly average and adding an estimate, based on reasonable calculations of all nonreporting operators. This estimate gives an average total of 4750 men employed in full time work for 1921 as against an estimate of 4800 for 1920.

The wage scale was practically the same at all mines throughout the State, with 1920 rates in force until May 31, when the scale was cut, as follows: miners, \$4.25; millmen, \$4.25 to \$4.75; mechanics, \$4.75 to \$5.25; and laborers, \$3.75 per day; with board and room averaging about \$1.25 per day.

No big mine disaster occurred during the year, and practically all of the 12 fatal accidents and 946 minor ones can be attributed to the carelessness of the persons involved. The mine inspector's appropriation is not sufficient to hire the assistance necessary to carry a complete and accurate tabulation of all accidents, and as such a tabulation would be a partial duplication of the work of the industrial accident board, no such record was kept, but the files of the board were used in the tabulation of the minor accidents. Since the board's records do not comply with the classifications made by the U. S. Bureau of Mines, due allowance will have to be made for discrepancies in classifications. It will be noted that of the total of 946 minor accidents, only 26 were permanent partial disabilities, 374 involved a loss of time of more than 14 days, and 546 involved a loss of time of less than 14 days. It has always been a question as to whether a mishap causing a loss of time of less than 14 days should be considered an accident; however, these have been so classed and are included in the tabulation.

# CLASSIFICATION OF ACCIDENTS

MINE	Killed	Seriously Injured (Time lost, more than 14 Days)			Slightly injured (Time lost, 1 to 14 Days)	MILL	Killed	Seriously Injured (Time lost, more than 14 Days)			Slightly injured (Time lost, 1 to 14 Days)	
		Perma- nent total disa- bility	Perma- nent partial disa- bility	Others				Perma- nent total disa- bility	Perma- nent part disa- bility	Others		
<b>UNDERGROUND</b>					<b>MILLING ACCIDENTS.</b>							
1. Fall of rock or ore from roof or wall.....	2		4	.84	133	1. Haulage (cars and motors).....						
2. Rock or ore while loading at working face or chute.....					12	2. Railway cars or locomotives.....						
3. Timber or hand tools.....	1		2	.54	105	3. Crushers, rolls or stamps.....						
4. Explosives.....	2		2	1	1	4. Tables, jigs, etc.....					1	
5. Haulage (mine cars, mine locomotives, breakage of rope, etc.).....	1		3	.33	21	5. Other machinery.....	1				2	
6. Persons falling down chute, winze, raise, or stope.....	3				4	6. Falls of persons.....						1
7. Run of ore from chute or pocket.....						7. Suffocation in ore bins.....						
8. Drilling (by machine or hand drills).....			1	.19	31	8. Falling objects (rocks, timbers, etc.).....					1	4
9. Electricity.....					1	9. Cyanide or other poisoning.....						
10. Machinery (other than locomotives or drills).....					1	10. Scalding (steam or water).....						
11. Mine fires.....						11. Electricity.....						1
12. Suffocation from natural gases.....					1	12. Hand tools, axes, bars, etc.....					2	1
13. Inrush of water.....						13. Nails, splinters, etc.....						
14. Nails and splinters.....					6	14. Flying pieces of rock from sledging or crushing.....						
15. Other causes.....	1		4	.64	109	15. Other causes.....					3	6
<b>Total</b> .....	<b>10</b>		<b>16</b>	<b>.276</b>	<b>433</b>	<b>Total</b> .....	<b>1</b>				<b>8</b>	<b>14</b>

**SHAFT ACCIDENTS.**

16. Falling down shaft.....				1
17. Objects falling down shaft.....		4		8
18. Breaking of cables.....		1		
19. Overwinding.....			1	1
20. Cage, skip, or bucket.....			1	1
21. Other causes.....		1	6	6
<b>Total</b> .....		<b>1</b>	<b>12</b>	<b>17</b>

**SURFACE ACCIDENTS.**

22. Mine cars or mine locomotives,				
23. Railway cars or locomotives.....			1	2
gravity or aerial trams.....	1			
24. Run or fall of ore in or from ore				2
bins.....				
25. Falls of persons.....				6
26. Nails and splinters.....				4
27. Hand tools, axes, bars, etc.....		1	2	4
28. Electricity.....				5
29. Machinery.....		1	6	5
30. Other causes.....		4	43	33
<b>Total</b> .....	<b>1</b>	<b>6</b>	<b>52</b>	<b>52</b>

**OPEN-PIT ACCIDENTS.**

32. Explosives.....			1	
40. Hand tools.....			1	1
41. Other causes.....		2	4	7
<b>Total</b> .....		<b>2</b>	<b>6</b>	<b>8</b>
<b>Grand total</b> .....	<b>11</b>	<b>25</b>	<b>346</b>	<b>510</b>

**SMELTER ACCIDENTS.**

16. Haulage (cars, motors, etc.).....			1	2
17. Railway cars or locomotives.....			3	1
18. Cranes.....			1	
19. Other machinery.....			2	
20. Falls of persons.....				1
21. Suffocation in ore bins.....				6
22. Flying or falling objects (rocks,			2	
timbers, etc.).....				
23. Gas (burns or asphyxiation).....				
24. Scalding (steam or water).....				
25. Electricity.....				1
26. Hand tools, axes, bars, etc.....				2
27. Nails, splinters, etc.....				
28. Burns from matte, slag, or mol-			1	
ten metal (pouring or spilling).....				
29. Hot-metal explosions.....			3	2
30. Other causes.....				
<b>Total</b> .....		<b>1</b>	<b>12</b>	<b>13</b>

**AUXILIARY WORKS' ACCIDENTS**

32. Railway cars or locomotives.....			1	
34. Falling objects (rocks, timbers,				1
etc.).....				
36. Hand tools, axes, bars, etc.....				2
37. Electricity.....			1	1
40. Handling hot materials.....			1	
41. Other causes.....			5	5
<b>Total</b> .....			<b>8</b>	<b>9</b>
<b>Grand total</b> .....	<b>1</b>	<b>1</b>	<b>28</b>	<b>36</b>

Twelve fatal accidents out of an average total employment of 4750 men represents a loss of 2.52 men per thousand during the year as against an estimated loss of 3.3 men per thousand in 1920.

### NOTES ON FATAL ACCIDENTS

February 4, Shoshone County. Joseph Langevin, age 59, single (widower), laborer on mill repairs, and his two sons were moving the base casting of a compressor along the floor in the mill. Deceased was using a crowbar to pry the casting forward. The crowbar slipped and the end in his hands came in contact with a motor driven belt. The point of the bar struck him on the neck, knocked him against the casting, and broke his neck.

February 28, Shoshone County. Frank Sikkerman, age 28, single, miner, had trouble spitting holes, remained too long, and was instantly killed by the blast.

April 2, Shoshone County. James Bones, age 39, married, miner, fell 80 feet from a ladder while going down a raise, and died from the resulting injuries. It is supposed that the powder smoke at the top of the raise had not been entirely removed, that deceased remained in the gas too long and was overcome while descending the ladder.

July 12, Shoshone County. Henry G. Parry, age 41, single, miner, was working for lessees in a small new stope. While mucking and sorting ore a small cave came, followed by a larger one of 5 or 6 tons. Deceased was caught in the cave and crushed to death.

August 18, Gem County. William Kloth, age 29, married, miner, was working in a small shaft. After lighting a round of holes he started up the ladder, but the shots went off before he was safely away, and he was mortally injured by flying rock and the explosion, dying two days later.

August 27, Shoshone County. Oscar Otness, age 24, single, trainman, attempted to couple a single car to the train on the fly and gave two whistles for motorman to come ahead. The motorman could not see the deceased as the entire train was between them, so on releasing brakes, he moved ahead slowly. Deceased failed to couple the cars and was caught between them and a chute. Broken ribs and internal injuries caused his death.

August 29, Bonner County. Mike Skirda, age 35, married, assistant timberman, was assisting in placing a set of timbers near the top of a long raise. This raise was sufficiently covered, below set being placed, to permit execution of work. Deceased went below staging after some tools. Timberman heard a noise and on looking below saw deceased swooning as if from a blow. He hurried below to give assistance, but deceased had fallen before he reached him. A large rock fell from the raise at the time of the accident, and it is supposed that it struck deceased, causing the fall that resulted in death.

September 21, Shoshone County. Wm. Finley, age 25, single, laborer, was dumping cars in a sand bin. A loaded car came down incline to bin at a fast rate of speed. The hoist brakes had been taken up by mechanics the morning of the accident, and when hoist man applied the brake it grabbed tight, causing cable to break. The car went down the incline, struck deceased and threw him from the top of the bin.

September 25, Bonner County. Lester E. Ashby, age 32, single, night shift boss, was supervising repair work in raise. Apparently he lost his footing, and the resulting fall of about 400 feet caused immediate death.

November 4, Custer County. Charles Hendricksen, age 55, single, miner, was sitting on top of a filled stope and evidently leaning against the foot wall. The total distance between the filling and top of stope was about 5 feet. Apparently a single rock fell about 4 feet, striking deceased on the head. The accident happened at the noon hour, and he was dead when found, with the rock lying on his feet.

November 25, Bonner County. H. A. Van Buskirk, age 53, single (widower), miner, was repairing timbering in a raise. This work was started at the upper end of the raise, which was full of broken rock on which the men stood while working. As the work was completed to the level of the rock, the signal was given to trainmen below to draw out the broken rock. After this signal was given, the men on repairs would get out of the raise and wait in a safe place until the rock would recede. The signal was given to draw the rock, and all the men left the raise except the deceased, who sat down on some planks that he placed on top of the broken rock. Two of the men entreated him to get off the rock and sit in a safe place, but he refused. When the rock receded in the raise, it gave way on the side of the chute on which the deceased was sitting, causing a hole about 12 feet deep into which the deceased slid. Before he could be rescued, the other side caved in, completely covering him up, and death resulted from slight injuries and smothering.

December 16, Shoshone County. Todd Kotum, age 39, single, miner, was assisting timbermen. A large cap timber had been placed upon a staging erected above the floor. When the timber was being lifted to its place on the posts, the staging gave way, causing the deceased to lose his balance and fall. The timber followed, striking him in the back. The accident broke his back, and death resulted a few hours later.

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## INSPECTION

During the year 175 mines in 20 different mining counties were visited. No glaringly unsafe practices were encountered, very few improvement orders were issued, and it was observed that the men are beginning to realize the importance of "Safety First." The inspector was heartily received, courteously treated, and willing cooperation was given at all times, particularly by the large operators, who are doing everything possible to make their mines safe.

## ADA COUNTY

Ada County, which is essentially an agricultural county, is the largest producer of building stone in the State. This stone is quarried from Table Rock, the large flat topped mountain overlooking the City of Boise on the east. This stone was used for the construction of Idaho's beautiful Capitol Building and for many other buildings in the city. It is a fine grained, soft, gray sandstone, easily cut and excellently adapted to building purposes.

From the two mining districts in the county, Highland and Black Hornet, a small amount of gold was produced by prospectors during 1921. All of the companies were idle, and, with the exception of one that has been refinanced and which expects to resume operations during 1922, there is no encouraging outlook for the future.

### AMERICAN MINING & MILLING CO.

**Officers:** E. W. Johnson, Pres., Boise; Mrs. Hortense Adams, Mgr., Boise. **Property:** 1 patented, 9 unpatented claims; Black Hornet dist.; Boise. **Development:** Approximately 3200 ft. of underground workings, including a 400 ft. shaft. **Plant:** Electrically driven hoist, compressor, complete mining equipment and 100-ton 20-stamp mill. **Ore:** Gold. **Men employed:** One watchman. **Remarks:** Assessment work only.

### CONSTANT GOLD MINING CO.

**Officers:** J. J. Oberbillig, Mgr., 633 Ash St., Boise. **Property:** 38 unpatented claims; Black Hornet dist., Boise. **Development:** By tunnels, shafts and open cuts, approximately 4000 ft. **Plant:** 5-stamp mill, and necessary buildings. **Ore:** Gold and silver. **Men employed:** Avcrage, 3.

### RED ROSE GOLD MINES CO.

**Officers:** J. J. Oberbillig, Pres., 633 Ash St., Boise. **Property:** 12 unpatented claims, 240 acres; Black Hornet dist.; Boise. **Development:** By tunnels and shafts, approximately 100 ft. **Remarks:** Idle.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Blue Grouse et al.	Black Hornet	C. R. Adelman	622 Idaho St., Boise
Gold Eagle	Black Hornet	C. C. Anderson	Boise
Hidden Treasure	Black Hornet	W. P. Richards	Boise
Maynard Bros.	Highland	H. T. and M. T. Maynard	Boise
Monitor Placer	Highland	W. E. Johnston	Boise
Red Rose	Black Hornet	J. J. Oberbillig	Boise
Sorrel Horse et al.	Black Hornet	N. R. C. Adelman	221 Jefferson St., Boise

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## ADAMS COUNTY

Adams County, the home of the Seven Devils.

The principal minerals in the order of their occurrence are copper, silver, gold, lead and zinc. This county is destined to become a large producer of copper when the plans of the Idaho Copper Company, Ltd. reach maturity. The development work being carried on by this company has been stimulating to others, and with this encouragement the large copper deposits are beginning to attract attention. The Idaho Bureau of Mines and Geology, in cooperation with the U. S. Geological Survey, is making a complete topographical and geological survey of the Seven Devils district, and when these reports are published a great amount of needed and useful information will be available. In addition to the large copper deposits there are numerous gold veins that warrant development. The placer deposits of the Meadows district produced a small amount of gold during 1921, but no effort was made to save the corundum, monazite and gem stones.

### AZURITE MINING CO.

**Officers:** A. C. Merrill, Pres.-Mgr., Tacoma, Wash.; Ferdinand Alers, Stat. Agent, Homestead, Ore. **Property:** 1 patented, 5 unpatented claims, Seven Devils dist., 1½ miles east of Ballard's Landing; Homestead, Ore. **Development:** Approximately 1300 ft. of tunnels and drifts. **Plant:** Small concentrator, partly completed, gasoline power. **Ore:** Copper, lead, zinc. **Men employed:** Average, 2. **Remarks:** This company has been engaged in a small amount of development work throughout the year and is contemplating the installation of a hydroelectric power plant and a flotation unit.

### HERCULES NITRATE CO.

**Officers:** C. L. Longley, Pres.; H. J. Matthews, Sec., both of Twin Falls. **Property:** 6 unpatented claims; Seven Devils dist.; Homestead, Oregon. **Development:** Approximately 400 ft. of underground workings. **Remarks:** Assessment work only.

### IDAHO COPPER CO., LTD.

**Officers:** O. H. Griggs, Pres., 810 McKnight Bldg., Minneapolis, Minn.; Frank A. Kennedy, Operating Mgr., 1411 Franklin St., Boise. **Property:** 37 unpatented lode claims and 16 unpatented millsites, approximately 815 acres, held under lease and bond; property known as the Red Ledge, situated on Deer Creek adjacent to Snake River; Seven Devils dist.; Cuprum. **Development:** 900 ft. tunnel and 18 diamond drill holes approximating 7000 ft. **Plant:** 50 H. P. water wheel driving compressor; complete small mining equipment and camp. **Ore:** Copper-silver-gold. **Men employed:** Average, 10. **Remarks:** This company has been actively engaged in proving its property with the diamond drill for the past two years. The drill has proven a large tonnage of commercial ore. The mine plant was in-

stalled during the year and an intermediate tunnel is being driven to prove further the extent of the ore bodies. When this is completed a 6000 ft. tunnel from Eagle Bar on the Snake River is contemplated. Statements made by the management, and verified by exploration work, indicate an immense tonnage. Present plans contemplate a large expenditure on construction and plant installation, and if carried to maturity Idaho will have at least one large copper producer equal to the famous "porphyrys" of other states.

#### IDAHO MINES CO., LTD.

**Officers:** B. S. Varian, Sec.-Treas., Weiser. **Property:** 3 patented claims, 50 acres; Seven Devils dist., Landore. **Development:** Approximately 200 ft. of small shafts and 80 ft. of drifts. **Remarks:** Idle.

#### INDIAN CREEK MINING & DEVELOPMENT CO.

**Officers:** William J. Tait, Pres., Lawrence, Mass.; George D. Reid, Sec.-Treas., Fillmore, Calif.; S. E. Hunter, V. Pres.-Gen. Mgr., Copperfield, Ore. **Property:** 3 patented, 2 unpatented claims; Seven Devils dist.; Cuprum. **Development:** 800 ft. of tunnels. **Remarks:** Idle.

#### MINES SELECTION CO. OF AMERICA.

**Officers:** W. T. Dumbleton, Pres., 206 Tacoma Bldg., Tacoma, Wash., J. F. Lowe, Stat. Agent, Council. **Property:** 9 unpatented claims; Seven Devils dist., Homestead, Ore. **Development:** About 500 ft. of underground workings. **Plant:** Gas driven compressor and small hoist. **Ore:** Copper. **Men employed:** Average, 12.

#### NATIONAL COPPER MINES CO.

**Officers:** William Trevor, Pres., 1032 Chamber of Commerce Bldg., Portland, Ore. **Property:** 35 unpatented claims; Seven Devils dist.; Cuprum. **Men employed:** Average, 3. **Remarks:** Assessment work only.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Badger Group	Seven Devils	P. H. Miller	Weiser
Basin Placer	Seven Devils	E. M. Barton	Weiser
Blue Jacket Copper Co.	Seven Devils	F. H. Kleinschmidt	Landore
Caribou Mining & Development Co.	Seven Devils	J. H. Blakeley	Filer
Cliff Mine	Seven Devils	P. L. Geardon	Bear
Decorah	Seven Devils	R. E. Wilson	Cambridge
Great Eastern Ledge	Seven Devils	Arthur David	Bear
Idaho Gold Coin & M. Co.	Seven Devils	S. W. Ford	Weiser
Lewis Group	Seven Devils	G. L. Rogers	Homestead, Ore.
River Queen	Seven Devils	Haas Bros et al.	Weiser
Rock Flat Placer	Unorganized	D. L. Young	Boise
Salzer Fore M. & M. Co.	Seven Devils	E. D. Ford	Weiser
South Peacock	Seven Devils	John Hunter	Salt Lake City, Utah

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## BANNOCK COUNTY

Considerable prospecting for copper has been done at various times in this county, but there was no such activity in 1921. At present the largest mineral resource lies in the mineral hot springs at Lava Hot Springs. The State is maintaining a resort on them, and it is well patronized by pleasure and health seekers. Many large deposits of limestone suitable for Portland cement and burnt lime are found, and when properly financed and equipped these deposits will add a new industry to Bannock County.

### FORT HALL MINING & MILLING CO., LTD.

**Officers:** William A. Hyde, Pres.; H. M. Palmer, Mgr.; W. H. Witty, Sec., all of Pocatello. **Property:** 3 unpatented claims; Ft. Hall dist.; Pocatello. **Development:** By tunnels. **Plant:** Stamp mill and other equipment. **Remarks:** Assessment work only.

### PAPOOSE MINING CO., LTD.

**Officers:** O. J. Bell, Pres.-Mgr.; R. D. Edie, Sec., both of Pocatello. **Property:** 17 unpatented claims, 340 acres; Ft. Hall dist.; Pocatello. **Development:** By tunnels. **Men employed:** Average, 2.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Lead Bell Mining Co.	Portneuf	W. R. Godfrey C. J. Lundgren	Lava Hot Springs Lund

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## BEAR LAKE COUNTY

The most important mineral deposits in this county are those of high grade phosphate rock, which are distributed over a large area. These deposits are fully described, with analyses and tonnage estimates included, in the numerous publications referred to in the bibliography. Market, freight and price conditions that existed throughout 1921 prohibited profitable production, and with the exception of a small tonnage produced by two companies the industry was idle. Four mines are properly equipped with the necessary surface and mining plants, all have a large tonnage blocked out, and production can be resumed without delay when conditions warrant it. Eventually these deposits will assist in making Idaho the principal phosphate producing state in the Union.

Considerable prospecting for copper and lead has been done in the past, but other than assessment work all the properties were idle during 1921.

### AMERICAN PHOSPHATE CORPORATION

**Officers:** J. F. Nibley, Pres., 722 Kearns Bldg., Salt Lake City, Utah.; C. W. Hosmer, Supt., Montpelier. **Property:** Lease on 6 claims owned by the San Francisco Chemical Co. **Development:** Approximately 3000 ft. of underground workings. **Plant:** Gas driven compressor, drills and complete small mining equipment. Mill consists of a complete crushing and drying plant, gas driven. **Ore:** Phosphate rock. **Men employed:** Average, 6. **Remarks:** This company produced a small amount of phosphate rock during the year.

### APEX MINING CO.

**Officers:** M. L. de Julian, Pres.-Mgr., Pegrarn. **Property:** 4 unpatented claims. **Remarks:** Assessment work only.

### BEAR LAKE PHOSPHATE CO.

**Officers:** J. Russell Shepherd, Pres.; L. W. Bach, Supt., both of Paris. **Property:** 318 acres patented, 360 acres leased from government. **Development:** By 9000 ft. 7 x 7 ft. double track drift on ore, approximately 1200 ft. of additional underground workings. **Plant:** 160 cu. ft. air compressor, electrically driven, including complete mining equipment; 1500-ton capacity storage bins. **Ore:** Phosphate rock. **Men employed:** Averaged, 10. **Remarks:** This is one of the substantial phosphate producers of the state, and the company has approximately 80,000 tons of phosphate blocked out ready for stoping as soon as conditions warrant production.

### BLACKSTONE MINING & POWER CO., LTD.

**Officers:** E. B. Cloud, Pres., Chicago, Ill.; E. M. Ruginner, Mgr., Fish Haven. **Property:** 1 patented claim; St. Charles dist.; St. Charles. **Remarks:** Idle.

### COLORADO-IDAHO MINING & MILLING CO.

**Officers:** Dr. A. O. McMichael, Pres., 1st Nat. Bank Bldg., Denver, Colo.; John Kurtz, Mgr., Pegrarn. **Remarks:** A holding company for Pegrarn Mining Company, owning all but five shares of its stock.

### COPPER RESERVE MINING & REDUCTION CO., THE

**Officers:** P. S. Koegh, Pres.; James G. Doolittle, Sec.-Treas., both of Salt Lake City, Utah; G. C. Gray, Stat. Agent, Montpelier. **Property:** 4 patented claims, 80 acres, near Paris. **Remarks:** Idle.

### GATEWAY MINING CO., LTD.

**Officers:** Frank H. Pardice, Jr., Pres.; William MacAuley, Sec., both of Pocatello. **Property:** 6 mining claims and 320 acres of other land. **Development:** 300 ft. tunnel. **Remarks:** Idle.

**IDAHO EXTENSION M. & M. CO.**

**Officers:** Dr. A. O. McMichael, Pres., Denver, Colo.; John Kurtz, Mgr., Pegram. **Property:** 10 unpatented claims near Pegram, Idaho. **Development:** By approximately 1200 ft. of tunnels and shafts. **Remarks:** Assessment work only.

**IDAHO GEM MINE**

**Officers:** E. M. Allred, Sec., St. Charles.

**IDAHO PHOSPHATE CO. (Successor to Western Phosphate Co.)**

**Officers:** James A. McIlwee, Pres., Salt Lake City, Utah; R. C. McIlwee, Agt., Paris. **Property:** 240 acres of patented claims; Paris. **Development:** Large operating tunnel with numerous crosscuts and drifts. **Plant:** Complete and modern mine plant, including compressors, machine shop, and haulage; electric power; large modern drying and crushing plant fully equipped; complete camp, and railroad from Paris to mine. **Ore:** Phosphate rock. **Remarks:** This property has been idle during 1921 on account of litigation. There is a large tonnage of rock blocked out in the mine; the mine plant and mill are fully equipped, and production can start whenever conditions warrant.

**PEGRAM MINING COMPANY.**

**Officers:** Dr. A. O. McMichael, Acting Pres., Denver, Colo.; John Kurtz, Mgr., Pegram. **Property:** 12 unpatented claims near Pegram. **Development:** Approximately 1300 feet of tunnels. **Remarks:** This company was engaged in development work throughout the year.

**SAN FRANCISCO CHEMICAL CO.**

**Officers:** William F. Kett, 332 Pine St., San Francisco, Calif.; J. J. Taylor, Mgr., Montpelier. **Property:** 10 patented mining claims and 98 acres of patented land, approximately 505 acres. **Development:** By 2500 ft. of underground workings. **Plant:** Gas driven compressor; small mining equipment and loading bins. **Ore:** Phosphate rock. **Remarks:** Idle throughout the year.

**UNITED STATES PHOSPHATE CO. OF MICHIGAN.**

**Officers:** D. C. Whitney, Pres., Ford Bldg., Detroit, Mich.; H. F. Chaney, Sec.-Mgr. 903 Yeon Bldg., Portland, Ore. **Property:** 3 patented claims, 60 acres near Montpelier. **Ore:** Phosphate rock. **Remarks:** Idle throughout the year.

**UTAH FERTILIZER & CHEMICAL MFG. CO.**

**Officers:** F. W. Braun, Pres.; Robert J. Shields, Mgr., both of Salt Lake City, Utah. **Property:** 16 patented claims, 3400 acres. **Ore:** Phosphate rock. **Remarks:** Idle throughout the year.

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## BENEWAH COUNTY

The principal mining district lies in the southeast corner of the county adjoining the Hoodoo district of Latah County. A small amount of development work and prospecting for copper has been done, and a little placer gold has been recovered from the gravel beds.

### BIG FIVE MINING CO.

**Officers:** F. E. Goude, Pres.; W. F. Sargent, Sec.-Treas., both of St. Maries. **Property:** 7 unpatented claims; St. Joe dist.; St. Maries. **Development:** Approximately 725 ft. of underground workings. **Remarks:** Assessment work only.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Cedar Creek	Camas Cove	W. I. Hupp et al.	St. Maries
Connelly Bros	Camas Cove	Connelly Bros.	Tyson
McLean Placer		C. A. McLean	Santa
Red Boy	Camas Cove	J. E. Hemerway	St. Maries

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## BINGHAM COUNTY

The principal active mining operations in this county consist of placer mining on the Snake River. A little gold was produced during 1921. The Willow Creek coal beds are located in the northeast corner of the county, and the high-grade phosphate beds of southeastern Idaho are exposed over a large area.

## MARY LEE GOLD MINING CO.

**Officers:** G. E. Worneldorff, Pres., J. V. Lee, Sec.-Treas., both of Gallipolis, Ohio; Richard Stevens, Mgr., Blackfoot. **Property:** 46 acres patented; Snake River dist.; Blackfoot. **Remarks:** Snake River placer.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Eagle Bend Pl.	Snake River	Alma Clough	Pingree
Eldorado Placer	Snake River	Robert Wheeler	Sterling
Oborn & Cole Placer	Snake River	John Oborn	Blackfoot
Parsons Placer	Snake River	W. G. Parsons	Aberdeen
Snake River Placer Min. Co.	Snake River	G. E. Campbell	Blackfoot
Woodruff Bend Pl.	Snake River	James G. Walsh	Blackfoot

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## BLAINE COUNTY

Blaine County, then Alturas, was the first county in the State to produce lead-silver ore. The mines were bonanzas before the discovery of the Coeur d'Alenes, and a continuous production of high-grade lead-silver ore, zinc, gold and copper has been maintained since 1879, the date of the original discovery. In addition to the five principal metals the mines have produced antimony, bismuth, barytes and limestone. The large high-grade deposits of barytes in the Muldoon and Deer Creek districts, which are lying dormant on account of freight rates and prices, will eventually be opened up and contribute largely to the progress of the mining industry in this county.

The Independence mine of the Federal Mining & Smelting Co. maintained a steady production during 1921. This company has been a continuous producer since entering the Wood River section in 1916, and its operation and output have fully demonstrated the possibilities of the county. The production of the Golden Glow Mining & Milling Co., together with that of many small companies and numerous prospectors, contributed materially in placing Blaine County second in mineral production during 1921. The county witnessed more new prospecting, new developments, and the organization of more new companies in 1921 than in any other year since 1893. The principal factor causing this revival is the excellent record maintained by the Federal Mining & Smelting Co., together with the entry of the Bunker Hill & Sullivan Mining & Concentrating Co. into the county. Since the actions of the two largest lead producers in the United States are watched by the mining public, the faith they have shown in the Wood River district naturally attracted attention; and this resulted in the many new activities and in the investigation of the county by numerous engineers and geologists. The Bunker Hill & Sullivan Mining & Concentrating Co. has taken the Bullion, Mayflower, Durango, Jay Gould, and Rough and Ready groups under a lease and bond. These properties all have a substantial production record, and are the principal claims of the old Bullion district. The company has built a 7-mile power line from Hailey to Bullion, constructed a complete camp and buildings, and installed modern equipment. Active development work was commenced in the month of June, and has been progressing continuously with a force of approximately 25 men. All of the old companies in the county have been active; and practically all former producers are being opened up and developed by new organizations, or are being investigated by prominent mining interests. The ranks of the old prospectors have been increased by the arrival of new ones, and all have been considerably encouraged by the strikes that have been made, which prove that there are still many ore bodies awaiting discovery.

The Muldoon district received considerable attention during 1921. Two new companies operated throughout the year, many of the old properties were under investigation, and a number of discoveries were made by prospectors. The Sawtooth district, which has a record for the production of a large amount of high-grade silver ore, also received considerable attention in 1921.

The new developments have demonstrated the possibilities of the county, and 1922 will probably witness a complete revival of the industry.

### AMBRO MINING CORPORATION.

**Officers:** John H. Mencken, Pres., 600 W. Pratt St., Baltimore, Md.; John R. Kelly, Mgr., Gannett. **Property:** 7 unpatented claims, approximately 138 acres; Mineral Hill Mining dist.; 5 miles south of Bellevue. **Development:** Approximately 4000 ft. of underground workings. **Plant:** Steam driven compressor, drills and small mining equipment. **Ore:** Lead-silver. **Men employed:** Average, 2. **Remarks:** This company has been actively engaged in development work throughout the year.

### **ARGOSY MINING & MILLING CO.**

**Officers:** George Dask, Pres.; Mrs. Priscilla King Smith, Treas., both of Pocatello. **Property:** 5 patented claims; Little Wood River dist.; Muldoon. **Development;** by approximately 2000 ft. of underground workings. **Remarks:** Idle for a number of years.

### **BALTIMORE-VICTORIA MINING CO.**

**Officers:** William K. Hamilton, Pres; Eph. Daft, Agent, Hailey. **Property:** 13 patented and unpatented claims, Warm Springs Creek dist.; Hailey. **Remarks:** The Federal Mining & Smelting Co. has purchased all property owned by this company.

### **BARYTES RARE MINERALS MFG. CO.**

**Officers:** John H. Ware, Pres., 5820 Montgomery St., Tacoma, Wash. **Property:** 2 patented claims, 1 unpatented claim; Little Wood River dist.; Muldoon. **Development:** Approximately 400 ft. of tunnels. **Ore:** Barytes. **Men employed:** Average, 2. **Remarks:** This company is actively engaged in developing a high grade barytes project.

### **BLACK BARB MINING CO.**

**Officers:** Raymond Guyer, Pres., 318 Symons Bldg., Spokane, Wash. **Property:** 2 patented and 9 unpatented claims; Mineral Hill dist.; Kelly Gulch; Hailey. **Remarks:** Assessment work only.

### **BOULDER CREEK MINES, INC.**

**Officers:** M. W. Wood, Pres., Boise. **Property:** 3 patented, 18 unpatented claims, 3 tunnel sites; Warm Springs Creek dist.; Ketchum. **Development:** Approximately 1500 ft. of tunnels. **Remarks:** Assessment work only.

### **BUNKER HILL & SULLIVAN MINING & CONCENTRATING CO.**

(See Shoshone County)

**Officers:** F. W. Bradley, Pres., 1022 Crocker Bldg., San Francisco, Calif.; Stanly A. Easton, Mgr., Kellogg; James Gwinn, Local Mgr., Hailey. **Property:** Bullion, Mayflower, Jay Gould, Durango and Red Elephant Consolidated groups, approximately 1000 acres; at Bullion, Mineral Hill dist.; Hailey. **Development:** Approximately 5 miles of underground workings in all groups. **Plant:** Electrically driven compressors with complete mining equipment and camp. **Ore:** Lead-silver. **Men employed:** Averaged 25 since starting operations. **Remarks:** The properties taken over by this company are all old producers. The ore was lost by faulting, and the little development work that has been done in the past 25 years that the properties have been dormant has been unsuccessful in finding the continuation of the ore beyond the faults. Active development work has been in progress since early in the year, and the results have been very gratifying to the management.

### **CARBONIFEROUS MINING CO.**

**Officers:** Frank Lee, Pres., Box 54, Boise; John Kent, Sec.-Treas. **Property:** Lease on four claims, Mineral Hill dist.; Kelly Gulch; Hailey.

### **CONSOLIDATED MASCOT MINES CORPORATION.**

**Officers:** William Jacobsen, Pres., 1st Nat. Bank Bldg., Luverne, Minn.; Charles Peter, Mgr., 644 E. S. Temple St., Salt Lake City, Utah. **Property:** 4 patented, 21 unpatented claims; Warm Springs Creek dist.; East Fork; Hailey. **Development:** Approximately 3000 ft. of underground workings including new 7x8 tunnel, approximately 900 ft., which is being driven at an additional depth of about 300 ft. below the old workings. **Plant:** Gas driven compressor, drill sharpener, and complete mining equipment; small hydroelectric plant and sawmill. **Ore:** Lead-silver. **Men employed:** Average, 10.

**CONTINENTAL KELLY MINING CO.**

**Officers:** D. F. Dowd, Pres. Mgr.; J. I. Hubble, Sec., both of Idaho Falls. **Property:** 6 unpatented claims; Mineral Hill dist.; Kelly Gulch; Hailey. **Development:** By tunnels. **Ore:** Lead-silver. **Remarks:** This company has been actively engaged in development work throughout the year.

**THE DAISY MINING & MILLING CO., LTD.**

**Officers:** C. S. Shepherd, Pres.; J. G. Hedrick, Sec., both of Hailey. **Remarks:** This company is maintaining its charter, but holds no mining property.

**EUREKA DEVELOPMENT CO., LTD.**

**Officers:** W. A. Wilson, Pres.-Mgr., Dooly Bldg., Salt Lake City, Utah. **Property:** 4 patented claims; Mineral Hill dist.; Bullion Gulch; Hailey. **Development:** By inclined shaft and intermediate levels. **Plant:** Steam driven hoist and compressor; complete mining equipment; 200-ton steam driven concentrator, modern. **Ore:** Lead-silver. **Men employed:** Average, 2. **Remarks:** Upper levels operated under lease. Company inactive.

**FEDERAL MINING AND SMELTING CO.**

**Officers:** Frederick Burbidge, Gen. Mgr., Wallace; A. E. Ring, Supt., Hailey. **Property:** North Star Group, 13 patented, 11 unpatented claims, 427 acres; **Independence Group**, 13 patented, 2 unpatented claims, 207 acres; **Malta Group**, 2 patented, 1 unpatented claim, 62 acres; **Koniger Group**, 4 patented claims, 47 acres; **Hamidel Group**, 7 patented claims, 135 acres; all in Warm Springs Creek dist.; Hailey. **Development:** Tunnels, shafts and raises, approximately 5 miles of underground workings, the Independence and North Star Group being connected with an operating tunnel over one mile in length. **Plant:** Complete and modern mining equipment, electric driven compressors, electric haulage and machine shops; 500-ton modern concentrator. **Ore:** Lead-silver, zinc. **Men employed:** Average, 105. **Remarks:** Capacity production was maintained throughout the year, with the Independence Group furnishing practically all of the output. This group since acquired by the company a few years back has been a handsome producer, and is one of the big mines in Blaine County.

**FIELD MUTUAL MINING CO.**

**Officers:** Al W. Field, Pres.-Mgr.; V. F. Rogers, Sec.-Treas., both of 254 Alder St., Portland, Ore. **Property:** 14 unpatented claims; Mineral Hill dist.; Kelly Gulch; 9 miles west of Hailey. **Development:** By tunnels. **Ore:** Lead-silver. **Men employed:** Average, 3. **Remarks:** This company has been engaged in active development work throughout the year, and at present conditions are encouraging.

**GOLDEN GLOW MINING & MILLING CO.**

**Officers:** John D. Pope, Pres., Butte, Mont.; C. L. Frederichs, Mgr., Ketchum. **Property:** 5 patented claims held under lease and bond, 8 unpatented claims owned by company; Warm Springs dist.; Boulder Basin; Ketchum. **Development:** Approximately 3000 ft. of underground workings. **Plant:** 50-ton concentrator, steam driven. **Ore:** Lead-silver. **Men employed:** Average, 20. **Remarks:** One of Blaine County's substantial producers, but through mismanagement and misdirection is badly involved in litigation.

**HAILEY BC NANZA MINING CO.**

**Officers:** Carl Reisig, Pres., Hailey; R. D. Leach, Sec., Pocatello. **Property:** 1 patented claim; Mineral Hill dist.; Greenhorn Gulch; Hailey. **Ore:** Lead-silver. **Remarks:** Only a small amount of development work done during the year.



**HIAWATHA MINING CO.**

**Officers:** E. J. Gordan, Sec.-Mgr., Kansas City, Mo.; J. J. McFadden, Stat. Agent, Hailey. **Remarks:** An inactive corporation holding a few mining interests under lease and bond.

**IDAHO MINERAL PRODUCTS CO., LTD.**

**Officers:** J. F. MacClure, Pres.; J. G. Hedrick, Sec., both of Hailey. **Remarks:** An inactive corporation.

**INDEPENDENCE MINING CO., LTD.**

**Officers:** J. G. Hedrick, Mgr., Hailey. **Remarks:** All of this company's property was purchased by the Federal Mining & Smelting Company.

**KANSAS CITY-IDAHO MINING & DEVELOPMENT CO.**

**Officers:** Frank J. Hall, Pres.; C. W. Morton, Mgr., both of Kansas City, Mo.; J. J. McFadden, Stat. Agent, Hailey. **Property:** 10 unpatented claims; Lava Creek dist.; Hailey. **Development:** Approximately 2500 ft. of underground workings. **Ore:** Lead-silver, zinc. **Men employed:** Average, 3. **Remarks:** This company has been actively engaged in development work for a number of years and has a considerable tonnage of ore in sight.

**MIDWEST MINING & MILLING CO.**

**Officers:** J. B. Anderson, Pres., 67 Osley Bldg., Butte, Mont. **Remarks:** An inactive corporation owning no claims.

**MINNIE MOORE MINES CO.**

**Officers:** Irvin E. Rockwell, Pres., Bellevue. **Property:** 12 patented claims, Minnie Moore group; Mineral Hill dist.; Bellevue. **Remarks:** Idle.

**PILGRIM MINES CO.**

**Officers:** Edward Schwerd, Pres.-Mgr., Overland Bldg., Boise. **Property:** 1 patented, 4 unpatented claims; Sawtooth dist.; Ketchum. **Development:** 3 tunnels totaling approximately 1800 ft., the intermediate being open for about 620 ft. Upper and intermediate tunnels are connected by approximately 275 ft. of shafts and raises. **Ore:** Silver-gold. **Men employed:** Average, 3. **Remarks:** This company is engaged in opening up the old Pilgrim mine, the first location in Sawtooth. The ore is a silver sulphide and different estimates indicate a good tonnage.

**QUINCY JR. MINING CO.**

**Officers:** George L. Erwin, Pres., care of Consumers Power Co., Grand Rapids, Mich. **Property:** 11 patented claims, 190 acres; Mineral Hill dist.; Hailey. **Remarks:** This company owns the Red Elephant Mine, one of the old producers of the Wood River district. Inactive for a number of years.

**RED ELEPHANT CONSOLIDATED MINES CO.**

**Officers:** John Rapalji, Pres., Hopewell Junction, N. Y.; Edwin J. Webb, Sec., Beacon, N. Y. **Property:** 1 patented, 15 unpatented claims; Mineral Hill dist.; adjoining Red Elephant; Hailey. **Development:** Approximately 5000 ft. of underground workings which include crosscut tunnel 3000 ft. long. **Remarks:** Property is being operated under lease and bond by Bunker Hill & Sullivan, M. & C. Co.

**RUBY SILVER MINES CORPORATION**

**Officers:** H. H. Scarborough, Pres.; W. O. Sutherland, Sec., both of Idaho Falls. **Property:** 8 unpatented claims; Warm Springs Creek dist.; Ketchum. **Development:** Approximately 800 ft. of tunnels. **Ore:** Lead-silver. **Men employed:** Average, 3.

**SILVER KING MINING & MILLING CO.**

**Officers:** Jere J. Crowley, Treas., 1208 Widener Bldg., Philadelphia, Pa. **Property:** 6 patented claims; Sawtooth dist.; Hailey. **Development:** 600 ft. shaft and about 500 ft. of drifts. **Plant:** Steam driven concentrator, including amalgamation. **Remarks:** Idle for the past 17 years.

**SILVER SPAR MINING CO., INC.**

**Officers:** Dr. Claude Ferguson, Sec., New Earl Bldg., Idaho Falls; G. C. Eastman, Superintendent, Muldoon. **Property:** 3 patented claims held under lease and bond and 18 unpatented claims; Little Wood River dist.; Muldoon. **Development:** Approximately 3000 ft. of underground workings. **Plant:** 2 marine boilers, steam driven compressor, hoist and pumps, drills and complete mining equipment. **Ore:** Silver. **Men employed:** Average, 6. **Remarks:** This company was actively engaged in development work throughout the year.

**SILVER TRIUMPH MINING CO.**

**Officers:** Frank Dillon, Mgr., Hailey. **Property:** 8 patented, 5 unpatented claims held under lease and bond; Warm Springs Creek dist.; adjoining North Star and Independence group of Federal Mining & Smelting Co., Hailey. **Remarks:** This company is actively engaged in opening up the workings of the Triumph mine, one of the old producers of Wood River district.

**TORBANEHILL MINING CO.**

**Officers:** LeGrand Young, Pres., Deseret Nat. Bank Bldg., Salt Lake City, Utah; Del Wheaton, Stat. Agent, Carey. **Property:** 7 patented claims; Lava Creek dist.; Fish Creek; Carey. **Remarks:** Idle for a number of years.

**UNITED MINES CO.**

**Officers:** T. F. Bradshaw, Mgr., Muldoon. **Property:** 4 unpatented claims held under lease and bond; Garfield Gulch; Little Wood River dist.; Muldoon. **Development:** By two tunnels, one of which is 700 ft. in length. **Plant:** Water driven compressor and complete small mining equipment. **Men employed:** Average, 4. **Remarks:** This company is actively engaged in developing its property; and it is one of the new additions to Blaine County during 1921.

**UTAH BELLEVUE MINES CO.**

**Officers:** J. H. Saxman, Pres., P. O. Box 1875, Salt Lake City, Utah; A. W. Kelley, Local Mgr., Bellevue. **Property:** 3 unpatented claims; Mineral Hill dist.; Townsend Gulch; Bellevue. **Development:** Approximately 1700 ft. of underground workings. **Ore:** Lead-silver. **Men employed:** Average, 3. **Remarks:** This company has been actively engaged in developing its property for the past three years.

**WAR DANCE MINING ASSOCIATION**

**Officers:** Andrew Prader, Supt., Hailey. **Property:** Lease and bond on War Dance Group of 23 unpatented claims, Mineral Hill dist.; Deer Creek; Hailey. **Plant:** Gas driven compressor and small mine equipment. **Development:** Approximately 7000 ft. of underground workings. **Ore:** Lead-silver. **Men employed:** Average, 4. **Remarks:** This company has been actively engaged in prospecting the War Dance Group for the past three years.

**WAVA MINING & MILLING CO., LTD.**

**Officers:** C. E. Gordon, Pres., Indianapolis, Ind.; J. G. Hedrick, Sec., Hailey. **Property:** 5 unpatented claims; Warm Springs Creek dist.; adjoining Independence Mine on the west; Ketchum. **Remarks:** Assessment work only.

**WOOD RIVER MINES, INC.**

**Officers:** C. Fred Howe, Pres., Ketchum. **Remarks:** An inactive mining corporation owning no property.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Arizona et al.	Mineral Hill	Mrs. Charles Cuneo	Hailey
Big Mint	Mineral Hill	H. R. Plughoff	Hailey
Black Barb	Mineral Hill	Wm. Black	Bellevue
Black Jacket et al	Mineral Hill	J. George Arkoosh	Bellevue
Boise City	Mineral Hill	Frank Holtz	Hailey
Boston-Idaho Mining Co.	Warm Springs Creek	C. Fred Howe	Ketchum
Boyle Mtn. Group	Warm Springs	C. Fred Howe	Ketchum
Broadway	Warm Springs	Fred J. Vancil	Hailey
Climax	Mineral Hill	Raymond Guyer	Spokane, Wash.
Climax Extension	Mineral Hill	George H. Choate	Hailey
Comet Group	Mineral Hill	J. George Arkoosh	Bellevue
Compensation Group	Mineral Hill	L. A. Dithmer	Hailey
Croesus Group	Mineral Hill	Fred C. Robertson	405 Hyde Bldg., Spokane, Wash.
Dewey Group	Mineral Hill	Fred W. Smith	Hailey
Eureka et al.	Warm Springs	R. E. Knapp	Ketchum
Evelyn	Warm Springs	Hampton & Griffith	Ketchum
Free Coinage et al.	Warm Springs Creek	James Bonning Est.	Ketchum
Garfield Gulch	Little Wood River	Charles Norris	Hailey
Hard Times et al.	Mineral Hill	Joseph Werry, Jr.	Bellevue
Hillside	Mineral Hill	John Edwards	Bellevue
Homestake	Warm Springs	J. J. Donovan	Bellevue
Iris	Mineral Hill	Ivanhoe Mining Co.	San Francisco, Calif.
Jupiter et al.	Little Wood River	E. M. James	Compton, Calif.
Keystone et al.	Warm Springs	James McKelvey	Hailey
Lake Creek	Warm Springs Creek	Robert Koeinger	Ketchum
Lark	Mineral Hill	Mrs. A. J. Harris	Bellevue
Legion Group	Warm Springs	Harry Thompson	Boise
Lone Pine	Mineral Hill	Henry Warning	Hailey
Majestic et al.	Mineral Hill	Guy U. Lee	Bellevue
Manchuria	Galena	H. D. Jones	Hailey
Minnesota et al.	Warm Springs	Abraham Duquette	Hailey
Narrow Gauge	Mineral Hill	Eph Daft	Hailey
Nay Aug	Mineral Hill	J. J. Baker	Hailey
New Comet et al.	Mineral Hill	Fred Nitschke	Hailey
New Hope	Warm Springs	W. H. Warfield	Ketchum
Oriental	Mineral Hill	S. M. Friedman	Hailey
Parnell	Mineral Hill	Patrick McMonigle	Hailey
Porto Rico Group	Little Wood River	Wm. O'Connor	Bellevue
Queen Bess	Mineral Hill	Mrs. James McPherson	Hailey
Queen Extension	Mineral Hill	Neil Campbell	Bellevue
Rattler	Mineral Hill	Alex McKibben	Hailey
Red Cloud	Mineral Hill	R. B. French, Agt.	Hailey

## MINING INDUSTRY OF IDAHO

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Richmond Group	Mineral Hill	Joseph Werry, Jr.	Bellevue
Saint Idloes	Mineral Hill	Charles Sheehan	Bellevue
Shaw Group	Sawtooth	John Garrett	Obsidian
Silver Crown	Warm Springs	Mark J. King	Hailey
Silver Knob	Mineral Hill	W. A. Sullivan	Hailey
Smuggler	Little Wood River	H. L. Watkins	Muldoon
Star	Mineral Hill	Leo J. Falk	Boise
Tenbrook, Paymaster et al.	Warm Springs Creek	Alonzo Price, Agt.	Ketchum
Venture	Mineral Hill	George H. Ish	Boise
Vienna Cons. M. & S. Co.	Sawtooth	L. Hippach, Pres.	Chicago, Ill.
Vindicator et al.	Mineral Hill	Edward Flannery	Hailey
Wolfstone	Mineral Hill	W. T. Riley	Hailey
Woodrow Wilson	Warm Springs	M. A. Morris	Ketchum

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## BOISE COUNTY

Boise County, essentially a mining county, is the principal producer of gold in the State. During 1921 the recovery from placer ground was not very large. Many quartz mines were active; and the Gold Hill & Iowa mine at Quartzburg maintained its position as the largest gold producing mine in the State. Extensive development work was carried on by a number of companies; and, with hardly an exception, the results were very encouraging. In addition to gold, both lode and placer, lead, silver, zinc and monazite occur extensively. Monazite is associated with gold in the placer deposits, of which a large area of virgin ground remains. Three companies developing lead-silver deposits produced a small amount. In the past these metals have never received worthy attention; but they are destined to become an important factor in the near future.

During 1921 many new companies and organizations were formed to operate in this county; some of them have acquired old lode producers, and others placer ground. These large additions and the general return to gold mining should make this county show considerable activity during 1922.

### ALPINE MINING CO.

**Officers:** Charles Kerr, Pres., Lexington, Ky.; Charles Tracy, Mgr., Boise. **Property:** 9 unpatented claims; Banks. **Development:** 80 ft. shaft and 3 tunnels approximately 300 ft. in length. **Remarks:** Assessment work only.

### BIG ENTERPRISE MINING CO.

**Officers:** E. S. Whaley, Pres., Portland, Ore.; Exta Lightfoot, Mgr., 1924 Sixth Ave., Ft. Worth, Texas. **Property:** 4 unpatented placer claims, Pioneerville dist.; Grimes Pass; Pioneerville.

### BOISE BASIN IMPROVEMENT CO., LTD.

**Officers:** W. W. Miller, Pres., Franklin, Pa.; E. F. Blain, Mgr., 1601 N. 12th St., Boise. **Property:** 20 quartz claims and 5 groups of placer claims, 6 claims of which are held under lease and bond from William G. Eakin, Idaho City and Placerville dist.; Idaho City. **Development:** Approximately 1100 ft. of underground workings on Eakin group. **Equipment:** Placer ground equipped with 5 cu. ft. steam driven Risdon dredge; 4 miles of pipe line including complete hydraulic equipment. Company owns a 25-stamp mill which it expects to move on to Eakin group. **Ore:** Gold. **Men employed:** Average, 5. **Remarks:** This company has been practically dormant since 1917, but plans to arrange an active development campaign during 1922.

### BOSTON & IDAHO GOLD DREDGING CO.

**Officers:** W. H. Estabrook, Pres., Trinity Center, Calif.; Etheredge Walker, Sec.-Mgr., 602 Overland Bldg., Boise. **Property:** 14 patented, 6 unpatented placer claims; Idaho City dist.; Idaho City. **Remarks:** Idle.

### CENTERVILLE MINE & MILLING CO.

**Officers:** Herbert A. Perkyn, Pres., Chicago, Ill.; S. K. Atkinson, Mgr., Boise. **Property:** About 43 unpatented placer claims, approximately 5000 acres; Centerville dist.; Centerville. **Remarks:** This property has been in continuous litigation for over 10 years. This has terminated successfully for the company, and it is now planning to commence active operations.

**COIN BOND MINING CO., LTD.**

**Officers:** Fleming Howell, Pres., Oakland, Md.; E. F. Blain, Mgr., 1601 N. 12th St., Boise. **Property:** 19 unpatented claims; Placerville dist.; Idaho City. **Development:** Approximately 4000 ft. of underground workings, including 1500 ft. tunnel with numerous drifts and raises. **Remarks:** Assessment work only.

**DIAMOND L MINING CO. LTD. OF IDAHO**

**Officers:** Lottie Morehead, Pres., Pioneerville. **Property:** 11 unpatented claims; Pioneerville dist.; Pioneerville. **Development:** 900 ft. tunnel, 260 ft. shaft, 300 ft. of drifts. **Plant:** 40-horsepower boiler, 2 hoists, 2 pumps; 40-ton Elpass mill, steam driven. **Ore:** Gold, silver. **Men employed:** Average, 3.

**DIVIDEND MINING & MILLING CO.**

**Officers:** J. W. Baker, Pres., 700 Idaho St., Boise; Alvin E. Clemons, Sec., Boise. **Property:** 8 unpatented claims; unorganized dist.; Boise River; Boise. **Remarks:** Assessment work only.

**GLEN DENNING-RICHARDSON MINING CO.**

**Officers:** H. D. Richardson, Pres., Centerville, **Property:** 4 patented, 4 unpatented placer claims. **Plant:** Ditch, pipe lines, hydraulic elevator and giants.

**GOLDEN AGE JUNIOR MINING CO.**

**Officers:** F. M. Seibley, Pres., Hollywood, Calif.; F. B. LeClear, Sec., 508 Capital Nat. Bank Bldg., Lansing, Mich.; Arthur W. Stevens, Supt., Pioneerville. **Property:** 18 patented claims, approximately 300 acres; Pioneerville dist.; Grimes Pass; Pioneerville. **Development:** Approximately 3000 ft. of underground workings, including 250 ft. vertical shaft, equipped with air driven hoist; electrically driven compressor. **Plant:** complete mine equipment, 3-5 battery; stamp mill, including cyanide plant; sawmill and accessories. **Ore:** Gold, silver. **Men employed:** Average, 17. **Remarks:** During 1921 this company completed the erection of its hoist house, head frame and machine shop; and sank a new shaft 250 ft. deep, from the bottom of which a crosscut was run to the vein; after which-development was confined to drifting on the lead. All of this work represents a very large expenditure.

**GOLD HILL & IOWA MINES CO.**

**Officers:** Etheredge Walker, Pres., 602 Overland Bldg., Boise; E. C. Carter, Mgr., Quartzburg. **Property:** 21 patented, 23 unpatented claims, approximately 800 acres; Quartzburg dist.; Quartzburg. **Development:** By 500 ft. three compartment vertical shaft and approximately 25,000 ft. of underground workings. **Plant:** Electrically driven hoist, compressors, and complete mine equipment; 150-ton concentrator, including amalgamation and cyanide. **Ore:** Gold-silver. **Men employed:** Average, 100. **Remarks:** This mine has been in continuous operation for a number of years, is well equipped and managed, and is one of the most substantial gold producers in the State.

**IDAHO DEVELOPMENT CO.**

**Officers:** Etheredge Walker, Pres.-Mgr., 602 Overland Bldg., Boise. **Remarks:** A holding company for Edna Mine; Idaho City dist.; Idaho City.

**IDAHO OIL & GAS CO.**

**Officers:** C. A. Glougie, Pres., Nampa; S. Silen, Mgr., Nampa. **Remarks:** This company was engaged in drilling operations at Horseshoe Bend, but during the year moved its equipment to Payette County, q. v.

**IDAHO****BEAUF GOLD MINING CO.**

**Officers:** L. S. Honstead, Mgr., Boise. **Property:** 15 unpatented claims, 260 acres, Belshazzar group; Granite Creek dist.; Quartzburg. **Development:** Being developed by a new crosscut tunnel, which is now approximately 1400 ft. in length, and which will give considerable depth below the old workings. **Plant:** Electrically driven compressor, drill sharpeners, and complete mining equipment. **Ore:** Gold. **Men employed:** Average, 7. **Remarks:** This company has been actively engaged in the extension of its lower tunnel throughout the year, and was successful in intersecting the vein, which is giving encouraging results.

**LIPPINCOTT & WARNER, CO-PARTNERS**

**Officers:** J. A. Lippincott, Idaho City. **Property:** 2 patented claims, 40 acres; Willow Creek dist.; Idaho City. **Remarks:** Idle for many years.

**MINERAL MINING CO.**

**Officers:** A. C. Gallupe, Pres.-Mgr., Placerville. **Property:** 15 patented and unpatented claims, approximately 300 acres; Enterprise group of claims held under lease and bond; Smuggler group owned by the company; Pioneerville dist.; Grimes Pass; Pioneerville. **Development:** By tunnels and shaft; approximately 7000 ft. of underground workings. **Plant:** Smuggler shaft equipped with steam driven hoist; 75-ton concentrator on Enterprise group. **Ore:** Lead-silver. **Men employed:** Average 8. **Remarks:** This company has been actively engaged in developing the property throughout the year and is one of Boise County's lead producers.

**MISSOURI MINING CO., LTD.**

**Officers:** I. V. Howard, Pres., Pioneerville. **Property:** 8 unpatented claims, approximately 450 acres; Pioneerville dist., Pioneerville. **Development:** 2000 ft. of hydraulic pipe, 2 giants. **Ore:** Placer gold. **Remarks:** Assessment work only.

**MONETARY METALS CO.**

**Officers:** Frank E. Johnesse, Pres.-Mgr., Empire Bldg., Boise. **Property:** 9 claims, approximately 165 acres, held under lease and bond; Gambrinus dist.; Idaho City. **Development:** By shafts and tunnels. **Plant:** Steam driven hoist and compressor; 10-stamp mill. **Ore:** Gold, silver. **Men employed:** Average, 6. This company was incorporated during the year and took over the Washington and Subrosa groups and started work on a 3200-ft. tunnel.

**MOORE'S CREEK BOULDER GOLD DREDGING CO.**

**Officers:** Stephen M. Smith, Pres.-Mgr., Sonna Bldg., Boise. **Property:** 8 placer claims, approximately 540 acres on Moore's Creek; Boise. **Ore:** Placer gold. **Men employed:** Average, 15. **Remarks:** This company has purchased the Highland power dam situated on Boise River and has constructed 8 miles of power line, which will furnish electrical power for the 5½ cu. ft. bucket dredge that is being installed.

**NATIONAL HYDRAULIC MINES CO.**

**Officers:** Albert E. Small, Pres., Boise. **Property:** 3 placer claims, approximately 340 acres, held under lease and bond; Idaho City dist.; Moore's Creek, 2 miles west of Idaho City. **Plant:** 7 miles of ditch, 3000 ft. of pipe line and 3 giants. **Ore:** Placer gold. **Men employed:** Average 7. **Remarks:** The ground held by this company is located on Moore's Creek, and has been dormant through lack of water. The company has been successful in acquiring sufficient water, and during 1921 completed its ditch and hydraulic installation. This equipment is in place, and active mining will start with the spring freshets. Present plans contemplate the construction of a 15-mile ditch during 1922. When this is finished, it will add materially to the length of the operating season.

**NATIONAL MINING & DEVELOPMENT CO., LTD.**

**Officers:** A. C. Gallupe, Pres.-Mgr., Placerville. **Property:** 11 unpatented claims; Quartzburg dist.; Placerville. **Development:** Approximately 5000 ft. of underground workings. **Plant:** 40-ton fine grinding cyanide plant. **Ore:** Gold, silver. **Men employed:** Average, 4. **Remarks:** This company owns the old Mountain Chief group and is actively engaged in extending the lower tunnel, which will give considerable depth below the old workings.

**OHIO GOLD MINING & MILLING CO., LTD.**

**Officers:** J. R. Wooley, Pres., Youngstown, Ohio; L. H. Cooney, Sec., Birmingham, Ala. **Property:** 12 patented claims; Willow Creek dist.; Idaho City. **Remarks:** Idle.

**PITTSBURGH-IDAHO HYDRAULIC MINING CO.**

**Officers:** G. W. Clowell, Treas., Boise. **Property:** 15 patented claims, 280 acres; Moore's Creek dist.; near Stierman Ranch; Idaho City. **Remarks:** Idle.

**REID PLACER (Unincorporated)**

**Officers:** E. S. Robinson, Mgr., Placerville. **Property:** 23 unpatented placer claims, approximately 2460 acres; Placerville dist.; Placerville. **Ore:** Placer gold. **Men employed:** Average, 7.

**STARLIGHT MINING CO.**

**Officers:** J. W. Baker, Pres., C. H. Felton, Sec. **Remarks:** No other information available.

**WASHOE MINING CO.**

**Officers:** W. H. Estabrook, Pres., Trinity Center, Calif.; Etheredge Walker, Sec., 602 Overland Bldg., Boise. **Property:** 15 unpatented claims; Banner dist.; Idaho City.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Ashcroft Placer	Placerville	H. Ashcroft	Placerville
Blackbird	Pioneerville	Exta Lightfoot	Pioneerville
Blackstone Gold M. & M. Co.	Placerville	Joe Poncia	Pioneerville
Bluebird et al.	Banner	G. R. Moland	Boise
Boston Girl	Placerville	Wm. W. Thorn	Centerville
Boulder Min. Co.	Idaho City	Pat Moriarity	Idaho City
Brockmiller	Idaho City	N. Brockmiller	Idaho City
Bummer Hill	Quartzburg	H. C. Granger	Centerville
Cash Register	Placerville	Frank H. Cooper	Centerville
Champion et al.		Geo. A. Williams	Box 594, Boise
Chance Group		W. H. Van Meter	Elks' Club, Chicago, Ill.
Clarence et al.	Pioneerville	Wm. Garrecht	Pioneerville
Claude Marsh	Summit Flat	Edward Brisbin	616 S. 17th St., Boise
Clay Gulch	Placerville	J. T. Blair	Centerville
Cleopatra et al.	Pioneerville	Skidmore & McDonald	Pioneerville
Cold Springs	Idaho City	O. F. Sibley	1514 Jefferson St. Boise



NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Curry Ditch Placers	Pioneerville	P. E. Hall, Sr.	Pioneerville
Elkhorn	Gambrinus	Lippincott & Warner	Idaho City
Elkmeat	Idaho City	Chas. E. Clark	Soldiers' Home, Boise
Fall Creek	Placerville	Albert Elster	Placerville
Franklin	Idaho City	H. A. Schlosser	Idaho City
Gambrinus	Gambrinus	V. A. Thorn	Idaho City
Gem of the Mtns.	Placerville	C. C. Fairchild	Placerville
Gold Coin	Gambrinus	M. L. Phelps	Idaho City
Gold Dollar	Idaho City	James H. Hawley	Boise
Gold Dollar	Summit Flat	Stephen Smith	Boise
Gold Sand et al.	Idaho City	Henry Hosmeier	Idaho City
Grant Group	Idaho City	John Jamieson	Idaho City
Grooms Placer	Payette River	James L. Tyson	Banks
Halley Placers	Placerville	E. F. Blain, Mgr.	Boise
Hard Times	Unorganized	C. M. Hunt	Twin Springs
Hawk	Idaho City	G. W. Casner	Idaho City
Hay Fork	Gambrinus	H. R. Jarvis	Idaho City
Hilltop	Quartzburg	Louis Klein	Grand Hotel Boise
Illinois	Idaho City	Abraham Duquette	Idaho City
Independence	Pioneerville	H. E. Stillwell	Pioneerville
J. S.	Pioneerville	Mitchell Jeannot	Grimes Pass
Kentuck	Placerville	John Golden	Centerville
Last Chance et al	Quartzburg	Frank Daly	Quartzburg
Leary & Brogan	Placerville	Michael Leary	Placerville
Lucky Boy	Gambrinus	Frank Baxter	Idaho City
Mammoth	Pioneerville	Henry Carlson	Pioneerville
Mary Lee	Quartzburg	A. C. Graupner	1010 Ninth St., Lorain, Ohio
Mattie Mining Co.	Idaho City	J. A. Lippincott	Idaho City
Mayflower	Quartzburg	Stephen Mackin	Placerville
Milwaukee	Unorganized	Fletcher Cullen	Cascade
Mineral Hill	Quartzburg	A. C. Gallupe	Placerville
Nally Placers	Pioneerville	Stephen Nally	Pioneerville
New York	Gambrinus	D. R. Morgan	Idaho City
Nighthawk	Pioneerville	John W. Miller	Pioneerville
Olympia	Summit Flat	T. R. Berry	701 E. Jefferson St., Boise
Ophir & Ophir 2	Pioneerville	Peter Reichert	Pioneerville
Paul's Gulch et al.	Pioneerville	Andrew Hansen	Pioneerville
Pioneer	Quartzburg	P. J. Evans	Quartzburg
Reid Placers	Placerville	E. S. Robison	Placerville
Riley & Farren	Placerville	J. J. Brogan	Placerville
St. Clair Group	Pioneerville	Damien Adder	Pioneerville
Saunders	Placerville	W. F. Hiatt	Placerville
17 Placer et al.	Placerville	Lee Bunch	Boise
Sniveley Placer	Centerville	H. C. Granger	Centerville
Standby Placer	Placerville	August Michelson	Beaverton, Ore.
Stanton Gulch	Placerville	John Stanton	Placerville
Stockholders' Mining Co.	Summit Flat	Louis Mann	Idaho City
Swede Gulch et al.	Pioneerville	Carlo Poncia	Centerville
Traderville	Idaho City	J. H. Eggers	Idaho City
Warm Springs	Idaho City	Frank Long	
Wood Group	Quartzburg	S. T. Schreiber	Boise

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## BONNER COUNTY

The most noteworthy development in this county since the first discovery of high-grade silver ore in the Lakeview district is that of the Armstead Mines Co. The company's property is located on the shore of Lake Pend d'Oreille, Black Tail Mountain district. Active development work has been maintained for over three years, and a large tonnage of ore has been developed. The new 150-ton flotation concentrator that was constructed during 1921 was one of the principal new mill additions to the mining industry of the State. This company has materially assisted in proving the possibilities of Bonner County. Through its work and the publicity the county is receiving mining has had a revival; old properties are being opened up, new ones are being developed, and the county is attracting the attention of the mining public.

In addition to high-grade silver ore, the mineral resources of this county are lead, copper, gold, zinc and limestone. All of these contain many good opportunities that justify development. Mining in this county is in its infancy, and the rapid growth that started during 1921 will soon place Bonner in the ranks of the principal mining counties. The county offers an excellent field for the investor and prospector.

### AMERICAN EAGLE MINING CO.

**Officers:** R. A. Martin, Pres., Forsyth, Mont.; H. L. Thomason, Sec.-Treas., Sandpoint. **Property:** 7 unpatented claims; Blacktail Mountain; Pend d'Oreille dist.; Sandpoint. **Development:** 1400 ft. tunnel on vein. **Ore:** Lead-silver. **Men employed:** Average, 2. **Remarks:** Under the management of James A. Evans this company has been actively engaged throughout the year in drifting on the vein, which exposed a good body of lead-silver ore.

### ARGUS MINING CO.

**Officers:** Daniel E. Myers, Pres.; G. B. Hoyt, Sec., both of 1943 E. 107th St., Cleveland, Ohio. **Property:** 5 unpatented claims, Lakeview dist.; Lakeview. **Development:** By tunnel. **Plant:** Small gas driven compressor and necessary mining equipment. **Remarks:** Assessment work only.

### ARMSTEAD MINES, INC.

**Officers:** H. H. Armstead, Pres.; A. H. Burroughs, Jr., Mgr., both of Talache. **Property:** 15 patented, 34 unpatented claims, 1000 acres; Pend d'Oreille dist.; Talache. **Development:** Approximately 13,500 ft. of tunnels, drifts and raises, operating tunnel being 3800 ft. in length from portal to 1700 ft. inclined raise. **Plant:** Steam driven compressor, tool sharpeners, blacksmith shop, and complete mining equipment, storage battery, haulage. **Ore:** Silver-copper (gray copper), lead. **Men employed:** Average, 38. **Remarks:** During the year this company constructed a modern 150-ton flotation mill, which should commence operations about February 1, 1922. The mine equipment was enlarged, an electrical transmission line from Sandpoint to the property, a distance of 15 miles, was constructed, and the mine put in proper shape for continued production. There is a large tonnage of ore blocked out. The construction of the mill and the extensions made constitute one of the largest undertakings in the State during 1921. The property is well financed and efficiently managed, and is one of the few dividend payers to come in during the year.

### AUXER GOLD MINES

**Officers:** James Campbell, Pres., Hope; M. B. Dunkle, Sec.-Treas., Sandpoint. **Property:** Lease and bond on 7 unpatented claims; Pend d'Oreille dist.; Hope. **Development:** 450-ft. crosscut tunnel. **Plant:** Steam driven hoist. **Ore:** Gold. **Men employed:** Average, 2. **Remarks:** This company was actively engaged throughout the year in extending its crosscut tunnel. Work has not progressed far enough to reach the main vein; however, small stringers with good values were encountered.

**BIG FIVE MINING CO.**

**Officers:** Earl Eagan, Treas., Hope. **Property:** 7 unpatented claims; Pend d'Oreille dist.; Hope. **Remarks:** Assessment work only.

**BRITANIA MINING CO., LTD.**

**Officers:** A. O. Kendall, Pres.; M. W. McLean, Sec.-Treas., both of Priest River. **Property:** 10 unpatented claims; Priest Lake dist.; Priest River. **Development:** Approximately 600 ft. tunnels, shafts and open cuts. **Remarks:** Assessment work only.

**CAMP BIRD MINING & DEVELOPMENT CO.**

**Officers:** C. P. Stackhouse, Pres., Sandpoint; J. W. Floyd, Mgr., Priest River. **Property:** 3 unpatented claims; Priest Lake dist.; Priest River. **Remarks:** Assessment work only.

**CLARINDA COPPER MINING CO.**

**Officers:** John R. Delaney, Pres., 50 Broad St., New York; Compton I. White, Mgr., Clark Fork. **Property:** 9 unpatented claims. Pend d'Oreille dist.; Clark Fork. **Development:** By 5 tunnels, approximately 2000 ft. **Plant:** Electrically driven compressor and complete mining equipment. **Ore:** Copper. **Men employed:** Average, 3.

**COPPER GIANT MINING CO.**

**Officers:** H. F. Thibaudeau, Sec.-Treas., Clark Fork. **Property:** 8 unpatented claims; Clark Fork dist.; Clark Fork. **Remarks:** Assessment work only.

**EL PASO MINING & MILLING CO.**

**Officers:** Ignatz Weil, Pres., Sandpoint; John Larson, Treas.-Mgr., Hope. **Property:** 4 unpatented claims; Pend d'Oreille dist., Hope. **Remarks:** Assessment work only.

**FALLS CREEK MINING CO.**

**Officers:** W. C. Ames, Pres., Sandpoint; P. O. Ruen, Mgr., Sandpoint. **Property:** 11 unpatented claims; Lakeview dist., Hope. **Development:** Approximately 4000 ft. of tunnels. **Plant:** Water driven compressor and complete mining equipment; 50-ton concentrator. **Ore:** Lead-silver. **Men employed:** Average, 6. **Remarks:** This company has been developing its property continuously for a number of years and this year was successful in finding the continuation of the ore, which has developed into a very creditable showing.

**GREEN MONARCH MINING & MILLING CO., LTD.**

**Officers:** L. H. Jeannot, Pres., Dixon, Mont.; Peter Johnson, Sec., Sandpoint. **Property:** 11 unpatented claims; Pend d'Oreille dist.; Sandpoint. **Remarks:** Assessment work only.

**HOPE MINING & MILLING CO.**

**Officers:** G. H. Martin, Pres., Sandpoint; John Larson, Sec., Hope. **Property:** Land purchased from the State of Idaho. **Development:** Developed by 150 ft. tunnel. A small amount of development work during the year produced very encouraging results.

**IDAHO GOOD HOPE MINING CO., LTD.**

**Officers:** G. L. Elken, Pres.; Samuel Ferguson, Sec., both of Maryville, N. D. **Property:** 9 patented claims; Pend d'Oreille dist.; Hope. **Remarks:** Idle.

**IDAHO MINERVA MINING CO.**

**Officers:** F. W. Guilbert, Pres.; B. B. Adams, Sec., both of Spokane, Wash. **Property:** 1 patented, 3 unpatented claims; Granite Creek; Pend d'Oreille dist.; Sandpoint. **Development:** Approximately 1800 ft. of tunnels. **Men employed:** Average, 1.

**LAKESHORE MINING & MILLING CO.**

**Officers:** D. M. Garrison, Pres., Lakeview. **Property:** 1 patented claim; Pend d'Oreille dist.; near Midas. **Remarks:** Idle for a number of years.

**LAKEVIEW SILVER MINES CO.**

**Officers:** Henry Gallant, Pres., 1416 Market St., St. Louis, Mo.; Cecil G. Fernwell, Sec., Spokane, Wash.; G. C. Cunningham, Supt., Lakeview. **Property:** 2 patented, 6 unpatented claims; Lakeview dist.; Lakeview. **Development:** Approximately 3600 ft. of underground workings, including 220 ft. shaft; over 1000 ft. of levels and over 2000 ft. of tunnels. **Ore:** Silver. **Men employed:** Average, 3. **Remarks:** This company's mining plant was destroyed by fire in 1919. An active campaign was undertaken in 1921 to replace the plant and to install a 100-ton concentrator with flotation unit. Local name, Conjecture Mine.

**NICKEL PLATE MINING CO.**

**Officers:** S. M. Daniels, Pres., Hillyard, Wash.; Charles F. Cowan, Sec., Spokane, Wash. **Property:** 22 unpatented claims; Priest Lake dist.; Nordman. **Development:** Approximately 1500 ft. of tunnels, shafts and drifts. **Plant:** Steam driven compressor, sawmill and small mining equipment. **Men employed:** Average, 2.

**OPPORTUNITY MINING CO.**

**Officers:** N. A. Krantz, Pres., 406 Eilert Bldg., Spokane, Wash.; M. R. Odegaard, Sec., Spokane. **Property:** 8 unpatented claims; Pend d'Oreille dist.; Sagle. **Development:** 4 tunnels and several small shafts, approximately 750 ft. **Plant:** Steam driven air compressor and necessary mining equipment. **Remarks:** Assessment work only.

**PACKSADDLE MINING CO.**

**Officers:** T. W. Whalen, Mgr., Granite Creek, via Bayview. **Property:** 6 unpatented claims; Pend d'Oreille dist.; Hope. **Development:** 900 ft. of tunnels. **Remarks:** Assessment work only.

**PONDERAY MINING & SMELTING CO.**

**Officers:** G. H. Martin, Pres., Sandpoint; W. J. Beaton, Sec., Spokane, Wash. **Property:** 4 patented lode claims, 6 unpatented lime placer claims; Lakeview dist.; Sandpoint. **Remarks:** Assessment work only.

**REBECCA MINING & MILLING CO., LTD.**

**Officers:** J. R. Boyd, Pres., Seattle, Wash.; Wm. Hollembaek, Mgr.-Sec., Sandpoint. **Property:** 5 unpatented claims; Pend d'Oreille dist.; Hope. **Development:** 800 ft. tunnel. **Remarks:** Assessment work only.

**SILVER HILL MINING CO.**

**Officers:** F. Rau, Pres., R. F. D. No. 3, Tacoma, Wash.; J. Rosskopf, vice-pres., Spokane, Wash. **Property:** 5 unpatented claims; Pend d'Oreille dist.; Blacktail Mountain; Sandpoint. **Development:** Approximately 1600 ft. of underground workings. **Remarks:** Because of litigation only the necessary holding work was performed this year.

**SILVER MOUNTAIN MINING CO.**

**Officers:** John T. Elsasser, Mgr., Sandpoint. **Property:** 6 unpatented claims; Priest Lake dist.; Priest River. **Development:** One 400-ft. and one 538 ft. tunnel. **Ore:** Lead-silver. **Men employed:** Average, 2.

**TRAIL MINING CO., LTD.**

**Officers:** J. W. Lloyd, Pres.-Mgr., Priest River; G. R. Nead, Managing Director, Sandpoint. **Property:** 2 unpatented claims; Priest Lake dist.; Priest River. **Development:** 50 ft. shaft and 50 ft. crosscut. **Men employed:** Average, 1.

**WEBER MINE**

**Officers:** Fred A. Weber, Mgr., Lakeview. **Property:** 4 claims; Lakeview dist. **Development:** By 4 tunnels approximating 11,000 ft. in length, giving a total depth of 400 ft. on the vein. **Plant:** Water driven compressor. **Ore:** Silver. **Men employed:** Average, 4. **Remarks:** The litigation in which this property has been involved for a number of years was terminated during 1921. On account of this litigation the mine had not been kept in repair, and production had ceased; but during 1921 the mine was restored and production resumed; and this famous old producer of Bonner county will soon be on its feet.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Alamo Group	Pend d'Oreille	Sam Owen	Hope
Bay City et al.	Pend d'Oreille	D. M. Garretson	Midas
Big Five	Pend d'Oreille	Egan & Sons	Hope
Bluebird	Pend d'Oreille	Coleman & Ward	Sandpoint
Boston et al.	Pend d'Oreille	Henry Auxer	Hope
Boston Group	Pend d'Oreille	Eimer Philbrick	Hope
Carpie	Pend d'Oreille	Carpie Mining Co.	Cabinet
Catherine	Pend d'Oreille	F. O. Berg	244 Riverside Spokane, Wash.
Comet	Lakeview	Robert Rennie	Lakeview
Copper Bell et al.	Pend d'Oreille	W. F. Fleming	Clark Fork
Copper King et al.	Pend d'Oreille	John Larson	Hope
Copper Prince	Lakeview	William C. Ames	Sandpoint
Cuban	Priest Lake	Walter Binkley,	Priest River
Ella et al.	Lakeview	John W. Sheer	
Hog Eye et al.	Pend d'Oreille	W. F. Sharal	Hope
Kane Mining Co.	Priest Lake	R. Kane	Priest River
Keep Cool	Lakeview	F. F. Johnson	Lakeview
King Solomon	Pend d'Oreille	King Solomon Mines Co.	Sandpoint
Kootenai Mining Co.	Priest Lake	J. W. Lloyd	Priest River
Lawrence	Pend d'Oreille	Chas. Z. Button	Uniontown, Wash.
Lucky Abe	Priest Lake	Frank F. Nelson	Priest River
Lucky Strike	Pend d'Oreille	W. W. Webb	Clark Fork
Marguerite Group	Pend d'Oreille	Bonner Mining Co.	S. 419 Stevens St. Spokane, Wash.
Mogul Group	Lakeview	E. D. Faust	Lakeview
Moonlight	Lakeview	John P. Lewellyn	Sandpoint
Morning Star	Pend d'Oreille	F. S. Hayes	Hope
Ponderosa Group	Pend d'Oreille	C. I. White	Clark Fork
Red Horse	Pend d'Oreille	Ed Hammon	Sandpoint
Rose of Killarney	Priest Lake	M. T. Holohan	Priest River
Silver King	Pend d'Oreille	W. N. Brown & Co.	Sandpoint
Silver King	Priest Lake	Joseph Saccomonno	Priest River
Silver Plate	Pend d'Oreille	H. S. Fry	Sagle
Silver Star	Pend d'Oreille	C. O. Olsen	Sandpoint
Sweeney-Walker	Pend d'Oreille	George M. Walker	Sandpoint
Tiger et al.	Priest Lake	Mrs. James Judge	Priest River
True Fisher	Pend d'Oreille	Fred Vogel	Clark Fork
Twilight et al.	Pend d'Oreille	C. B. Stuart	Sandpoint
Watchman	Pend d'Oreille	S. B. Howe	Clark Fork
Wellington	Pend d'Oreille	W. F. Sharal	Hope
Wood Rat	Priest Lake	J. W. Lloyd	Priest River
Yankee Boy	Pend d'Oreille	Jos. Reed	Clark Fork

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## BONNEVILLE COUNTY

Bonneville County is primarily an agricultural county with large undeveloped mineral resources that offer many opportunities, and which will eventually make it an important mining county. The principal minerals are phosphate rock, gold (placer and quartz), copper, silver, coal, oil, tripoli and bentonite. One dredge and two hydraulic operations in the Mount Pisgah district were active during 1921. These produced a small amount of placer gold. Other than assessment work all the companies were idle. The operations of the Caribou Placer Co. promise to add considerable to this county's mineral production.

**CARIBOU GOLD AND COPPER CO., LTD.**

**Officers:** E. H. Wakeman, Pres., A. V. Scott, Sec.-Treas., both of Idaho Falls. **Property:** 8 unpatented claims; Mt. Pisgah dist.; Idaho Falls. **Development:** Approximately 800 ft. of underground workings. **Remarks:** Assessment work only.

**CARIBOU PLACER CO.**

**Officers:** Geo. R. Wallace, Pres., 928 Frick Bldg., Pittsburgh, Pa. **Remarks:** This is a recently organized company that has taken over the Barnes placer, Mt. Pisgah district. The company expects to have the property fully equipped and in operation early in 1922.

**IDAHO CONSOLIDATED PLACER MINING CO.**

**Officers:** William L. Ray, Pres.; J. Edward Matson, Sec., both of Chicago, Ill.; Wm. J. McConnell, Stat. Agent, Idaho Falls. **Property:** 9 unpatented placer claims; Mt. Pisgah dist.; Henry. **Remarks:** Assessment work only.

**ONEIDA SOUTH MINING CO.**

**Officers:** George F. Gagon, Treas., Blackfoot. **Property:** 1 unpatented claim; Mt. Pisgah dist. **Remarks:** Assessment work only.

**U. S. GOLD-SILVER MINING & DEVELOPMENT CO.**

**Officers:** C. A. Phillips, Pres., Boise. **Property:** 8 claims held under lease and bond; Mt. Pisgah dist.; Idaho Falls. **Development:** Approximately 1600 ft. of tunnel. **Ore:** Copper. **Men employed:** Average, 4.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
American Placer	Mt. Pisgah	W. H. Stocks	Gray
Barnes Placer	Mt. Pisgah	A. M. Barnes	Soda Springs
Midas et al.	Mt. Pisgah	Fred Brenzinger	Gray
Toway Bar	Mt. Pisgah	J. C. Beatty	Soda Springs

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**BOUNDARY COUNTY**

The mineral resources of Boundary County in the order of their prominence are lead, silver, gold, copper, zinc, tungsten, and molybdenum. This county can boast of but one producer, the Idaho-Continental, which is one of the largest lead mines in the State. There are a great many promising prospects, and a number of the operating companies have very creditable showings. This county offers many inducements to the prospector and promoter through undiscovered veins and prospects worthy of development.

Boundary County prides itself upon the fact that within its borders is located the largest hydraulic operation ever undertaken in the State (if not in the United States), that of the Idaho Gold and Ruby Mining Co., whose history is a romance and upon whose outcome are many expectancies.



**BOULDER CREEK MINING CO.**

Robert Nelson, Naples. **Remarks:** A press item states that this company is drifting on a high grade gold vein; development work has been encouraging and plans have been completed for the erection of a mill during 1922.

**BRUSH LAKE MINES CO.**

**Officers:** J. W. Reid, Pres., Bonners Ferry. **Property:** 7 unpatented claims; Moyie Yaak dist.; Bonners Ferry. **Development:** Approximately 3000 ft. of underground workings. **Plant:** Gas driven compressor and hoist, complete small equipment. **Remarks:** A new organization that has taken over the property of the Bethlehem Gold Mines Co.

**COPPER FALLS MINING CO.**

**Officers:** Gus Kollman, Pres.-Mgr., Gem; Spencer Lewis, Sec.-Treas., Eastport. **Property:** 5 unpatented claims; Moyie Yaak dist.; Eastport. **Development:** 2000 ft. of workings. **Remarks:** Idle.

**CYNIDE GOLD MINING CO.**

**Officers:** J. B. Ellis, Pres.; George R. Causton, Sec.-Treas., both of Bonners Ferry. **Property:** Operating the Buckhorn group of 6 claims under lease and bond. **Development:** Approximately 3000 ft. of underground workings. **Plant:** Gas driven compressor and complete mining equipment; sawmill; mill, 50-ton amalgamation, steam driven. **Ore:** Gold. **Men employed:** Average, 25. **Remarks:** This company has been actively engaged in the erection of a mill, and in development work, which resulted in a number of very creditable showings.

**DEER CREEK GOLD MINING CO., LTD.**

**Officers:** S. E. Henry, Pres., Bonners Ferry; B. H. Walker, Sec., 205 S. Farrell St., Spokane. **Property:** 6 claims; Moyie Yaak; Bonners Ferry. **Remarks:** Under lease and bond to Cynide Gold Mining Co.

**DIAMOND STAR & COPPER DALE MINING CO.**

**Officers:** Andrew J. Dahlin, Pres., Bonners Ferry. **Property:** 11 unpatented claims; Moyie Yaak; Naples. **Development:** Approximately 200 ft. of tunnels. **Men employed:** Average, 2.

**GOLDEN SCEPTER MINING CO., LTD.**

**Officers:** Martin H. Gronvoll, Pres., W. 1809 Grace Ave., Spokane, Wash.; O. L. Elvigin, Sec.-Treas., Spokane, Wash. **Property:** 5 unpatented claims; Port Hill dist.; Port Hill. **Development:** Approximately 3000 ft. of tunnels. **Remarks:** Idle.

**IDAHO CONTINENTAL CO. (Under lease to Klockmann Bros.)**

**Officers:** A. Klockmann, 711 Paulsen Bldg., Spokane, Wash. **Property:** 15 patented, 5 unpatented claims, approximately 400 acres; Port Hill dist.; Port Hill. **Development:** 5 tunnels: No. 1, 250 ft. long; No. 2, 100 ft.; No. 3, 750 ft.; No. 4, 1800 ft.; and No. 5 (under construction), approximately 1500 ft.; other workings totaling approximately 4000 ft. **Plant:** 1200 cu. ft. compressor, drill sharpeners and complete mining equipment; 1600 ft. aerial tram from mine to mill; 250-ton concentrator; hydroelectric power plant. **Ore:** Lead-silver. **Men employed:** Average, 18. **Remarks:** One of Idaho's substantial lead producers. Made no production during 1921; work was confined to driving No. 5 tunnel.

**IDAHO GOLD & RUBY MINING CO.**

**Officers:** J. M. Schnatterly, Pres.-Gen. Mgr., Mohawk Bldg., Spokane, Wash.; M. L. McCormick, Sec.-Treas., Spokane, Wash. **Property:** 47 unpatented lode claims, 31 unpatented placer claims; approximately 2420 acres; Moyie Yaak dist., Leonia. **Development:** Five mile, 200 sec. ft. capacity canal, giving a working head of approximately 430 ft.; in two sec-

tions, upper 3 miles long, lower 2 miles, with a difference in elevation of 210 ft. Water conducted from upper to lower through two 22-inch steel pipes. About 20 miles of road, five of which was very heavy construction. Lode claims developed by numerous cuts and tunnels. **Plant:** Approximately 3000 ft. of steel pipe; one 8-inch giant operating under a 430 ft. head and two 5-inch giants operating under 130 ft. head; bed rock flume and spillway 300 ft. long on a grade of 10 inches in 12 ft.; in three sections, spillway 12 ft. wide by 8 ft. deep; one flume 6 ft. wide and one 12 ft. wide, both 8 ft. deep. Concentrates from flume discharge into cement lined tank of approximately 15,000 ton capacity from which it is elevated into cleaning plant on top of flume. Cleaning plant consists of Ogden tables, classifiers and especially designed riffles. Complete machine shop, saw-mill, planing mill, overhead cable system operated by steam; tractor haulage; complete company buildings and 35 individual homes for the men. **Ore:** Principally placer gold. **Men employed:** Average 50. **Remarks:** Active operation was started about 1910, and, other than a few temporary shut downs caused by litigation and two receiverships, work has progressed continually. Including stock paid for labor, over \$1,000,000 has been spent on the project. The flume was completed and hydraulicking started in 1921. As yet no clean-up has ever been made, as the cleaning plant has not been finished. Until this plant is in operation, nothing can be said about the probable outcome, other than that it is one of the largest hydraulic operations ever undertaken.

#### LUCKY ABE MINING CO.

**Officers:** Abe Johnson, Pres., Opportunity, Wash.; T. Fhelson, Sec.-Treas.; Priest River. **Property:** 4 unpatented claims; Priest Lake dist.; Priest River. **Remarks:** Assessment work only.

#### METALS MINING CO.

**Officers:** H. W. Kirchoff, Pres., Bonners Ferry. **Property:** 4 unpatented claims; Moyie Yaak dist.; Bonners Ferry. **Development:** 40 ft. shaft and 120 ft. tunnel. **Ore:** Lead-silver. **Men employed:** Average, 4.

#### MOYIE GOLD COPPER MINING & MILLING CO., LTD.

**Officers:** A. J. Kent, Pres.; G. E. Crocker, Sec.-Mgr., both of Bonners Ferry. **Property:** 13 unpatented claims consisting of two groups, Damon and Queen; Moyie Yaak dist.; Bonners Ferry. **Development:** Queen group, approximately 500 ft. of underground workings; Damon group, approximately 400 ft. **Ore:** Gold, lead-silver. **Remarks:** Assessment work only on Damon Group; considerable development work on Queen group.

#### PAT AND PETE COPPER MINING CO.

**Officers:** E. P. Gaillac, Pres., Seattle, Wash.; W. W. Wallace, Sec., Spokane, Wash. **Property:** Lease and bond on 40 acres. **Remarks:** Idle.

#### TUNGSTEN HILL MINING CO.

**Officers:** Austin Ready, Pres., Indianapolis, Ind.; C. D. Muxen, Sec., 214 Symons Bldg., Spokane. **Property:** 20 unpatented claims; Moyie Yaak dist.; Copeland. **Development:** Approximately 300 ft. of tunnel. **Plant:** Gas driven compressor and small mining equipment. **Ore:** Tungsten and associated metals. **Men employed:** Average, 2.

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## BUTTE COUNTY

The largest mining enterprises in Butte County during 1921 were the limestone quarries operated by the Utah-Idaho and Amalgamated Sugar Companies. These quarries furnish practically all of the lime rock used in the sugar factories of the State. In addition to limestone, the other mineral resources are lead, silver, zinc, gold, tungsten and manganese. The veins in the Lava Creek district carry a high-grade silver ore, lead-silver, zinc, gold, manganese and tungsten. Those in the Dome district are principally lead-silver. The largest mine in the county, that of the Wilbert Mining Co., is situated in the latter district. This company is planning extensive developments, which will again place it in the producing list. Considerable activity was manifested in the Lava Creek district during 1921, and some encouraging developments are anticipated as the outcome.

### METTA MINING CO.

**Officers:** Soren Yorgesen, Pres.; A. E. Christensen, Mgr. both of Shelley. **Property:** 4 unpatented claims; Hamilton dist.; Little Lost River Mountains; Arco. **Development:** Approximately 1000 ft. of workings.

### WILBERT MINING CO., LTD.

**Officers:** A. S. Ross, Pres., 222 Kearns Bldg., Salt Lake City, Utah. **Property:** 3 patented and 22 unpatented claims; Dome dist.; Howe. **Development:** Shafts and tunnels. **Plant:** Two 50-horsepower fuel engines driving compressor; pumps and hoist. **Ore:** Lead-silver. **Men employed:** Average, 16. **Remarks:** Work has been started on a new tunnel that will be 1600 ft. long which will give considerable depth below the old workings. Sufficient ore was developed to justify the construction of a new mill to replace the one that was destroyed by fire in 1918. A contract has been let for the construction of a power line from Arco to the mine. Present plans call for the completion of the mill and power line during 1922. The mine has a large production record.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Copper King Group	Lava Creek	B. A. Smith	Arco
Cut Wall	Hamilton	W. A. Beakley	Blackfoot
Frank	Hamilton	George Campbell	Clyde
Gold Belt Group	Lava Creek	J. M. Walker	Blackfoot
Granite Mountain	Lava Creek	E. H. Hammond	Arco
Homestake	Lava Creek	Hugo Voglsang et al.	Arco
Hornsilver	Lava Creek	Parr Bros.	Arco
Hub Group	Lava Creek	S. O. Nelson	Boise
Iron Mountain	Lava Creek	Brim Bros.	Martin
Ironsides	Lava Creek	Gordon Lee	Boise
Lead Belt	Lava Creek	H. W. Weiler et al.	Mackay
St. Louis	Lava Creek	J. H. Scott	Martin
Southern Cross	Lava Creek	Era Martin	Martin
Sunbeam	Dome	Isadore Phallert	Howe
Weiler	Antelope	H. W. Weiler	Mackay

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## CAMAS COUNTY

Many opportunities are presented by the diversified mineral resources of Camas County. Her principal minerals listed in the order of their prominence are gold (placer and quartz), lead, silver, zinc, copper, tungsten, diatomaceous earth and nitrates. Many acres of placer ground worthy of development are lying idle, and the gold quartz lodes have not revived since the war. When these, together with the many high-grade lead-silver veins, are developed, this county will assume a prominent place as a mineral producer.

**ASSOCIATED MINES CO.**

**Officers:** Geo. Parkin, Pres., Meridian; Dr. P. L. Tawney, Sec.-Treas. Meridian. **Property:** 11 unpatented claims; Little Smoky dist.; Fairfield. **Development:** 3 tunnels, approximately 1500 ft. **Ore:** Lead-silver. **Men employed:** Average, 5.

**BEAR CREEK GOLD MINING CO., LTD.**

**Officers:** Evan William, Pres., Boise; Martin King, Mgr., La Grande, Ore. **Property:** 5 unpatented claims; Skeleton Creek dist.; Fairfield. **Remarks:** Idle.

**BIG FIVE MINING & MILLING CO.**

**Officers:** O. W. Herring, Pres., Independence, La.; D. W. Zent, Mgr., Fairfield. **Property:** 6 unpatented claims; Little Smoky dist.; Fairfield.

**HIDDEN TREASURE MINING & MILLING CO.**

**Officers:** Charles J. Sherry, Pres., Fairfield. **Property:** 4 unpatented claims; Little Smoky dist.; Fairfield. **Development:** By 3 tunnels and shaft approximately 1500 ft. **Ore:** Lead-silver. **Men employed:** Average, 2.

**MAGNET MINING CO.**

**Officers:** George H. Clark, 424 Dooly Bldg., Salt Lake City; J. C. Brandon, Sec., St. Anthony. **Property:** 4 unpatented claims held under lease and bond; Little Smoky dist.; Fairfield. **Development:** Approximately 1000 ft. of workings. **Plant:** 80-ton steam driven concentrator. **Ore:** Lead-silver. **Men employed:** Average, 2.

**TRUTH MINES CO.**

**Officers:** Adam Van der Does, Pres., 1740 W. Garland Ave., Spokane, Wash.; George R. Colvin, Mgr., Fairfield. **Property:** 1 unpatented claim; Little Smoky dist.

**WALTON MINES CO.**

**Officers:** E. M. Stadel, Pres., Alger, Mont.; George R. Colvin, Mgr., Fairfield. **Property:** 6 unpatented claims held under lease and bond; Little Smoky dist.; Five Points; Fairfield. **Development:** 3 tunnels approximately 80 ft. below each other, No. 1, 119 ft., No. 2, 295 ft., No. 3, 439 ft. **Plant:** 30-ton steam driven concentrator, sawmill. **Ore:** Lead-silver. **Men employed:** Since June; 12. **Remarks:** Concentrator and sawmill were constructed during the year.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Axalorr Placer	Skeleton Creek	R. M. Angel	Hailey
Bear Creek	Skeleton Creek	R. S. Mockett,	Lincoln, Neb.
El Oro	Skeleton Creek	C. W. Smith	53 State St. Boston, Mass.
Five Points	Little Smoky	Wm. Finney	Soldier
Hercules	Big Smoky	W. W. Counterman,	209 S. 3rd St. Boise
Idaho Chief	Little Smoky	J. A. Schaub	Fairfield
Jones Bar Placer	Soldier	J. H. Fleck	144 E. Idaho St. Boise
King of the West	Rosetta	Maylan C. Fox	P. O. Box 774, Salt Lake City, Utah
Princess	Willow Creek	J. J. Rowley	Hailey
San Mateo	Skeleton Creek	R. King	
Square Deal	Rosetta	Robert Leeper	Hailey
Taft et al.	Little Smoky	H. D. Jones	Hailey

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## CANYON COUNTY

Canyon County is one of the principal agricultural counties of the State with no mineral resources other than a few gold placer claims along the Snake River.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Clark Placer	Snake River	W. T. Clark	Greenleaf
Hard Scrabble	Boise River	Alvin Ehlers	Notus

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- Oil and gas possibilities of eastern Oregon, by John P. Buwalda, Oregon Bureau of Mines and Geology, vol. 3, no. 2, **1921**.

## CARIBOU COUNTY

Caribou County's most important mineral deposits are the high-grade phosphate rock beds that are distributed over a large area, mineral springs, sulphur, and salt. There are also possibilities for oil. The plant installation and expenditures of the Anaconda Copper Mining Co. give this county one of the largest phosphate rock producing mines in the United States and an industry that proves the possibilities in this mineral. The development and utilization of the water from the many mineral springs offer a great possibility in profitable investments. The medicinal qualities and adaptability to table use of these waters cannot be excelled. The sulphur deposits suggest cheap sulphuric acid; the presence of oil will be proven during 1922; and only lack of transportation prohibits the development of the salt deposits.

**ANACONDA COPPER MINING CO.**

**Officers:** C. E. Nighman, Mgr., Conda. **Property:** 2 patented, 21 unpatented claims, approximately 3400 acres: 8 miles northeast of Soda Springs; Conda. **Development:** Two adits, 45 ft. above railroad track level, 9 x 9 ft., inside of timbers totaling over 3000 ft. in length. The main operating tunnels are equipped with 25-pound rail, 36-inch gauge track, 15-ton storage battery locomotives capable of hauling a 100-ton net load at a speed of 4 to 7 miles per hour, 10-ton side dump ore cars, power loading machines operated by compressed air and No. 4 sirrocco fan. **Mine plant:** 1000 cu. ft. compressor; drill sharpeners; machine, blacksmith and carpenter shops with latest type power driven equipment; switch boards and motor generator charging set; laboratory; electric substation and sawmill all housed in fireproof gunited and steel buildings. **Bins: Crushing and Drying Plant.** The mill feed and storage bins are connected with the main tunnels by large trestles. The storage bins, with a capacity of over 4000 tons, and houses over them are protected with several inches of gunite. The main storage bin is equipped with an Ottumwa boxcar loader and modern railroad scales. The rock drawn from the mill feed bin, which has a capacity of 450 tons, passes over shaking grizzlies, the oversize going to a 12-inch Traylor gyratory crusher, which reduces it to about 2½ inches. The product from the crusher and the undersize is elevated and passed over a Mitchell vibrating screen. The rock passing through this screen goes to the dryer feed bin, and the oversize to 22 x 54-inch Anaconda rolls that reduce it to three-fourths of an inch. The product from the rolls is elevated and again passes over the Mitchell vibrating screen. The crushed rock drawn from the dryer feed bin is conveyed into class A-12 Ruggles-Coles dryers by apron feeders. After leaving the dryer the rock goes over a shaking feeder to a chain bucket elevator. This elevator carries it to the top of the mill where it passes through a Vezin sampler, and it is then conveyed to the storage bins. The present capacity of the mill is 500 tons in 24 hours. This output can be increased to 1000 tons in the same time by adding another dryer. **Railroad:** 8-mile branch from Soda Springs to mine, with storage tracks that will accommodate 100 fifty-ton railroad cars, spurs to mill and coal bins, and wyes at each end of the yards. The gradient of the storage tracks is such that the cars are operated by gravity to and from the storage bins. **Town:** The company is erecting a model mine town consisting of modern homes, which are rented to the employees at a nominal figure. Company offices, bunk and boarding houses, superintendent's home, recreation hall and number of small homes have been erected. A fully equipped store is maintained by the company, and a postoffice has been established. A complete water system for the town and plant has been installed; the water is piped a distance of 2 miles to a 100,000 gallon storage tank from which it is distributed. **Ore:** Phosphate rock. **Men employed:** Average, 65. **Remarks:** The activities of this company represent the largest expenditure on construction, new plant and development that took place in the State during 1921.

**IDAHO LEASING CO.**

**Officers:** Dr. William Ludden, Pres.; M. F. Shilling, Sec., both of Pocatello. **Property:** Oil leases on approximately 100,000 acres of farm land in Star Valley. **Remarks:** Company proposes to sublease its holdings to development companies after a successful oil well is brought in. Arrangements have been completed and the money raised to sink the first well, which will be started early in 1922.

**SOUTHERN CALIFORNIA ORANGE GROVE FERTILIZER CO.**

**Officers:** Robert J. Shields, Mgr., Salt Lake City, Utah. **Property:** 21 patented claims, approximately 3000 acres.

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## CASSIA COUNTY

The mineral resources of Cassia County are lead, silver, copper, gold, limestone, building stone, marble and coal. Two companies are actively engaged in drilling for oil. Except for the performance of assessment work, practically all the mines were idle throughout 1921.

**GOOSE CREEK OIL & DEVELOPING CO.**

**Officers:** D. P. Carpenter, V. Pres., Oakley. **Property:** One State and three U. S. oil and gas leases; Oakley. **Remarks:** Idle.

**IDAHO SILVER MINING CO.**

**Officers:** William M. Garvin, Pres., Oakley. **Property:** 9 unpatented claims, 20 miles south of Oakley. **Remarks:** Assessment work only.

**IDAHO STONE & LIME CO.**

**Officers:** T. W. Halliday, Pres., Rupert. **Ore:** Limestone. **Remarks:** Idle.

**MARSH BASIN OIL & GAS CO.**

**Officers:** Charles O. Dumas, Pres., Albion. **Property:** 70 oil and gas leases, approximately 13,000 acres; Albion. **Development:** 16 inch hole, 210 feet in depth. **Plant:** Standard 84 ft. derrick, steam driven equipment. **Men employed:** Average, 2.



**MELCHER MINING & MILLING CO.**

**Officers:** Samuel McIntyre, Pres.-Mgr., 404 McIntyre Bldg., Salt Lake City, Utah; R. M. Winkinson, Sec., Salt Lake City, Utah. **Property:** 30 patented 10 unpatented claims, approximately 435 acres; Stokes dist.; Elba. **Development:** One 3300 ft. tunnel, one 1600 ft tunnel, and one 130 ft. shaft. **Plant:** Steam driven compressor, 100-ton concentrator. **Ore:** Lead-silver, copper. **Men employed:** One watchman. **Remarks:** Idle.

**OAKLEY MINING & MILLING CO.**

**Officers:** John H. Fairchild, Pres., Oakley. **Property:** 7 unpatented claims; Boulder dist.; Oakley. **Development:** Approximately 5000 ft. of underground workings. **Remarks:** This company is owned by the president who is actively engaged in developing it.

**OASIS OIL CO.**

**Officers:** Lem Combs, Pres.-Mgr., Buhl; William D. Reynolds, Sec., Burley. **Property:** Government oil and gas prospecting permit, 2560 acres; Raft River Basin; 6 miles south of Almo. **Development:** 16 inch hole, 500 feet deep. **Plant:** 82 ft. derrick, steam driven equipment, capable of drilling to a depth of 5000 ft. **Men employed:** Average, 5.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Alice	Stokes	W. E. Langford	229 W. 2d St. N. Salt Lake City, Utah
Badger	Stokes	J. E. Comerford	Budge
Bimetallic	Stokes	F. E. Trayme	Albion
Golden Eagle	Stokes	O. H. Melcher	Albion
Hazel Pine	Black Pine	F. B. Platt	265 E. Broadway, Salt Lake City, Utah
Little Jewel	Dolomite	George Myers	Oakley
Sample Placer	Snake River	Thomas C. Elgin	Neeley
Walton No. 2	Stokes	T. C. Walton	Burley

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- Portland cement materials and industry in the United States, by E. C. Eckel, with contributions by E. F. Burchard and others, U. S. Geol. Survey Bull. 522, p. 135, 1913.
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- Preliminary report on the clays of Idaho, by Frank H. Skeels, Idaho Bureau of Mines and Geology Bull. 2, 1920.

## CLARK COUNTY

Clark County is essentially an agricultural county, whose mineral resources have not been fully determined. Considerable prospecting has been done in the mountainous area of the northwest corner, which is an extension of the Dome district of Butte County. No activity was reported during 1921.

### BIRCH CREEK MINING CO., LTD.

**Officers:** George Brunt, Pres.; A. T. Shane, Sec., both of Idaho Falls. **Property:** 9 unpatented claims; Birch Creek; Reno, Idaho. **Remarks:** Assessment work only.

### SKULL CANYON MINING CO.

**Officers:** J. T. Young, Mgr., Pocatello. **Property:** 25 patented claims, 425 acres; Birch Creek; Reno, Idaho. **Remarks:** Under lease to A. W. Peterson.

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## CLEARWATER COUNTY

The principal mineral resource of Clearwater County is placer gold, which has been continuously produced since the day of its first discovery. During 1921 one dredge was in operation; a large company was actively engaged in prospecting its holdings to determine the feasibility of dredging; and a number of small operators were engaged in hydraulicking operations. Second in importance is the gold produced from the gold-bearing quartz veins, which are widely distributed throughout the county. These deposits are attracting attention since the revival of gold mining, and 1922 will witness considerable activity. In addition to gold; silver, copper and coal have also been produced.

### BLOYER MINING CO.

**Officers:** John A. Saboe, Pres.-Mgr., Lewiston. **Property:** 7 patented claims; Poor Man's Creek, Pierce City dist.; Pierce. **Development:** 350 ft. tunnel and drifts. **Plant:** Steam driven 25-ton amalgamation mill, containing crusher and Chilean mill. **Ore:** Gold. **Men employed:** Average, 6. **Remarks:** This is a new company. Its mill was constructed and put into operation during the year and developing has been carried on continuously.

### CAREY MINING CO.

**Officers:** Charles L. Carey, Mgr., Pierce. **Property:** 6 unpatented placer claims; Pierce City dist.; Pierce. **Development:** 4 miles of ditch, 4000 ft. pipe, 3 giants. **Remarks:** Assessment work only.

### INDEPENDENCE PLACER MINING CO., LTD.

**Officers:** William Fahle, Pres., Wallace; Emil Pfister, Sec., Wallace. **Property:** 16 unpatented placer claims on Morse and Deep Creeks; Elk River. **Remarks:** Assessment work only.

**LOLO POWER & MINING CO., LTD.**

**Officers:** George W. Phillips, Pres.; W. J. Jordan, Sec.-Treas., both of Lewiston. **Property:** 7 unpatented claims; Pierce City dist.; Greer. **Development:** By tunnels, approximately 800 ft. **Plant:** Gas driven compressor. **Remarks:** Assessment work only.

**NEW ERA GOLD DREDGING CO.**

**Officers:** Edward Gaffney, Pres.; John Gaffney, Sec., both of Pierce. **Property:** 2 unpatented placer claims, 320 acres; Pierce City dist.; Pierce. **Remarks:** Property under lease and bond to R. H. Bailey.

**OXFORD COPPER MINING CO., LTD.**

**Officers:** Sampson Snyder, Pres., Orofino; L. F. Parsons, Sec., Moscow. **Property:** 6 unpatented claims; Pierce City dist.; Pierce. **Development:** 140 ft. vertical shaft and 180 ft. of tunnels. **Plant:** Steam driven hoist. **Ore:** Copper, gold, silver. **Remarks:** Assessment work only.

**OZARK MINING & MILLING CO., LTD.**

**Officers:** Joe Muir, Pres., Wilbur, Wash.; John H. Jones, Sec., 812 Augusta Ave., Spokane, Wash. **Property:** 8 unpatented claims; Pierce City dist.; Pierce. **Development:** By tunnels. **Plant:** Gas driven compressor. **Remarks:** Assessment work only.

**QUARTZ CREEK GOLD DREDGING CO.**

**Officers:** W. J. Harris, Pres., 514 Peyton Bldg., Spokane, Wash. Alex Kasberg, Sec.-Treas., Lewiston. **Property:** 27 placer claims and 660 acres of patented land. **Development:** Prospected by test pits. **Plant:** Sawmill and prospecting equipment. **Remarks:** Company has been actively engaged in prospecting its ground to determine the feasibility of installing a dredge.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Alma Placer Co.	Moose Creek	C. L. Fredericks	Helena, Mont.
Bailey Dredge	Pierce City	R. H. Bailey	Pierce
Boise Placer	Burnt Creek	James McGann	Elk River
Bond Mining Co.	Pierce City	E. A. McCarty	Coeur d'Alene
California Placer	Pierce City	L. F. Culver	Pierce
Dream, The	Pierce City	Fred Forsman	Pierce
Dunn	Pierce City	W. H. Stowell	Spokane, Wash.
Eureka Pacific Mng. Co.	Pierce City	W. A. Halteman	1701 Mallon Ave., Spokane, Wash.
Fisher Creek et al.	Burnt Creek	J. C. Corbin	Elk River
Gray Eagle	Pierce City	J. McDaniels	200 Que St., Sacra- mento, Calif.
Gray Mining Co. Placer	Pierce City	W. N. Chandler	Orofino
Grubstake et al.	Burnt Creek	James Dwyer and Henry Elmer,	2828 N. 4th St., Min- neapolis, Minn.
Hardman Group	Moose Creek	C. W. Hardman	Elk River
Hay Creek Placers	Pierce City	Frank Alvord	Pierce
Hillside	Burnt Creek	John Lawrence	Dent
Homestead Placer	Pierce City	Mrs. H. H. Bole	Pierce
Jericho	Burnt Creek	F. A. Losekamp	Elk River
Julia E. et al.	Pierce City	R. E. Willoughby	Pierce
Lone Pine, et al.	Pierce City	J. W. Bartlett	Pierce
Long Bill Placer	Pierce City	J. W. Bartlett	Pierce
May Queen et al.	Pierce City	Barney Dourty	Pierce
Missouri Rose	Pierce City	Summer Rigdon	Pierce
Musselshell Mining Co.	Pierce City	L. F. Parsons	Moscow
New Find Mining Co.	Pierce City	W. N. Brown	Pierce
Panama Group	Pierce City	F. P. Fitz	Pierce

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Pick & Pan	Burnt Creek	John E. Rejala	Elk River
Rome	Pierce City	William Arnett	Pierce
Rummel et al.	Pierce City	James Clark	Pierce
Silver Creek Placer	Pierce City	Gus Anderson	Pierce
Snake Creek Placer	Pierce City	G. V. Friedman	Pierce
Sprague Co.	Pierce City	S. C. Kinch	Sprague, Wash.
Venus Placer	Burnt Creek	John Pearson	Dent
Victoria et al.	Ruby Creek	George Brady	Bovill
Wendell Placer	Burnt Creek	Walter Wendell	Dent
White Swan	Pierce City	Carl Anderson	Pierce
Wild Rose et al.	Pierce City	John H. Jones	Spokane, Wash.
Woodchuck	Pierce City	John Butzlow	Pierce

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## CUSTER COUNTY

During many years Custer County, essentially a mining county, has maintained its position as the second or third largest mineral producer in the State. The principal minerals, named in the order of their occurrence, are copper, silver, gold, lead, and zinc. Molybdenum, tungsten, quicksilver, manganese, iron ore, limestone and antimony are also found.

This county ranks first in the State in copper production, and is the home of the largest copper mine (Empire at Mackay), and the largest high-grade silver ore mine (Ramshorn at Bay Horse) in Idaho. Conditions prior to and during 1921 were such that copper and gold mining were not profitable, and practically all of the companies suspended operations. This resulted in 1921 showing the least production the county has recorded for a number of years. The approach of normal conditions and the increase in the price of copper during the closing months of 1921 made copper mining again profitable. The Empire mine started shipping in November, many new leases were granted, and the mine is now running at full capacity. Other copper producers anticipate an early resumption, and the revival of the old mining industry has put new life into the county.

As the product of the Ramshorn mine is a silver ore, this company has been able to maintain capacity production. The mine has a large ore reserve, so it will continue to be a producer. The Idaho Mine Development Company, which is operating the old Red Bird mine at Clayton, had a very creditable production of lead-silver ore, which should be exceeded during 1922, as the company anticipates mill enlargements.

The companies mentioned above, together with a few smaller ones, are responsible for practically all of Custer County's production during 1921. It is expected that the 1922 production will be far in excess of that of the past year, as a number of very important new enterprises have been started. Some new properties are being opened up, and old producers are being taken over by new organizations. The county's mineral resources offer many favorable opportunities both to the investor and the prospector; as many properties worthy of development are lying idle, and there are possibilities for discoveries.

#### AZTEC MINING & MILLING CO.

**Officers:** T. W. Galligher, Pres.-Gen. Mgr., 1908 N. 17th St., Boise; B. W. Anderson, Sec.-Treas., Pocatello. **Property:** 3 unpatented claims, two-thirds interest in one, balance under lease and bond; unorganized district; 12 miles west of Stanley. **Development:** 600 ft. shaft with approximately 650 ft. of drifting. **Plant:** Steam driven hoist and small mining equipment; 32-ton Gibson mill.

#### BAY HORSE LEASING CO.

**Officers:** J. A. McCaskell, Pres., 321 Felt Bldg.; R. C. Treanor, Sec., both of Salt Lake City, Utah; R. R. Hoffman, Mgr., Bay Horse. **Property:** Lease on one patented claim; Bay Horse dist.; Bay Horse.

#### BONANZA GOLD MINING CO.

**Officers:** C. F. Kabisins, Vice Pres., 487 Seventh Ave., Salt Lake City, Utah; J. H. Snyder, Sec., 47 W. 5th St., Salt Lake City, Utah. **Property:** 11 unpatented claims; Yankee Fork dist.; Bonanza. **Development:** 1500 ft. tunnel. **Remarks:** Assessment work only.

#### BURNS MINING & MILLING CO.

**Officers:** E. E. Sims, Sec., Meridian; Dave Farmer, Mgr. **Property:** 6 unpatented claims; Seafoam dist.; Stanley. **Development:** Approximately 500 ft. of tunnels and drifts. **Ore:** Gold, silver. **Men employed:** Average, 3.

#### CHAMPION MINING CO.

**Officers:** Edward R. Hall, Pres., 1729 Chicago Ave., Evanston, Ill.; C. T. Mixer, Vice Pres. and Mgr., Box 56, Salt Lake City, Utah. **Property:** 12 unpatented claims; Alder Creek dist.; Cliff Creek; Mackay. **Development:** Approximately 2000 ft. of underground workings. **Remarks:** Assessment work only.

#### GREYHOUND MINING & MILLING CO., LTD.

**Officers:** W. C. Annett, Pres.; Edward Smith, Sec.-Mgr., both of Boise. **Property:** 7 unpatented claims; Seafoam dist.; Sulphur Creek; Stanley. **Development:** 560 ft. tunnel. **Plant:** 10-stamp mill, including vanners and classifier. **Remarks:** Idle.

#### HERMIT MINING CO.

**Officers:** Henry L. Carpenter, Pres., 407 S. 10th St., Minneapolis, Minn.; William E. Smith, Mgr., Clayton. **Property:** 23 unpatented claims; Bay Horse dist.; Clayton.

**HORSE SHOE COPPER CO., LTD.**

**Officers:** D. V. Archbold, Sec.-Treas.; Mackay. **Property:** 15 unpatented claims; Alder Creek dist.; Mackay. **Ore:** Lead-silver. **Remarks:** Property operated by lessees who have made a number of shipments. During the year a new ore zone was encountered, which has enhanced the value of the property.

**IDAHO METALS CO. (Successor to Empire Copper Co.)**

**Officers:** L. R. Eccles, Pres., 2509 Eccles Ave., Ogden, Utah; Homer V. Jenkins, Mgr., Mackay. **Property:** 20 patented, 19 unpatented claims; Alder Creek dist.; White Knob; Mackay. **Development:** Tunnels, shafts and raises, totaling approximately 20 miles of underground workings. **Plant:** Two steam driven compressors, hoists, drill sharpeners and complete mining equipment, including a large number of buildings and surface plant; 3 mile aerial tram connecting mine with railroad. **Ore:** Copper. **Men employed:** Average, 92. **Remarks:** The mine is operated by leasing system and was practically idle until the last 2 months of the year, when shipping was resumed and active operations started throughout the mine.

**IDAHO MINE DEVELOPMENT CO.**

**Officers:** R. N. Bell, Pres., 314 Boise City Nat. Bank Bldg., Boise. **Property:** 19 patented claims held under lease and bond; Bay Horse dist.; Clayton. **Development:** Approximately 4 miles of underground workings giving a total depth on vein of about 900 ft. **Plant:** 50-ton gas driven concentrator at mine, one 100 and one 50-ton smelter stack with complete equipment; buildings, hydroelectric light plant, etc., at Clayton. **Ore:** Lead-silver. **Men employed:** Average, 12. **Remarks:** The property operated by this company is known as the old Red Bird Group located on Squaw Creek near Clayton for which the smelter was built a number of years ago. The company built the concentrator in 1920 and has been producing continuously during the year, although badly handicapped by not having a mill of larger capacity. However, arrangements have been completed for the enlargement of the mill, and when these plans are carried out the company will be in position to exceed greatly its 1921 production.

**IDAHO PLACER MINES ASSOCIATION**

**Officers:** J. J. Hohmann, Pres., Stanley. **Property:** 5 unpatented placer claims. **Development:** 7-mile ditch operating three No. 1 giants. **Remarks:** Idle.

**IVANHOE MINING CO.**

**Officers:** F. G. Drum, Pres., 485 California St., San Francisco, Calif.; Earl J. Michael, Stat. Agent, Challis. **Remarks:** An inactive company owning 34 patented claims in Blaine and Custer Counties.

**LOON CREEK HYDRAULIC PLACER MINING CO., LTD.**

**Officers:** J. Frank Judge, Pres., 301 S. Main St., Salt Lake City, Utah; John P. Boyle, Mgr., Stanley. **Property:** 5 unpatented placer claims, 500 acres; Loon Creek, Bonanza. **Remarks:** Assessment work only.

**LOST HORSE MINING CO.**

**Officers:** John Ostrom, Pres., May; Milton A. Brown, Sec., Challis. **Property:** 5 unpatented claims, Yankee Fork dist.; Custer. **Remarks:** Assessment work only.

**LUCKY STRIKE MINING CO. NO. 1**

**Officers:** Henry Jones, Pres.; A. F. Craven, Sec., both of Hollister. **Property:** 5 patented claims; Stanley Basin dist.; Stanley. **Development:** Approximately 600 ft. of underground workings. **Plant:** 5-stamp mill including concentration tables. **Remarks:** Idle.

**MACKAY MINING & DEVELOPMENT CO.**

**Officers:** J. H. Maddock, Pres., Idaho Falls; Lars W. Johnson, Mgr., Downey. **Property:** 11 unpatented claims; Alder Creek dist.; Mackay. **Development:** 260 ft. drift, 65 ft. raise. **Remarks:** Assessment work only.

**MOUNT SULLIVAN MINING CO.**

**Officers:** John J. Hull, Pres.-Mgr., Pocatello. **Property:** Bond and lease on four claims; Alder Creek dist.; Mackay. **Development:** One 650 ft. tunnel, one 50 ft. tunnel. **Ore:** Lead-silver, **Men employed:** Average, 2 .

**ORELAND MINING CO.**

**Officers:** T. A. Sweet, Pres.; J. H. Riddle, Sec., 918 Kearns Bldg., Salt Lake City, Utah. **Property:** 10 claims, some of which are held under lease and bond; Big Lost River; Mackay. **Remarks:** Idle.

**PHEMSPACE MINES CO.**

**Officers:** E. M. Wagner, Pres.; P. A. Wagner, Sec.-Treas., both of Rochelle, Ill. **Property:** 14 unpatented claims; Little Casino Creek; Stanley. **Remarks:** Idle.

**RAMSHORN MINES CO.**

**Officers:** O. J. Salisbury, Pres.; C. B. Felt, Sec., 321 Felt Bldg., Salt Lake City, Utah; G. A. Joslin, Mgr., Bay Horse. **Property:** 10 lode and 3 mill-sites, all patented, approximately 160 acres; Bay Horse dist.; Bay Horse. **Development:** Approximately 12 miles of underground workings; electrically driven compressor, aerial tramway, and complete mine equipment; 50-ton flotation mill; electric power plant. **Ore:** Silver-copper, lead. **Men employed:** Average, 60. **Remarks:** This is one of the largest producers of high grade silver ore in the state.

**SALMON RIVER MINING CO.**

**Officers:** John T. Beasley, Pres.; William K. Hamilton, Sec., both of Terre Haute, Ind. **Property:** 12 unpatented claims, 189 acres; Bay Horse dist.; Bay Horse. **Remarks:** Idle.

**SAWTOOTH DREDGING CO.**

**Officers:** H. U. Davis, Pres.; H. C. Willis, Mgr., both of Twin Falls. **Property:** 10 unpatented placer claims, approximately 1200 acres; Stanley Basin; Stanley. **Plant:** Partly completed steam driven dredge, 100 ft. hull, 36 ft. beam. **Remarks:** Idle.

**SEAFOAM GOLD MINING CO.**

**Officers:** J. W. Skelton, Pres., Box 1058, Twin Falls. **Property:** 16 unpatented claims; Seafoam dist.; Stanley. **Remarks:** Idle.

**SHEEP MOUNTAIN MINING CO., LTD.**

**Officers:** Frank B. Wilcox, Pres.-Mgr. **Property:** 1 unpatented claim; Sheep Mountain dist.; Custer. **Remarks:** Assessment work only.

**STANLEY MINES CORPORATION**

**Officers:** Ernest H. Browne, Sec.-Treas., 915 Union Bank Bldg., Pittsburgh. **Property:** 3 patented, 9 unpatented claims; Stanley Basin; Stanley. **Plant:** 20-stamp mill in bad repair. **Remarks:** Idle.

**SUNBEAM HOLDING CO.**

**Officers:** G. A. von Brecht, Pres., 14th and Wazee Sts., Denver, Colo. **Property:** 6 patented, 10 unpatented lode claims; 1 unpatented placer claim. **Plant:** Large hydroelectric power plant on Salmon River at mouth of Yankee Fork. **Remarks:** Idle.

## UNITED METALS &amp; POWER CORPORATION OF IDAHO

**Officers:** J. C. Hungerman, Pres., Pittsburgh, Pa.; William P. Fowler, Sec.-Treas., Hailey. **Property:** 13 unpatented claims; 8 lode and 5 placer claims; Seafoam dist.; Stanley. **Development:** Approximately 400 ft. of underground workings. **Plant:** 15-ton water driven arrastre. **Ore:** Arsenical iron sulphide carrying some gold and silver. **Men employed:** Average, 10.

## WHITE KNOB MINING CO.

**Officers:** D. D. Muir, Jr., Pres.-Mgr., 911 Newhouse Bldg., Salt Lake City, Utah. **Property:** 3 patented claims; Alder Creek dist.; Mackay. **Development:** 5000 ft. of underground workings, adit and shaft. **Plant:** Gas driven hoist. **Ore:** Lead-silver. **Men employed:** Average, 7.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Basin Creek Placer	Stanley Basin	W. K. Lynch	Stanley
Bellevue	Bay Horse	A. D. Sargent	Challis
Birdie Group	Seafoam	P. H. Rasche	Stanley
Black Daisy	Alder Creek	Geo. R. Morgan	Mackay
Blossom Placer	Yankee Fork	Peter Burch	Bonanza
Blue Jay	Alder Creek	A. W. Canady	Mackay
Bruno Mng. & Mlg. Co.	Bay Horse	P. L. Hughes, pres.	43 Exchange Place, New York City
Bull Dog	Seafoam	Charles Crane	29 SW Temple St., Salt Lake City, Utah
Buckskin		H. P. Hunter	Mackay
Carbonata	Alder Creek	Wm. Stevenson Est.	Mackay
Cash Box	Loon Creek	Geo. Bowden	Bonanza
Cave	Bay Horse	Chris Peterson	Bay Horse
Chas. Dickens	Yankee Fork	Chase Clark	Mackay
Compass	Bay Horse	D. Gekeler	Clayton
Copper Basin	Alder Creek	F. A. Stacy	Mackay
Copperopolis	Alder Creek	H. P. Hunter	Mackay
Democrat et al.	Bay Horse	Mrs. Lee Watson	Challis
Dewey	East Fork	Andrew Nielson	Obsidian
Dougherty	Bay Horse	E. A. Dougherty	Challis
Dryden	Bay Horse	E. D. Williams	Challis
Elkhorn Group	Seafoam	Joseph Singer	Boise
Enterprise	Yankee Fork	I. U. Hager	Mackay
Forest Rose	Bay Horse	Pietro Pedrini	Challis
Good Friend et al.	Bay Horse	John Ernst	Clayton
Greenhorn et al.	Seafoam	Charles H. Smith	Stanley
Hohmann Placer	Stanley Basin	John Hohmann	Stanley
Home Stake et al.	Bay Horse	James Beattie	Challis
International	Alder Creek	Thomas T. Donahue	Mackay
Joe's Gulch Placer	Stanley Basin	W. W. Smith	Stanley
Josephus Lake	Seafoam	E. H. Hasbrouck	224 E. Idaho St., Boise
Katherine	Bay Horse	C. A. Torrey	Clayton
Kelly Gulch Placer	Stanley Basin	Henry Sturkey	Stanley
Keystone	Bay Horse	Wilson & Fox	Challis
Kingfisher et al.	Yankee Fork	Frank G. Fisher	Obsidian
Little Johnny	Alder Creek	F. A. Stacey	Mackay
Livingston Group	Bay Horse	A. S. Livingston	351 Broadway, Denver, Colo.
Lost Eagle	Loon Creek	Carl Malm	Challis
Lost Packer	Loon Creek	Henry Welsh	724 E. 2d St., Salt Lake City, Utah



NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Lucky Boy	Yankee Fork	W. S. McCornick	Salt Lake City, Utah
Mountain Girl	Stanley Basin	J. W. Thompson	Stanley
Mt Sullivan No. 1	Alder Creek	G. W. Stewart	Mackay
Robinson Bar Dredge	Yankee Fork	Hoalt & Linquist	Clayton
Rob Roy	Bay Horse	Caesar Maraffio	Clayton
Rough Creek	Yankee Fork	J. W. Friend	Clayton
Singer Group	Sheep Mountain	W. H. Brose	Boise
South Butte	Bay Horse	C. H. Tracht	Clayton
Sunrise et al.	Loon Creek	J. H. Metcalf	Clayton
Tonopah	Robinson Bar	O. C. Beebe	Idaho Falls
Tracy et al.	Seafoam	A. R. Smith	Challis
Turtle	Bay Horse	N. S. Churchill	Mackay
Waxahachia	Alder Creek	S. W. Anderson	Mackay
Whynot	Yankee Fork	John and Amos Franklin	Clayton

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## ELMORE COUNTY

Elmore is destined to become one of the most important counties in the State through its agricultural and diversified mineral resources. The various minerals are gold (placer and lode), silver, copper, lead, zinc, molybdenum, and diatomaceous earth. Gold is the principal metal in the placer deposits of the Snake and Boise Rivers and in the quartz veins of the Pine, Rocky Bar and Atlanta districts. As gold mining has been practically dormant, this county had a very poor production during 1921. All of the placer mines were idle, and but few of the lode mines were engaged in development work. However, the dredge being built by the South Park Dredging Company, the opening up of two of Atlanta's old producers, the operations at the Franklin mine, and the activities anticipated at Rocky Bar all offer great encouragement for the future.

It seems to be an assured fact that the power line constructed by the South Park Dredging Company from Mountain Home to Featherville will be extended to Rocky Bar and Atlanta during 1922. If this materializes, a revival approaching the old boom days is anticipated; since it will mean the reopening of two of Idaho's famous gold producing camps, which have been dormant for many years because of lack of power.

Many opportunities in gold mining are to be found in other sections of the county. These, in connection with the other metals that are attracting attention, particularly diatomaceous earth, indicate a bright future for Elmore county.

### ALLIANCE MINES CO.

**Officers:** Frank E. Johnesse, Pres.-Mgr., Boise. **Property:** 7 unpatented claims; Volcano dist.; Hill City. **Remarks:** Idle.

### BLACKSTONE MINING CO., LTD.

**Officers:** James H. Hawley, Pres., Boise. **Property:** 5 patented claims, 96 acres; Volcano dist.; Hill City. **Remarks:** Under lease to Frank E. Clark, Fairfield.

### ELK CREEK PLACERS CO.

**Officers:** William D. Ebbert, Pres.-Mgr.; Rocky Bar. **Property:** 18 unclaims; Bear Creek dist.; Rocky Bar. **Men employed:** Average, 3.

**ELMORE COPPER CO.**

**Officers:** W. O. Reuss, Pres., Mountain Home. **Property:** 25 unpatented claims; Cat Creek Basin; Mountain Home. **Development:** Approximately 2700 ft. of underground workings, including 175 ft. shaft. **Plant:** Gas driven hoist and compressor, complete mining equipment, sawmill and complete camp. **Ore:** Copper. **Men employed:** Average, 15.

**FIVE BARS MINING CO. LTD.**

**Officers:** E. D. Watters, Adm., 607 Hayes St., Boise. **Property:** 4 unpatented placer claims, approximately 600 acres, on Middle Fork Boise River, about 18 miles below Atlanta. **Remarks:** Idle.

**GOLD MINES CO.**

**Officers:** J. W. Higgins, Pres., 401 Chamber of Commerce Bldg., Spokane, Wash. **Property:** 2 patented claims, 40 acres, Bear Creek dist.; Rocky Bar. **Development:** Approximately 3000 ft. of underground workings. **Remarks:** Idle.

**IDAHO FRANKLIN GOLD MINES.**

**Officers:** J. W. Higgins, Sec.-Treas., Chamber of Commerce Bldg., Spokane, Wash.; John J. Stanford, Mgr., Pine. **Property:** 2 patented claims held under lease and bond; Pine Grove dist.; Pine. **Plant:** 50-ton amalgamation and cyanide mill directly connected with water power. **Men employed:** Average, 3. **Remarks:** This company has taken a bond and lease on the old Franklin mine and has been actively engaged throughout the year in cleaning out the old working preparatory to starting an active development campaign.

**MARSH CREEK MINING CO.**

**Officers:** Roy Bogard, Pres.-Mgr., Featherville. **Property:** 7 unpatented claims held under lease and bond; Bear Creek dist., Featherville.

**METALS & GENERAL DEVELOPMENT CO.**

**Officers:** Frank E. Johnesse, Pres., Boise. **Property:** 5 unpatented claims; Volcano dist.; Hill City. **Remarks:** Idle.

**MINERVA MINING & MILLING CO., LTD.**

**Officers:** Henry A. Jones, Sec., 521 Bakewell Bldg., Pittsburgh, Pa.; Frank May, Atlanta. **Property:** 7 patented, 2 unpatented claims; Middle Boise dist.; Atlanta. **Plant:** Complete mining equipment; 20-stamp mill, including concentration. **Men employed:** One watchman.

**OLD SPANISH TOWN MINES CO.**

**Officers:** William D. Ebbert, Pres.-Mgr.; Rocky Bar. **Property:** 15 unpatented claims; Bear Creek dist.; Rocky Bar. **Plant:** Gas driven compressor and 5-stamp mill. **Ore:** Gold. **Men employed:** Average, 3. **Remarks:** This company has been engaged throughout the year in developing its ground.

**OVERLOOK CONSOLIDATED MINING CO.**

**Officers:** J. N. McCaw, Pres.; T. S. Steele, Sec.-Treas., both of 318 Drumheller Bldg., Walla Walla, Wash. **Property:** 15 unpatented claims; Black Warrior dist.; Atlanta. **Men employed:** One watchman. **Remarks:** Assessment work only.

**OVERLOOK CONSOLIDATED MINING & MILLING CO.**

**Officers:** J. F. Retigan, Mgr., Brand's Hotel, Boise. **Property:** Lease and bond on property of Overlook Consolidated Mining Co., q. v. **Remarks:** This company completed negotiations for the property during the closing months of the year. Winter supplies were put in and about 10 men employed. Active development work is in progress and metallurgical tests are being made on the ore. The company is well financed, and indications point to the successful reopening of an old producer.

**SOUTH PARK DREDGING CO.**

**Officers:** A. E. Boynton, The Insurance Exchange, San Francisco, Calif.; W. P. Hammon, Mgr., Featherville. **Property:** 3½ miles of placer ground; 2½ miles on Feather River and 1 mile on South Fork of Boise River; Featherville. **Remarks:** This company is building a Yuba dredge of the close connected bucket line type with a capacity of over 2,000,000 cu. yds. per annum. The company is also building a 45-mile electric transmission line from Featherville to Mountain Home, where it will connect with the Idaho Power Company's system. This is one of the few large installations started during the year. It is requiring a large outlay of money, and it is expected that the dredge and power line will be completed and ready for operations in May, 1922. This is a large operation, and it will be a big addition to Idaho's gold producing companies.

**TAHOMA GOLD MINES CO.**

**Officers:** Robert L. Owen, Pres., Senate Office Bldg., Washington, D. C.; James H. Hawley, Stat. Agent, Boise. **Property:** 3 patented, 1 unpatented claim; Middle Boise dist.; Atlanta. **Remarks:** Idle.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Baltimore et al.	Middle Boise	Robert B. Browne	Atlanta
Big Lode	Middle Boise	Frank T. Wyman, Agt.	Boise
Bowerman	Volcano	M. R. Wood	606 Marion St. Seattle, Wash.
Boise Rochester	Middle Boise	H. B. McGown	Atlanta
Buckhorn	Twin Springs	J. N. Neimier	Twin Springs
Eureka	Twin Springs	W. L. West	Twin Springs
Forest King et al.	Bear Creek	Elizabeth Tregonning	Box 893, Boise
General Pettit	Middle Boise	H. B. McGown	Atlanta
Gold Boy	Neal	C. H. Roberts	Boise
Idaho Bonanza	Middle Boise	L. N. Franke	Atlanta
Jingo & Hornet	Pine Grove	Mrs. J. M. Cowen	Mountain Home
Last Chance	Twin Springs	Cyrus H. Pickens	Twin Springs
Lenen Con.	Bear Creek	A. H. Johnson	Rocky Bar
Lucky Boy	Twin Springs	John Pfasser	Barber
Magnolia	Black Warrior	George May	Goldburg
Middle Boise et al.	Black Warrior	Max Mayfield	Boise
Midnight Placer	Snake River	H. S. Olson	Glenns Ferry
Minnehaha Placer	Bear Creek	Frank Galbraith	Rocky Bar
Monarch	Middle Boise	Dan Kirby	913 Hays St., Boise
Mountain View	Pine Grove	Fred Skelton	Pine
North Fork	Twin Springs	Frank Struckman	Barber
Northwestern	Bear Creek	H. E. Albins	Rocky Bar
Old Oliver Diggings	Middle Boise	A. S. Longwill	Atlanta
Ophir	Bear Creek	Elmer C. Towne	Rocky Bar
Oregonian Group	Bear Creek	L. C. Stimpson	Mountain Home
Overland et al.	Bear Creek	J. H. Howard	Pine
Red Warrior	Bear Creek	Frank Pon	Rocky Bar
Sunrise	Twin Springs	John Vaughn	Twin Springs
Vibrator Group	Bear Creek	Elmer C. Towne	Rocky Bar
Vishnu et al.	Bear Creek	N. D. McLeod	Rocky Bar
Willow Creek	Bear Creek	Charles V. Price	Pine
Wonder	Pine Grove	Lou Roberts	Pine
	Pine Grove	Mrs. Jennie Potter	Pine

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FREMONT COUNTY

The mineral possibilities of Fremont County are confined to her undeveloped and unprospected coal, phosphate rock, magnesite and asbestos deposits.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Brown & Sons Yellowbird M. & D. Co.	Unorganized	F. J. Brown	Lamont
Saddle	Unorganized	John Patiligick	Small
Thimbleberry Co.	Mng. Unorganized	Thimbleberry Mng. Co.	Lake

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## GEM COUNTY

The Pearl district, once a famous gold producing camp, is located in Gem County. This district and a few undeveloped sections where a small amount of prospecting has been done constitute the mineral districts of this essentially agricultural county.

The principal minerals are gold, silver, lead, zinc and copper, all of which are found in the West View (Pearl) district. The gold occurs in two distinct types of veins, one a free milling quartz, the other a complex sulphide of lead-zinc-iron. The second type predominates and has not been mined as transportation and metallurgical methods prevented profitable extraction when the district was active. Now that the railroad is within easy reach of the district, and the ore is amenable to modern metallurgical practice, these deposits are attracting attention.

Two old producers will probably be reopened; the Granite State Consolidated Mining Company expects to resume operations and construct a mill during 1922; and a number of new companies are being organized to operate in this district; so considerable activity is anticipated.

### COOPERATIVE DEVELOPMENT CO.

**Officers:** John Burrell, Pres., Caldwell. **Property:** Lease on 640 acres patented farm land. **Remarks:** Company was organized to prospect an 18-inch bed of coal. A 70 ft. shaft was sunk on the property, but, as the fuel value of the coal was such that it was not of commercial quality, operations were abandoned; but the company is holding its organization intact.

### FELIX MINING CO.

**Officers:** T. J. Jones, Pres., Boise. **Property:** 5 patented claims, 81 acres; West View dist.; Pearl. **Development:** 300 ft. shaft, 1000 ft. of drifts. **Plant:** 25-horsepower gasoline hoist. **Remarks:** Idle.

### GRANITE STATE CONSOLIDATED MINES CO.

**Officers:** W. C. Ware, Pres., Hamilton, Mass.; C. C. Stinson, Mgr., Pearl. **Property:** 20 patented, 19 unpatented claims, approximately 650 acres. **Development:** Approximately 10,000 ft. of underground workings, including a 2400 ft. main working adit. **Plant:** Complete mining equipment. **Ore:** Gold-silver. **Remarks:** Conditions affecting gold mining during the war compelled suspension of operations. Sufficient tonnage has been blocked out to justify the erection of a reduction plant, which the company contemplates building during 1922.

### HECLA CHECKMATE MINING & MILLING CO., LTD.

**Officers:** E. K. Hayes, Mgr., Emmett. **Property:** 2 patented claims, West View dist.; Pearl. **Remarks:** Idle.

### IDAHO MINING & PROMOTING CO., LTD.

**Officers:** Lot L. Feltham, Pres., Mgr., Weiser. **Property:** 2 patented, 1 unpatented claim; West View dist.; Pearl. **Remarks:** Idle.

### IDAHO OIL & GAS CO.

(See Payette County)

### J I C MINING CO., LTD.

**Officers:** J. C. Johnson, Pres., 1220 N. 11th St., Boise. **Property:** 2 patented claims, 21 acres; West View dist.; Pearl. **Development:** 200 ft. shaft. **Remarks:** Idle.

**JOHNSON GOLD MINING CO., LTD.**

**Officers:** J. C. Johnson, Pres., 1220 N. 11th St., Boise. **Property:** 1 patented claim; West View dist.; Pearl. **Development:** 115 ft. shaft. **Remarks:** Idle.

**LITTLE PITTSBURGH GOLD MINING CO., LTD.**

**Officers:** H. J. Roan, Pres., Boise. **Remarks:** Idle.

**OLD LIBERTY MINING CO.**

**Officers:** E. Sweet, Pres., Boise. **Property:** 4 patented claims; Squaw Creek dist.; 5 miles north of Sweet; Sweet. **Remarks:** Operated under bond and lease by J. F. Austin of Tacoma, Washington.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Apache	West View	Jas. H. Hawley	Boise
Burton Bell	West View	John Ackley	Boise
Double Eagle Group	West View	Mrs. C. N. Boone	Box 1177, Boise
Hughes Creek Placer	West View	F. W. Hunt	Emmett
I X L	West View	H. W. Dorman	Caldwell
Liberty	West View	I. W. Anderson	Sweet
Lincoln	West View	J. H. Richards	Boise
Mint	West View	J. E. Macauley	Pearl
Nellie Bloom Mng. Co.	West View	M. E. Hopkins	Horseshoe Bend
North Basque	West View	J. C. Dunbar	Pearl
Red Cloud	West View	Henry Buell	Horseshoe Bend
Snyder Placer	West View	George F. Church	Emmett
Virginia Mines	West View	G. L. Loope	Seattle, Wash.

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Geology and water resources of the Snake River Plains of Idaho, by I. C. Russell, U. S. Geol. Survey Bull. 199, 1902.

Description of the Nampa quadrangle, by Waldemar Lindgren and N. F. Drake, U. S. Geol. Survey Geol. Atlas, Folio No. 45, 1904.

## GOODING COUNTY

Gold found in the Snake River placer deposits is the only mineral resource of Gooding County. The small amount produced during 1921 will be exceeded in the future as considerable activity is anticipated.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Big Body Placer	Snake River	John Criswell	Clear Lake
Black Butte Placer	Snake River	A. S. Madalena	Clear Lake
Boulder Hill Placer	Snake River	Charles N. Ingersoll	Bliss
Brown Placer	Snake River	C. E. Jenkins	Hagerman

## IDAHO COUNTY

Idaho County, the largest county in the State, is bounded on the west by the State of Oregon; on the north by Nez Perce, Lewis and Clearwater Counties; on the east by the State of Montana; and on the south by Lemhi, Valley and Adams Counties. In 1921 the chief industry was agriculture, but for a long number of years gold mining, both placer and lode, was the principal resource. In addition to gold the other minerals are silver, copper, lead, zinc, antimony, tungsten, and monazite, practically all of which are found in the many mining districts of the county; also, asbestos, coal and marble are present in various localities.

During 1921 gold mining was again becoming profitable, and the considerable increase in prospecting, developing, mill and dredge construction, and the organization of new companies manifested a return of this industry, so the poor production record of 1921 should be greatly increased in the future. The ground has been tested and plans completed for two dredging enterprises; two quartz mills are under construction; a number of old producers, who were idle during 1921, contemplate an early resumption; and the increase in production that is possible from some of the operating companies all give a brighter outlook.

Practically all of the copper, lead and zinc mines were idle throughout 1921, but a little development and prospecting was done; however, with conditions approaching normal these resources will soon return to their previous position.

One company was actively engaged in prospecting for coal, and the principal producing asbestos mine was reorganized and started production during the closing months of 1921. These developments, in connection with the opportunities that tungsten, antimony and monazite offer, will add materially to the county's future in mineral production.

There are many properties worthy of development, which will give a handsome return on the money invested, and opportunities without number for the prospectors are to be found in this county.

### ALTA-IDAHO GOLD & COPPER MINING CO.

**Officers:** M. C. Hetler, Pres., Bearwick, Pa.; George M. Snyder, Vice Pres.-Mgr., Pardee. **Property:** 11 unpatented claims; Lolo dist.; Pardee. **Development:** 400 ft. tunnel. **Remarks:** Assessment work only.



**BIG BALDY MINING & MILLING CO.**

**Officers:** Joseph Pelikan, Pres., Spokane, Wash. **Property:** 6 unpatented claims; Robins dist., Jumbo. **Remarks:** Assessment work only.

**BIG THREE GOLD MINING CO.**

**Officers:** James B. Irvin, Pres., Grangeville; A. H. Baldwin, Sec., Spokane, Wash. **Property:** 5 unpatented claims; Florence dist.; Grangeville. **Development:** One 600 ft. and one 50 ft. tunnel. **Men employed:** Average, 2.

**BLACKTAIL MINING CO.**

**Officers:** R. E. Wakeley, Pres., 541 Sylvan Ave., Hillyard, Wash. **Property:** 10 unpatented claims; Middle Fork dist. **Development:** One 325 ft. and one 60 ft. tunnel. **Remarks:** Assessment work only.

**BLUE JACKET MINING COMPANY OF DELAWARE.**

**Officers:** Francis T. Homer, Pres., 40 Wall St., New York; Frank E. Johnesse, Local Mgr. and Stat. Agent, Boise. **Property:** 7 patented claims; Crooks Corral dist.; Lucile. **Remarks:** Idle.

**COMMODORE GOLD MINING CO.**

**Officers:** William C. McNutt, Pres., Lewiston. **Property:** 14 unpatented claims; Orogrande dist.; Elk City.

**CROOKS CORRAL MINES LTD.**

**Officers:** Frank McGrane, Pres., Grangeville. **Property:** 8 patented claims; Crooks Corral dist.; Riggins. **Remarks:** Idle.

**ECHO MINING & DEVELOPMENT CO.**

**Officers:** Edward A. Pederson, 221½ N. Stevens St., Spokane, Wash.; W. H. Purcell, Mgr., Riggins. **Property:** 11 unpatented claims; Rapid River dist.; Pollock. **Men employed:** Average, 1.

**EQUATOR GOLD MINING & MILLING CO.**

**Officers:** C. E. Sample, Pres., Cusick, Wash. **Property:** 9 unpatented claims; Ten Mile; Orogrande dist.; Golden.

**GAIETY MOUNTAIN GOLD MINES CO.**

**Officers:** D. L. Rhodes, Pres., Nampa. **Property:** 38 unpatented claims; Warren dist., Warren. **Remarks:** Crusher, Lane mill and gas engine are on the ground, and company plans installation early in the spring.

**GOLDEN GATE PLACER MINES.**

**Officers:** C. E. Penland, Pres., 117 W. Alta St., Pendleton, Ore. **Property:** 7 unpatented placer claims; Florence dist., Grangeville. **Plant:** Sawmill, stationary engine hoist, shop, hydraulic pipe. **Remarks:** Idle.

**GOLD ZONE MINING & MILLING CO., LTD.**

**Officers:** W. W. Brown, Pres., Grangeville; Frank Vandeventer, Sec.-Treas., Grangeville. **Property:** 9 unpatented claims; Elk City dist.; Elk City. **Development:** Approximately 500 ft. underground workings. **Men employed:** Average, 3.

**GOODENOUGH UNITED MINING & MILLING CO., LTD.**

**Officers:** L. I. Purcell, Pres., Weiser. **Property:** 10 patented claims; Marshall Lake dist.; Burgdorf. **Remarks:** Idle.

**HOLTE MINING CO.**

**Officers:** Lief T. Holte, Pres., Burgdorf; J. B. Gowen, Sec., Caldwell. **Property:** 10 unpatented claims; Marshall Lake dist.; Burgdorf. **Development:** Approximately 3000 ft. of underground workings. **Plant:** Steam driven compressor, machine shop, and complete mining equipment; sawmill, assay office and a complete camp; 50-ton steam driven Lane Chilean mill; complete cyanide plant. **Ore:** Gold. **Men employed:** One watchman. **Remarks:** This property has a record for a large production, which was suspended on account of water, and the company has not been able to finance it sufficiently to drive the lower tunnel, which will give considerable additional depth on the vein and eliminate hoisting and pumping.

**HOME MINING & MILLING CO., LTD.**

**Officers:** William Shaw, Sec., 515 Empire Bldg, Boise. **Property:** 3 unpatented claims; Warren dist.; Warren. **Remarks:** In litigation. Assessment work only.

**HOMESTAKE GOLD MINING CO.**

**Officers:** W. E. Condit, Pres., Nighthawk, Wash.; A. W. Boyd, Mgr., Elk City. **Property:** 32 unpatented claims; Orogrande dist.; Elk City. **Development:** Approximately 4500 ft. of underground workings. **Plant:** 10-stamp mill with concentrator. **Ore:** Gold. **Men employed:** Average, 6.

**IDAHO BUSTER MINING CO., LTD., THE**

**Officers:** F. W. Bradley, Pres., 1022 Crocker Bldg., San Francisco, Calif.; B. B. Scott, Stat. Agent, Elk City. **Property:** 7 patented, 4 unpatented claims; Elk City dist., Elk City. **Remarks:** Assessment work only.

**INTERNATIONAL GOLD MINING & MILLING CO.**

**Officers:** A. Johnson, Sec., Spokane, Wash. **Property:** 2 patented claims; Orogrande dist.; Elk City. **Remarks:** Idle.

**JUMBO MINING & MILLING CO., LTD.**

**Officers:** J. C. Jensen, Pres.-Mgr., Lewiston. **Property:** 5 patented claims; Robins dist.; Golden. **Remarks:** Idle.

**KILBORN MINING CO.**

**Officers:** Ira Kilborn, Pres., Midvale; G. Elton Lewis, Sec.-Treas., Midvale. **Property:** 9 unpatented placer claims; Warren dist.; Warren. **Men employed:** Average, 4.

**LAWYERS CANON COAL MINING CO.**

**Officers:** C. J. Matthews, Pres.-Mgr., Green Creek. **Property:** Mining rights to patented land near Green Creek. **Mineral sought:** Coal.

**MCKINLEY GOLD MINING CO., LTD.**

**Officers:** P. P. Weber, Pres., Kellogg; P. H. Polson, Sec., Kellogg. **Property:** 4 patented, 2 unpatented claims; Simpson dist.; Lucile. **Development:** Approximately 1100 ft. of underground workings. **Remarks:** Assessment work only.

**MOUNT MARSHALL MINES, LTD.**

**Officers:** George A. Wales, Pres., Burgdorf; F. C. Schaper, Sec., Ft. Madison, Iowa. **Property:** 14 unpatented claims; Marshall Lake dist.; Burgdorf. **Development:** Approximately 3000 ft. of underground workings. **Plant:** 6 stamp Merrills mill including concentrator. **Men employed:** One watchman.

**NEW YORK MINING CO.**

**Officers:** Wm. Huntley, Pres., Spokane, Wash. **Property:** Ten Mile; Orogrande dist., Newsome.

**OROGRANDE GOLD MINING CO.**

**Officers:** J. N. Pickrell, Pres., Colfax, Wash. **Property:** 6 patented, 26 unpatented quartz claims and 320 acres of placer claims; Orogrande dist.; Orogrande. **Development:** Approximately 6000 ft. of tunnels and cross cuts and 4000 ft. of open cuts. **Plant:** Stamp mill with partly completed 500-ton cyanide plant. **Remarks:** Idle.

**PITTSBURGH & IDAHO MINING & MILLING CO., LTD.**

**Officers:** Daniel Laverty, Mgr., Pardee. **Property:** 19 unpatented claims, Lolo dist.; Pardee. **Remarks:** Assessment work only.

**PUEBLO MINING CO.**

**Officers:** C. T. McCoy, Pres., 711 Colorado Bldg., Washington, D. C. **Property:** No real estate; Big Creek dist.; Warren. **Plant:** 5-stamp mill.

**RAPID RIVER MINING & MILLING CO., LTD.**

**Officers:** H. J. Herman, Pres.; G. E. Taber, Sec., both of Genesee. **Property:** 5 unpatented claims; Rapid River dist.; Pollock. **Remarks:** Assessment work only.

**REVENUE MINING & MILLING CO.**

**Officers:** Dr. Walter Guthridge, Sec., Spokane, Wash. **Property:** 8 patented claims, 147 acres; Elk City dist.; Elk City. **Remarks:** Idle.

**RICE MINING & MILLING CO.**

**Officers:** F. S. Rice, Pres., 302 Main St., Lewiston. **Property:** 7 unpatented claims; Orogrande dist.; Columbia Hill; Orogrande. **Development:** Approximately 1500 ft. of drifts and crosscuts and 200 ft. shaft. **Remarks:** Assessment work only.

**SEATTLE-IDAHO MINES CO.**

**Officers:** T. E. Steines, Pres.; R. W. Hutchinson, Sec., both of Seattle, Wash. **Property:** 12 unpatented claims held under lease and bond; Orogrande dist.; Golden. **Remarks:** Idle.

**SOUTH FORK MINING & MILLING CO.**

**Officers:** Wm. H. Stowel, Pres. and Mgr., Spokane, Wash.; J. W. Higgins, Sec.-Treas., 401 Chamber of Commerce Bldg., Spokane, Wash. **Property:** 12 unpatented claims; Orogrande dist.; Ten Mile; Elk City. **Plant:** 5-stamp mill, steam and water driven. **Remarks:** Small amount of development work done under contract.

**SUPERIOR DREDGING CO.**

**Officers:** A. W. Stowe, Sec., 408 Continental Bank Bldg., Salt Lake City. **Property:** Option to purchase 10 unpatented placer claims, Gold Nugget Group; Marshall Lake dist.; Burgdorf. **Men employed:** Average, 2.

**SWASTIKA MINES CORPORATION.**

**Officers:** A. H. McKnight, Pres.-Mgr., Dixie. **Property:** 8 unpatented claims; Dixie dist.; Dixie. **Development:** 1000 ft. of tunnels. **Men employed:** Average, 2.

**SYLVANITE GOLD COPPER CO.**

**Officers:** Wesley L. Wakeley, Pres.-Mgr., Harpster. **Property:** 3 unpatented claims, 2 unpatented claims held under option. **Development:** 550 ft. tunnel. **Plant:** Gas driven compressor. **Men employed:** Average, 2.

**TRI-METALLIC MINING CO., LTD.**

**Officers:** Harry F. Bethmann, Pres., Pardee. **Property:** 7 unpatented claims. **Development:** 1000 ft. of drifts. **Plant:** Gas driven compressor. **Men employed:** Average, 2.

**UNION COPPER MINING & SMELTING CO.**

**Officers:** F. S. Rice, Pres., Lewiston.

**UNITY GOLD MINES CO.**

**Officers:** James H. Hawley, Pres., Boise; Jay A. Czizek, managing director, Warren. **Property:** 8 patented, 3 unpatented claims, Warren dist.; Warren. **Development:** Approximately 6000 ft. of underground workings, 4000 of which constitute the main operating tunnel; storage battery, haulage and complete mine equipment; two hydroelectric power plants, one of which has a directly connected compressor, auxiliary steam plant; 50-ton stamp mill. **Ore:** Gold-silver. **Men employed:** Average, 12. **Remarks:** This company is developing the Little Giant property which in early days was a bonanza producer, and is one of the few companies in the state that has been able to maintain active development.

**UNIVERSAL MINES DEVELOPMENT CO.**

**Officers:** Jay A. Czizek, Mgr., Warren. **Property:** Under option to Unity Gold Mines Co,

**WASHBURN GOLD & COPPER MINING & MILLING CO., LTD.**

**Officers:** P. I. Pierce, Mgr., Kamiah; F. J. McLin, Sec., Paul. **Property:** 6 unpatented claims, 3 miles east of Kamiah. **Remarks:** Idle.

**WAVERLY MINING CO.**

**Officers:** Fred L. Owen, Pres., Lewiston; R. H. Salter, Sec.-Treas., Lewiston. **Property:** 1 patented, 9 unpatented claims; Florence dist.; Grangeville. **Development:** 850 ft. underground workings. **Plant:** Kinkade oscillating rotary mill, 10-ton capacity. **Ore:** Gold-silver. **Men employed:** Average, 3.

**WONDER GOLD MINING CO.**

**Officers:** B. F. Pennington, Pres., Toppenish, Wash.; W. L. Campbell, Sec.-Treas., Grangeville. **Property:** 7 unpatented claims; Ten Mile; Orogrande dist.; Golden. **Development:** Approximately 1700 ft. of tunnels. **Plant:** 10-stamp mill with concentrating unit and equipment for water power plant on the ground, but not erected. **Ore:** Gold-silver. **Remarks:** Company expects to erect a mill and power plant during the coming year.

**WOOD OIL CO.**

**Officers:** F. S. Rice, Sec.-Treas., Lewiston. **Property:** 48 acres, patented land. **Development:** 576 ft. drill hole. **Plant:** Keystone drill rig with equipment for sinking 2000 ft. **Mineral sought:** Oil and gas.

IDAHO COUNTY

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NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Alpine Bar Placer	Orogrande	Oliver Kesling	Newsome
Americanus	Marshall Lake	Ed Luzadder	Burgdorf
Americus	Cottonwood Buttes	J. W. Bartlett	Greencreek
Annie Laurie et al.	Florence	S. A. Defflong	Grangeville
Apex	Florence	Anderson & Seaberg Bros.	Florence
Arles	Warren	Kelley & Patterson	Warren
Black Bear	Cottonwood Buttes	L. J. Anderson	Woodland
Bear Track	Florence	H. K. Moore	Birmingham
Bengal	Elk City	Perry Bros.	Elk City
Bevier Placer	Florence	Wm. D. Bevier	Elk City
Bluebird	Warren	Walter B. Martin	Warren
Blue Ribbon	Elk City	J. E. Brown	Elk City
B & M Mine	Elk City	John Montgomery	Elk City
Bonanza Placer	Elk City	Frederick Gribi	1546 Toberman St. Los Angeles, Calif.
Bonanza Placer	Simpson	Hart & Richardson	1078 Stratton St., Portland, Ore.
Brown Group	Warren	Frank H. Brown	Warren
Buck Diggins Placer	Warren	John Becker	Warren
Buck Meadows Placer	Unorganized	George Davis	Grangeville
Buster et al.	Dixie	Oscar Walter	Warren
Buttercup Group	Florence	Samuel Dunn	Grangeville
Cape Horn	Camp Howard	C. H. Lyons	White Bird
Carson Placer	Warren	Frank Carson	Warren
Center Star	Elk City	Herman Brown	Elk City
Chicago et al.	Elk City	R. Greckwell	Elk City
Cleveland	Elk City	W. Scott	Grangeville
Coeur d'Alene	Orogrande	Peter Proulix	Golden
Cove Placers	Clearwater	M. B. Geary	Grangeville
Crescent Placer	Orogrande	Geo. P. Kelly	Newsome
Crooked River Placer	Elk City	George Brown	Orogrande
Dandy Placer	Simpson	E. W. Butcher	Lucile
Deadwood	Elk City	Chas. Forman	Elk City
Discovery	Maggie Creek	W. E. Smith	Los Angeles, Calif.
Eagle	Warren	Gus Kupper	Warren
Florence	Florence	A. R. Smith	Spokane, Wash.
Fourth of July	Dixie	Thomas Pritchard	Dixie
Franklin	Orogrande	A. S. Johnson	Golden
Free Gold	Dixie	Alex Bills	Dixie
Frisco Mines Co.	Elk City	G. C. Glatz	Elk City
Gem & Midnight	Elk City	Thomas McArthur	Elk City
Gold Dollar	Warren	M. W. Hubbard	New Meadows
Gold Drop	Elk City	Geo. W. Widmeyer	Elk City
Golden Brown	Crooks Corral	Reville Johnson	Lucile
Golden Placer	Orogrande	Edward Timm	Golden
Golden Rule	Maggie Creek	O. W. Montgomery	Kooskia
Golden Rule Placer	Elk City	Charles Tiedeman	Elk City
Golden Rule Placer	Maggie Creek	A. E. Davis	Kooskia
Golden Rule Placer	Warren	F. T. Mathias	414 S. 3rd St., Boise
Golden Scale et al.	Elk City	Wm. C. McNutt	Elk City
Gold King	Orogrande	Geo. Peterson	Newsome
Grangeville	Elk City	Joe Schoner	Elk City
Great Nuggett Placer	Simpson	Hart & Richardson	Lucile
Grey Pallor	Warren	W. T. Copenhaver	Warren
Gumboat Placer	Dixie	R. Burke	Dixie
Hawkeye	Warren	J. T. Murphy	Warren

## MINING INDUSTRY OF IDAHO

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Headlight	Newsome	J. E. Davis	Newsome
Idaho Comstock	Dixie	Chas. E. Shepherd	803 Leary Bldg. Seattle, Wash.
Iola	Orogrande	James H. Colgrave	Orogrande
James Moore	Dixie	James Moore	Dixie
Jim Crow Placer	Simpson	Jacob Cassett	Lucile
Jupiter Group	Marshall Lake	Christ Arnold et al.	Burgdorf
Keystone	Warren	Anthony Mohr	Warren
Kimberly & Jewel	Marshall Lake	D. L. Roy	Burgdorf
Klondyke	Camp Howard	Geo. J. Burgund	Cottonwood
Knott & Delaware	Warren	James Long	Warren
Kramer Placer	Simpson	Marion Kramer	Lucile
Last Chance	Elk City	James P. Larson	Elk City
Last Chance	Florence	John Lamont	Grangeville
Lick Creek Placer	Elk City	Wm. Finley	Elk City
Lime Point	Simpson	Marion Kramer	Lucile
Little Leggat	Orogrande	Simpson & Over- man	Newsome
L. & L.	Dixie	Louis Larson	Dixie
Local Option	Orogrande	Frank McGrane	Grangeville
Lolo	Dixie	Don A. Burpee	Dixie
Lone Pine	Orogrande	D. F. Morrow	Golden
Loper	Marshall Lake	George Loper	Burgdorf
Lot Lake et al.	Florence	Claud Flint	Florence
Lucky Ben	Warren	Jay A. Czizek	Warren
Lucky Strike	Warren	Grindle & Curtis	Warren
Lusitania	Cottonwood Buttes	J. W. Bartlett	Greencreek
Malone Placer	Simpson	John Struck	Cottonwood
Mammoth	Newsome	W. H. Baldwin	Stites
Mascot et al.	Elk City	John Massam	Elk City
Mayflower	Warren	Patterson, Morris & Blake	Warren
Miller Creek Placer	Florence	S. A. Moon	Florence
Mineral Zone et al.	Elk City	G. L. Baskett	Elk City
Minnehaha	Warren	Dr. G. M. Water- house	Weiser
Modoc	Marshall Lake	L. W. Wilcox	Burgdorf
Monadnock	Dixie	George O. Trader	Dixie
Monarch	Simpson	C. H. Prescott	Dixie
Monmouth	Dixie	J. L. Hayes	Dixie
Moose Creek Placer	Newsome	W. H. Giles	Newsome
Mother Lode	Elk City	Geo. Brown	Orogrande
Mount Eureka	Warren	W. G. Cadby	Warren
Newsome Placer	Newsome	James Surrridge	Harpster
Occident	Elk City	J. H. Keenan	Elk City
Ohio Placer	Orogrande	George Overfield	Orogrande
Old Channel Placer	Simpson	Currier Bros.	Riggins
Old Kentuck	Marshall Lake	Peterson & Spencer	Burgdorf
Olivia Gulch	Dixie	Henry S. Hazlitt	Dixie
Orofino & Bell	Orogrande	James Penman	Orogrande
Penn Dixie Gold Mng. Co.	Dixie	S. R. Gayton	Dixie
Pioneer Hill	Elk City	George Brag	Newsome
Pioneer Placers	Orogrande	Ed Timm	Golden
Poorman	Dixie	Oscar Eakin	Dixie
Rainier Group	Warren	Gus Sindt	Warren
Rapid Creek	Warren	Frank Mitchell	Warren
Red Horse Placer	Elk City	Schuyler Simmons	Elk City
Red Warrior	Orogrande	Robert Linn	Elk City
Rescue et al.	Warren	A. R. Cruzan	Boise

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Rigdon Placer	Warren	Geo. G. Rigdon	Meadows
Rocky Butte et al.	Cottonwood Buttes	J. L. Eckert	Cottonwood
Shamrock et al.	Marshall Lake	H. H. Hackett et al.	Burgdorf
Shissler Creek Placer	Warren	H. Cook	Warren
Silver King	Warren	Sebo Myers	Savannah, Ga.
Skylark	Warren	Warren D. Smith	Warren
Smith Placers	Mount Idaho	R. T. Smith	Whitebird
South Fork	Elk City	Martin Heckman	Elk City
Spike Quartz	Elk City	James Hubbs	Elk City
Spring Bar Placer	Simpson	J. A. Carr	Lucile
Star	Florence	W. A. Nicodemus	Spokane, Wash.
Syringa	Maggie Creek	J. M. Wisdom	Culdesac
Syringa	Orogrande	James Montgomery	Orogrande
Thompson Placer	Warren	Ah Sam	Warren
Three Mile Placer	Marshall Lake	Jensen Bros.	Burgdorf
Tippie Placer	Newsome	Geo. R. Curtis	Newsome
Twin Butte	Orogrande	George Peck	Orogrande
Venture	Robins	A. G. Schultz	Jumbo
Walker & Wilcox	Marshall Lake	E. S. Walker	Burgdorf
War Eagle	Robins	Geo. J. Bancroft	Orogrande
Wilson	Newsome	A. E. Carpenter	Newsome
Woodbine	Elk City	Woodbine Gold Mng. Co.	Elk City

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## KOOTENAI COUNTY

The mineral resources of Kootenai County are lead, zinc, silver, copper, gold, clay deposits and gem stones. The North Fork of Coeur d'Alene River district has witnessed considerable activity in the past, but was practically dormant during 1921. This district is the west end of the Coeur d'Alenes. A complete revival is anticipated when zinc mining again becomes profitable. A small amount of prospecting and development work was carried on during 1921. No production was reported.

A number of companies operating in the districts adjacent to Lake Coeur d'Alene maintained active development work. The clay deposits and one gem deposit were being investigated and will probably be in operation early in 1922. So the future outlook appears to be much brighter.

### COEUR D'ALENE CLAY CO., LTD.

**Officers:** Oscar Nelson, Pres.; H. H. Barton, Sec., both of Coeur d'Alene.  
**Property:** 40 acres clay deposit; Coeur d'Alene. **Remarks:** Idle.

### COEUR D'ALENE ROBISH MOUNTAIN MINING CO., LTD.

**Officers:** Martin Robish, Pres.-Mgr., Coeur d'Alene. **Property:** 4 unpatented claims and 505 acres patented land; Wolf Lodge dist.; Coeur d'Alene.  
**Development:** Approximately 600 ft. of underground workings. **Remarks:** Idle.



**CONSTITUTION MINING & MILLING CO.**

**Officers:** George Turner, Pres.; B. H. Kizer, Sec.-Treas., both of Columbia Bldg., Spokane, Wash. **Property:** 11 patented, 2 unpatented claims, 347 acres; Eureka dist.; Masonia. **Development:** 1400 ft. tunnels, 200 ft. shaft with 750 ft. crosscut. **Plant:** Electric hoist, 5-drill compressor, sawmill, and complete mining equipment; 100-ton concentrator including flotation. **Ore:** Zinc, lead, silver. **Remarks:** Idle.

**GREY WOLF MINING CO.**

**Officers:** J. E. Crawford, Pres., Coeur d'Alene; C. C. Croonquist, Sec.-Treas., Coeur d'Alene. **Property:** 6 unpatented claims; Wolf Lodge dist.; Beauty Bay; Coeur d'Alene. **Plant:** Gas driven compressor. **Ore:** Lead-silver. **Men employed:** Average, 2.

**HAMBURG-AMERICAN COPPER MINING & MILLING CO.**

**Officers:** John A. Rock, Sec., Kellogg. **Property:** 7 unpatented claims; unorganized dist.; Lieberg Creek; Coeur d'Alene. **Development:** 1500 ft. of tunnels. **Men employed:** Average, 2.

**HAYDEN LAKE MINING & MILLING CO.**

**Officers:** Fred H. Bradborg, Pres., Rathdrum. **Property:** 3 unpatented claims; unorganized dist.; Hayden Lake; Rathdrum. **Plant:** Gas driven compressor. **Men employed:** Average, 2.

**HOME BUILDER MINING & DEVELOPMENT CO.**

**Officers:** Frank N. Slagle, Pres., Pullman, Wash. **Property:** 6 patented, 33 unpatented claims; Wolf Lodge dist.; Coeur d'Alene. **Development:** 4370 ft. underground workings. **Plant:** Compressor and complete mining equipment. **Men employed:** Average, 4.

**IMPERIAL MINING & MILLING CO.**

**Officers:** S. W. Purdy, Pres., Rockford Bay. **Property:** 6 unpatented claims; Medimont dist.; Rockford Bay. **Development:** Open cuts and 400 ft. tunnel. **Men employed:** Average, 2.

**INTERNATIONAL MINING & METAL CORPORATION.**

**Officers:** C. A. Gray, Sec., 510 Empire State Bldg., Spokane, Wash. **Property:** 7 unpatented claims; unorganized dist.; Hayden Lake; Rathdrum. **Development:** By two tunnels, giving a vertical depth on vein of approximately 100 ft., totalling 500 ft. **Remarks:** Assessment work only.

**KILLSARNEY LAKE MINING CO.**

**Officers:** Clarence M. Truck, Pres., 418 Mutual Life Bldg., Seattle. **Property:** 10 unpatented claims; Medimont dist.; Lane. **Development:** Approximately 600 ft. of tunnel and 100 ft. shaft. **Remarks:** Assessment work only.

**LITTLE NORTH FORK COPPER MINING & MILLING CO., LTD.**

**Officers:** T. R. Mason, Pres., Kellogg. **Property:** 10 unpatented claims on Little North Fork of Coeur d'Alene River; Kingston. **Remarks:** Assessment work only.

**PALISADE MINING & MILLING CO.**

**Officers:** T. W. Schmidt, Pres., Cataldo. **Property:** 16 unpatented claims; Yreka dist.; Cataldo. **Development:** 950 ft. tunnels. **Plant:** Water driven air compressor; electric generator and complete mining equipment. **Ore:** Lead-silver. **Men employed:** Average, 3.

**RED HORSE MINING CO.**

**Officers:** M. W. Frost, Pres., Harrison; A. P. Drissen, Sec.-Treas., Harrison. **Property:** 18 unpatented claims; unorganized dist.; 7 miles north-east of Springston. **Development:** 2200 ft. of underground workings. **Plant:** Gas driven compressor and complete mining equipment. **Ore:** Copper. **Men employed:** Average, 2.

**RIVERSIDE COPPER MINING CO., LTD.**

**Officers:** T. R. Mason, Pres., Kellogg. **Property:** 5 unpatented claims on the Little North Fork of Coeur d'Alene River; Kingston. **Remarks:** Idle.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Lake et al.	Lakefront	George Strobel	Lane
Quebec	Medimont	Archille Fortier	Lane

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**LATAH COUNTY**

Latah County is essentially an agricultural county, whose principal mineral resources are mica, copper, gold, silver, clay, and cobalt, occurring in prominence as named. With the exception of a small amount of prospecting and development work all of the mines were idle during 1921.

The copper mines of the Hoodoo district and the mica mines of the Troy district have a past record of considerable production; but adverse conditions and litigation compelled them to remain closed in 1921. With these factors eliminated and gold mining returning, the outlook for 1922 is more encouraging.

**CASSIDY GOLD MINING & MILLING CO., LTD.**

**Officers:** Nellie J. Stockbridge, Sec.-Treas.; Wallace. **Property:** 1 patented claim; Blackfoot dist.; Potlatch. **Development:** 500 ft. tunnel. **Remarks:** Idle.

**COLLINWOOD MINING CO.**

**Officers:** J. C. Northrop, Mgr., Palouse, Wash. Company owns no property.

**COPPER CHIEF MINING & MILLING CO., LTD.**

**Officers:** Robert Olson, Pres., Troy. **Property:** 3 unpatented claims; unorganized dist.; Troy. **Development:** 1500 ft. of tunnels. **Ore:** Copper, silver, cobalt. **Men employed:** Average, 2.

**GOLD NUGGET MINING CO.**

**Officers:** Edward N. Conrad, 511 Leader-News Bldg., Cleveland, Ohio.  
**Property:** 2 unpatented claims; Hoodoo dist.; Harvard.

**MERGER MINING CO., LTD.**

**Officers:** J. C. Northrop, Pres.-Mgr., Palouse, Wash. **Property:** 20 unpatented claims; Hoodoo dist.; Harvard. **Development:** Approximately 1300 ft. underground workings. **Plant:** 2 gas driven compressors, small air driven hoist, and complete mining equipment. **Ore:** Copper. **Men employed:** Average, 2.

**PACIFIC WHITE MICA CO.**

**Officers:** W. C. McAllister, 534 New York Bldg., Seattle, Wash. **Property:** 160 acres state land under purchase contract near Avon. **Development:** 350 ft. tunnel. **Mineral sought:** Mica. **Men employed:** Average, 2.

**TROY GOLD & COPPER MINING CO., LTD.**

**Officers:** E. J. Gemmill, Pres.-Mgr., Troy. **Property:** 20 acres patented land near Troy.

**WASHINGTON MICA CO.**

**Officers:** A. H. Bintz, Pres., Avon. **Property:** 120 acres of state land under contract of purchase; Avon. **Development:** 2 tunnels approximately 435 ft. and 30 ft. shaft.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Annie Placer	Hoodoo	P. Doffner	Harvard
Brittan	Hoodoo	J. G. Northrop	Palouse, Wash.
Carrico Placer	Gold Hill	Paul Bockmier	Paulsen Bldg. Spokane, Wash.
Copper King	Hoodoo	Chas. W. Sanderson	Bovill
Gen. Jackson et al.	Gold Hill	Alec Holland	Potlatch
Hard Work	Hoodoo	George Steffen	Harvard
Iron Queen Group	Gold Hill	O. Henry	Palouse, Wash.
Liberty	Hoodoo	G. E. Arrasmith	Palouse, Wash.
O. K. Olsen	Troy	O. K. Olsen	Troy
Vira	Hoodoo	C. S. Saunders	Potlatch

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## LEMHI COUNTY

Lemhi County, essentially a mining county, has maintained its rank as one of the principal mineral producers of the State since the days of the first discovery of gold in Idaho. The most important minerals are gold (placer and lode), lead, copper, silver, zinc, tungsten, nickel, cobalt, molybdenum, manganese and tin. These minerals, the principal deposits in which they occur, and the geography, physiography and general geology of the county are fully described and illustrated with pictures and maps in *Geology and Ore Deposits of Lemhi County, Idaho*, by Joseph B. Umpleby, U. S. Geological Survey Bulletin 528, to which the reader is referred.

The general depression and adverse mining conditions that existed throughout 1921 had a very serious effect on this county in that gold and copper mining became unprofitable. This caused a suspension of operations by the gold and copper producers, which resulted in the 1921 production being the least that the county has recorded for many years. The greater part of the mineral production was contributed by two gold companies and three lead companies, the balance from small operators and prospectors, with nothing from the copper mines.

The new developments worthy of note are the installation of a copper volatilization process at the Pope-Shenon mine, and the new plant construction of the Montana Mining and Livestock Company, the Idaho Mineral Company, Ltd., and the Blue Wing Tungsten Mining & Milling Company.

The revival in gold mining and the profitable operation of copper mining, together with the general increase in metal prices, is stimulating the mining activity of this county. Many old producers are preparing to resume shipments and development work, old properties are opening up, and numerous investigations and the organization of new companies are under way; all of which will materially assist in the return of prosperity to Lemhi County, the county of many opportunities for the investor and prospector.

**ALLIE MINING COMPANY, LTD.**

**Officers:** Edgar C. Ross, Pres., Ridgway, Pa. **Property:** 6 patented claims; Texas dist.; Gilmore. **Development:** 3500 ft. underground workings. **Remarks:** Idle.

**BLACK EAGLE GOLD MINING CO.**

**Officers:** A. C. Maher, Pres., Joplin, Mo. **Property:** 2 patented claims; Yellowjacket dist.; Salmon City. **Plant:** 5-stamp mill. **Remarks:** Idle.

**BLACK PINE COPPER MINING & MILLING CO., LTD.**

**Officers:** T. J. Fetter, Pres., 909 Republic Bldg., Kansas City, Mo. **Property:** 4 patented claims; Blackbird dist.; Leesburg. **Development:** 1100 ft. underground workings. **Remarks:** Idle.

**BLENWICK MINING CO., LTD.**

**Officers:** R. E. Wickham, Pres.-Mgr., Salmon. **Property:** 6 unpatented claims; Eureka dist.; Salmon. **Plant:** Small stamp mill. **Remarks:** Assessment work only.

**BLUE WING TUNGSTEN MINING & MILLING CO.**

**Officers:** John R. Murphy, Pres.; W. P. Barton, Sec., both of Patterson. **Property:** 29 claims operated under lease and bond; Blue Wing dist.; Patterson. **Development:** 3000 ft. of tunnel. **Plant:** Water driven compressor, small air hoist and complete mining equipment, 40-ton concentrator, flotation unit. **Ore:** Tungsten. **Men employed:** Average, 10. **Remarks:** This company has taken the property of the Ima Consolidated Mining & Milling Company under lease and bond, and during 1921 rehabilitated and enlarged the concentrator and power plant. The mine was repaired, all improvements completed and production is anticipated early in 1922.

**BOHANNON DREDGING CO.**

**Officers:** Gustave Pabst, Pres., 917 Chestnut St., Milwaukee. **Property:** 28 patented claims, 2080 acres; Eldorado dist.; Salmon. **Remarks:** Idle.

**BUCHANAN GOLD MINING & LEASING CO.**

**Officers:** H. W. Soule, Pres.; James A. Herndon, Sec.-Treas., both of Salmon. **Property:** 16 claims, Ulysses group; operated under lease. **Development:** Approximately 9000 ft. underground workings. **Plant:** Small mine equipment and aerial tram, 5-stamp mill. **Ore:** Gold. **Men employed:** Average, 8.

**COMMUNITY COPPER CO.**

**Officers:** John C. Bowman, Pres., Boise. **Property:** 5 unpatented claims; Kirtley Creek dist.; Salmon. **Remarks:** Assessment work only.

**CONFIDENCE MINING CO.**

**Officers:** W. H. Baston, Pres.; Dr. D. J. Stotts, Sec., both of Moundville, W. Va. **Property:** 5 unpatented claims; Kirtley Creek dist.; Salmon. **Remarks:** This company did a small amount of development work during the year.

**DARK HORSE GROUP**

Mrs. Isadore Gies, Owner, Great Falls, Mont.; J. A. Turnblade, Mgr., Baker. **Property:** 7 unpatented claims; Pratt Creek dist.; Baker. **Plant:** Steam driven compressor, complete mining equipment, steam driven 10-stamp mill. **Ore:** Gold-silver. **Men employed:** Average, 3.

**DRILLING DEVELOPMENT CO.**

**Officers:** R. M. Hobbs, Sec., Butte, Mont. **Property:** 22 unpatented claims near Salmon. **Plant:** Steam driven compressor and ball mill. **Remarks:** Company in receivership. Assessment work only.

**GILMORE MINING CO.**

**Officers:** Edgar C. Ross, Pres., 222 Kearns Bldg., Salt Lake City, Utah. **Property:** 12 patented claims; Texas dist.; Gilmore. **Development:** Approximately 14,000 ft. of underground workings. **Ore:** Lead-silver. **Men employed:** Average, 5.

**GOLDEN RULES MINES, LTD.**

**Officers:** W. B. Horn, Pres., Salmon. **Development:** Approximately 2,000 ft. of shaft and tunnels. **Remarks:** Assessment work only.

**GOLD FLOTATION DEVELOPMENT CO.**

**Officers:** W. H. Havlin, Pres., 202 Iowa Ave., Streator, Ill.; H. G. Loop, Sec.-Treas., 1526 L. C. Smith Bldg., Seattle, Wash. **Property:** 6 patented, 13 unpatented claims, 300 acres; Gravel Range dist. **Plant:** 6-stamp mill, including cyanide unit. **Remarks:** Idle.

**HARMONY MINES CO.**

**Officers:** A. W. Nieman, Pres., 605 Hearst Bldg., Chicago, Ill.; E. F. Nieman, Mgr., Salmon. **Property:** 20 unpatented claims on South Fork of Whittington Creek; Baker. **Development:** Approximately 5000 ft. of tunnels. **Plant:** 2 electrically driven compressors, 2 B & B aerial trams, and complete mining equipment; 150-ton concentrator, including fine grinding flotation. **Ore:** Copper. **Men employed:** Average, 10.

**IBEX MINING CO.**

**Officers:** A. J. Smith, Pres.-Mgr., Tendoy. **Property:** 2 patented, 3 unpatented claims; McDevitt dist.; Agency Creek; Tendoy. **Development:** Approximately 4,000 ft. of tunnels and shaft. **Plant:** Oil driven compressor and small mining equipment; 25-ton concentrator. **Ore:** Copper. **Men employed:** Average, 4. **Remarks:** This company has taken over the holdings of the Idaho-Seattle Mining Company.

**IDAHO MINERALS CO., LTD.**

**Officers:** Simon Martin, Pres.; Louis Saar, Sec.-Mgr., both of Idaho Falls. **Property:** Red Warrior Group, 11 claims operated under lease and bond; Spring Mountain dist.; Gilmore. **Plant:** 50-ton concentrator. **Ore:** Lead-silver. **Men employed:** Average, 8. **Remarks:** The mill was constructed during the year. The company's operations constitute one of the new undertakings of this county.

**IMA CONSOLIDATED MINING & MILLING CO.**

**Officers:** Oscar W. Moyle, Pres., Deseret Nat. Bk. Bldg., Salt Lake City, Utah; James B. Quinn, Stat. Agent, Patterson. **Property:** 24 patented claims; Patterson Creek dist.; Patterson. **Remarks:** Property under lease and bond to Blue Wing Tungsten M. & M. Co.

**JUNCTION MINES CO.**

**Officers:** John H. Padgham, Sec.-Treas., Salmon. **Remarks:** Company owns no property.

**KIMMEL MINING CO.**

**Officers:** C. W. Gray, Pres., F. O. McFall, Sec.-Mgr., both of Pocatello. **Property:** 5 unpatented claims, lease and bond on 7 unpatented claims. **Development:** By approximately 1600 feet of tunnels. **Plant:** Gas driven compressor and complete mining equipment. Small Harding mill and four Wilfley tables. Entire plant leased from Sunset Mining Company. **Ore:** Lead-silver. **Men employed:** Average, 10.

**LATEST OUT MINING & SMELTING CO., LTD.**

**Officers:** Ralph Nichols, Pres., D. L. Nichols, Sec.-Mgr., both of Gilmore. **Property:** 1 patented and 1 unpatented claim; Texas dist., Gilmore. **Development:** Approximately 27,000 ft. of underground workings. **Plant:** Gas driven hoist and tram; gas driven compressor and small lighting plant. **Ore:** Lead-silver. **Men employed:** Average, 20.

**LEESBURG GOLD DUST MINING CO.**

**Officers:** O. E. Kirkpatrick, Managing Director, Leesburg. **Property:** 10 patented placer and lode claims, 500 acres; Mackinaw dist.; Leesburg. **Plant:** 10-stamp mill, cyanide unit, steam driven. **Men employed:** Average, 5.

**MONTANA MINING & LIVESTOCK CO.**

**Officers:** J. H. Padgham, Pres., Salmon; E. H. Devlin, Sec.-Treas., Leesburg. **Property:** 10 unpatented placer claims, 660 acres; Mackinaw dist.; Napias Creek; Leesburg. **Plant:** Hydraulic equipment designed to handle 2000 yards per day; mining and quarrying machinery, derricks, drag line scrapers, hoists and conveyors, together with sawmill and lumbering equipment, water power. **Ore:** Placer gold. **Men employed:** Average, 10.

**NEW DEPARTURE COPPER MINING CO.**

**Officers:** Charles F. Lloyd, Pres.-Mgr., Leadore. **Property:** 3 unpatented claims and 2 claims held under lease and bond; Junction dist.; Eight Mile Creek; Leadore. **Development:** Approximately 1000 ft. of underground workings. **Plant:** 3000 ft. aerial tram, 100-ton steam driven copper leaching plant. **Ore:** Copper. **Men employed:** Average, 10.

**NORTHWESTERN DEVELOPMENT CO., LTD.**

**Officers:** Camele Rock, Mgr., Salmon. **Property:** 6 unpatented claims; Eldorado dist.; Eldorado Canyon; Salmon. **Development:** 800 ft. drift. **Plant:** Gas driven air compressor, complete small mining equipment. **Remarks:** Idle.

**PARKER MINING CO., LTD.**

**Officers:** F. W. Mitchell, Pres., Blackfoot; J. M. Stevens, Sec.-Mgr., Pocatello. **Property:** 3 unpatented claims; Parker Mountain dist., Challis. **Plant:** Water driven 5-stamp mill. **Remarks:** Assessment work only.

**PINE CREEK MINING CO.**

**Officers:** H. O. Wadwitz, Pres., Racine, Wis.; Henry Goldsworthy, Sec.-Treas., Racine, Wis.; J. A. Walcott, Shoup. **Property:** 7 unpatented claims; Mineral Hill dist., Shoup. **Plant:** Water driven compressor and 10-stamp mill with concentrator. **Remarks:** Assessment work only.

**PITTSBURGH-IDAHO CO., LTD.**

**Officers:** W. A. McCutcheon, Sec.-Treas., Pittsburgh, Pa.; James E. Walker, Supt., Gilmore. **Property:** 5 patented claims, Texas dist., Gilmore. **Development:** By 700 ft. shaft. **Plant:** Diesel engine driving electric generator, electric driven hoist and compressor and complete mining equipment, small experimental concentrator. **Ore:** Lead-silver. **Men employed:** Average, 34.

**PORTLAND MINING CO.**

**Officers:** Edwin J. Carleton, Pres., 600 New York Life Bldg., Minneapolis, Minn. **Property:** 10 unpatented claims, Texas dist., Gilmore. **Remarks:** Assessment work only.

**RESCUE GOLD MINES CO.**

**Officers:** Charles Mushrush, Pres., 1329 North Marengo Ave., Pasadena, Calif.; George H. Frost, Sec.-Treas., 239 South Madison Ave., Pasadena, Calif. **Property:** 20 patented and 6 unpatented claims, approximately 500 acres; Dahlenega dist.; Gibbonsville. **Remarks:** Assessment work only.

**SILVER CONSOLIDATED MINING CO.**

**Officers:** John Donaldson, Pres., Teton City; John G. Williams, Sec.-Treas., Sugar City. **Property:** 17 unpatented claims; Spring Mountain dist.; Gilmore. **Development:** Main crosscut tunnel 1450 ft. **Ore:** Lead-silver. **Men employed:** Average, 3. **Remarks:** This company has been actively engaged throughout the year in extending its main tunnel.

**SILVER DOLLAR MINING CO., LTD.**

**Officers:** W. B. Horn, Pres., Salmon. **Property:** 17 unpatented claims; Dahlenega dist.; Gibbonsville. **Development:** Approximately 5000 ft. of tunnels and shaft. **Remarks:** Assessment work only.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Alex Stevens	Texas	Wm. Howard	Gilmore
Anaconda Group	Eldorado	John H. Adams	Salmon
Arnett Creek Placers	Mackinaw	Busch & Stuckey	Leesburg
Bay Joe Group	Junction	W. F. Stone	Leadore
Belcher	Gibbonsville	Chas. Goff	North Fork
Big Swede	Spring Mountain	John Johanson	Gilmore
Blue Bird	McDevitt	E. G. Lynch	Digby, N. S.
Boulder Gulch	Mineral Hill	John Brittain	Salmon
Brown Bull	Texas	E. C. Ross	222 Kearns Bldg., Salt Lake City, Utah
Bryn Mawr et al.	Indian Creek	Davis Davies	North Fork
Cabin	Unorganized	Frank G. Worthington	Reno, Idaho
Carrie Cody	Texas	H. S. Knight	222 Kearns Bldg., Salt Lake City, Utah

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Castle Rock	Blue Wing	C. B. Graves	Patterson
Clara Morris Group	Gibbonsville	Hughes & Jones	Gibbonsville
Clipper Bullion	Mineral Hill	E. S. Suydam	Shoup
Copper Glance	Blackbird	Chas. Anderson	Yellowjacket, (Leesburg)
Copper King	Hayden Creek	Earl R. Galbraith	Salmon
Daly Creek	Mackinaw	John M. Smith	Salmon
	Indian Creek	W. W. Smith	Ulysses
Democrat	Texas	Thomas Grooms	Gilmore
Diamond Group	Blackbird	William Swan	Salmon
Diamond Gulch	Eureka	Geo. Matics	Salmon
Dig More No. 1	Junction	Rouche & Pottle	Leadore
Dunton Placer	Gibbonsville	Willard Dunton	Gibbonsville
Eagle Mine	Gibbonsville	John Heuren	Gibbonsville
Golden Rule	Eureka	W. B. Horn	Salmon
Gold Point	Eldorado	Dave Stilles	Salmon
Gold Star	Mackinaw	J. A. Fry	Leesburg
Gold Stone Group	Pratt Creek	Mrs. Isadore Gies	Great Falls, Mont.
Governor	Gibbonsville	E. C. Noble	Gibbonsville
Grace	Mackinaw	Thos. Pope	Salmon
Greenhorn Mines	Eureka	W. L. Thompson	Salmon
Gunter Group	Mineral Hill	N. R. Waterman	187 R St., Salt Lake City, Utah
Hard Carbonate	Spring Mountain	P. H. Clarke	Gilmore
Hawkeye	Eureka	J. W. Bruner	Salmon
Hawkeye Group	Blackbird	Smith & Weidiner	Leesburg
High Ore	Spring Mountain	J. W. Spiers	Gilmore
Hockensmith	Mackinaw	Goff Bros.	Leesburg
Hughes Creek Placer	Gibbonsville	Justin Finch	Gibbonsville
Iron Mask	Spring Mountain	F. L. Clark	Gilmore
Italian	Mackinaw	Leesburg Mng. & Power Co.	Leesburg
Last Chance	Mackinaw	Grant Rood	Leesburg
Last Chance	Gibbonsville	Henry Schreiber	Gibbonsville
Leadville Group	Junction	J. H. Cook	Leadore
Lemhi Mining Co.	Gravel Range	R. E. Lee Ramey	Forney
McCarty et al.	Gibbonsville	Percy Anderson	Salmon
McKinley Group	Eureka	McKinley Mining Co.	Salmon
Maine Silver Moon	Texas	J. A. Nash	Gilmore
Mayflower	Mackinaw	Earl R. Galbraith	Salmon
Merry Widow	Mineral Hill	Grove & Sons	Shoup
Mint Placer	Mineral Hill	Frank Samms	Salmon
Miser's Dream	Mineral Hill	R. A. Joseph	Gilmore
Moose Creek Dredge	Eureka	John E. Mullen	Salmon
Mountain Boy	Texas	Hugh Ferguson	512 W. Pearl St., Butler, Pa.
Musgrove Mine	Blackbird	Lawrence Green	Salmon
Oro Cache	Carmen Creek	J. A. Walcott	Salmon
Patton Group	Junction	A. J. Smith, Mgr.	Leadore
Pope Group	Mackinaw	Roy Jackson	Leesburg
	Texas	Oakley & Ellis	Dubois
Ranger	Eldorado	Camele Rock	Oakland, Ky.
Rattler	Kirtley Creek	Ralph Emerson	Salmon
Red Cross Group	Unorganized	J. T. Pugh	Salmon
Red Gravel	Mackinaw	Bu Kee & Ah Moon	Leesburg
Richardson Placers	Mackinaw	Will Shoup	Salmon
Ring Bone Cayuse	Mackinaw	Fred Brough	Salmon
Road Agent	Junction	Arthur Salmon	Leadore



NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Robinson Lode	Blackbird	Chas. S. Miller	Leesburg
Rosebud	Texas	Vezina Rock	Leadore
Rose & Bohannon	Blackbird	A. C. Ludwig	Leesburg
Ruby	Eldorado	Alfred Erickson	Baker
Sagamon	Eureka	Pabst Bros.	Salmon
Smuggler et al.	Texas	Mac Carson	Gilmore
Speculation	Mineral Hill	Dave Sandilands	Gilmore
Sunset	Mackinaw	Crist Stuckey	Leesburg
Tempest Group	Spring Mountain	Joseph G. Sims	Salmon
Tendoy	Unorganized	Thompson and Matthews	Salmon
Texas Group	Blackbird	J. O. Swift	Baker
Union	Spring Mountain	James Sims	Salmon
Vaughn Placer	Mackinaw	T. Hungate	Leesburg
Vimedii	Carmen Creek	Burt W. Simer	Salmon
Viola	Nicholia	A. F. Shear	Reno
Virginia et al.	Pratt Creek	W. A. Byers	Baker
Walkover Placer	Hughes Creek	O. P. Kimmel	Salmon
White Horse	Spring Mountain	O. M. Perkins	Gilmore
Wickham & Ble- ness	Eureka	R. E. Wickham	Salmon
	Eureka	Emerson Hill	555 Pearl St., Denver, Colo.
Yellowjacket Placers	Yellowjacket	J. M. Burkhart, Jr.	Salmon

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## LEWIS COUNTY

Copper, gold, silver and coal have been found in this county. No activities were reported during 1921.

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## NEZ PERCE COUNTY

The principal mineral resources of Nez Perce County are limestone (suitable for Portland cement), marble, copper, gold and silver. No mining companies were reported to have been in operation during 1921, but a number of prospectors were active. The limestone and marble resources received considerable attention, although definite arrangements to open them up were not completed. These investigations and the operations of two companies that are drilling for oil constitute the larger part of the mining activities of the county during 1921.

### TAMMANY OIL CO.

**Officers:** V. F. Lorang, Pres., Lewiston. **Property:** 1000 acres of agricultural land held under oil and gas leases. **Plant:** Standard oil well drilling rig capable of drilling to a depth of 4000 ft. **Mineral sought:** Oil, gas, coal. **Remarks:** Drilling was started during the closing months of 1921.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Gold Standard	Cave Gulch	G. C. Ettershank	Lewiston
Homestead Entry	Clearwater	G. H. Gibbs	R. F. D. No. 2, Juliaetta
Iron Cap	Peck	W. H. Rugg	Peck
Montana	Unorganized	Frank Cole	Lewiston

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## OWYHEE COUNTY

Owyhee County, one of the first and most important mining counties in the State recorded but little activity during 1921. The Banner Mining & Milling Co., Great Western Mines Co., Red Jacket Gold Mining Co., Sinker Tunnel Mining Co., and lessees at the Trade Dollar were the principal operations. The larger part of the work done by these companies consisted of crosscutting, although the Banner and Red Jacket did some drifting that disclosed considerable good ore.

The lessees at the Trade Dollar and De Lamar mines were the principal producers in the county during 1921. Their output, together with a small amount produced by prospectors, represents the entire production of the county.

For many years Owyhee County was the principal producer of high-grade gold and silver ores in Idaho. The history of this county dates back to the late 60's and early 70's. Its active production record was maintained through a long period with a total of many million dollars to its credit. A few years prior to the war saw a secession of activities. This was intensified by the war and reached its low point in 1921. However, the return to gold mining is having its good effect, particularly in the Silver City and De Lamar districts, and the county is again receiving considerable attention.

Owyhee County's numerous square miles of unexplored mountains and its large number of undeveloped prospects offer many opportunities to the prospector and the investor, and its principal minerals, gold, silver, lead, zinc, nitrates, diatomaceous earth and gem stones well warrant development.

### BANNER MINING & MILLING CO., THE

**Officers:** F. S. Herr, Sec.-Treas., 1122 State St., Boise; Peter Steele, Mgr., Silver City. **Property:** 10 patented, 14 unpatented claims, 350 acres; Carson dist.; Silver City. **Development:** Approximately 12,000 ft. tunnels and drifts. **Plant:** Electrically driven compressor and complete mining equipment; 30-ton, 3 Nisson stamps, pan amalgamation and concentration. **Ore:** Gold-silver. **Men employed:** Average, 7. **Remarks:** The work done during the year consisted entirely of drifting on the vein, which exposed a number of good ore shoots. Everyone interested is feeling optimistic over the outlook.

### BOULDER CREEK MINING CO.

**Officers:** E. Arthur Miller, Pres., 181 Quincy St., Chicago, Ill.; Addie Krieg, Sec.-Treas., Silver City. **Property:** 8 unpatented claims; Carson dist., Silver City. **Remarks:** Assessment work only.

### DE LAMAR MINING & MILLING CO.

**Officers:** H. H. Bonnell, Mgr., De Lamar; J. A. Ames, Sec., Boise.

### FLORIDA MOUNTAIN MINES CO.

**Officers:** Jos. S. McCready, 423 South Cheyenne Ave., Tulsa, Okla. **Property:** Trade Dollar. **Remarks:** Operated under lease by Robert J. Goodwin with an average of three men employed.

### GOLCONDA GROUP MINING CO.

**Officers:** George A. Sonemann, Pres., N. 1610 Washington St., Spokane, Wash. **Property:** 15 patented claims, 300 acres; South Mountain dist.; Jordan Valley, Oregon. **Remarks:** Idle.

**GOLD CRATER MINES CO.**

**Officers:** William Healy, Sec., Boise. **Property:** 10 claims held under lease and bond; Carson dist.; Silver City. **Development:** 3 tunnels, approximating 6000 ft. **Plant:** Electric driven compressor and complete mining equipment; 50-ton mill including cyanide unit. **Ore:** Gold-silver. **Remarks:** Idle.

**GREAT WESTERN MINES CO.**

**Officers:** W. J. Fairweather, Sec., Milwaukee, Wis.; T. W. Galigher, 915 N. 21st St., Boise. **Property:** 5 unpatented claims; French dist.; Silver City. **Development:** Approximately 1400 ft. of tunnels, including 800 ft. crosscut. **Plant:** Electric driven compressor, tool sharpener and complete mining equipment. **Ore:** Gold-silver. **Men employed:** Average, 4. **Remarks:** This company's property is on War Eagle Mountain and all work was done in the crosscut.

**RED JACKET GOLD MINING CO.**

**Officers:** George Wagner, Pres.-Mgr., Boise. **Property:** 5 unpatented claims known as, "Dernier Resort;" French dist.; War Eagle Mountain; Silver City. **Development:** Approximately 700 ft. of tunnel. **Ore:** Gold-silver. **Men employed:** Average, 4. **Remarks:** The work done during the year consisted in driving on the vein that exposed considerable ore. An electric transmission line, motors and compressor with complete mining equipment was installed during the closing months of the year and work was started on a lower tunnel that will give considerable depth below previous workings.

**SINKER TUNNEL MINING CO.**

**Officers:** Jacob Lockman, Pres., Nampa; W. G. Adams, Sec.-Treas., Nampa. **Property:** 8 patented claims, 86 acres held under lease and bond; French dist.; War Eagle Mountain; Silver City. **Development:** Approximately 14,000 ft., part of which is Sinker Tunnel adit. **Plant:** Electric driven compressor and complete mining equipment. **Ore:** Gold. **Men employed:** Average, 4. **Remarks:** Work done during the year was exploratory for the Mahogany vein.

**TIP TOP GOLD MINING & MILLING CO.**

**Officers:** F. S. Herr, Sec.-Treas.; Peter Steele, Mgr., Silver City. **Property:** 3 patented claims, 35 acres; Carson dist.; Silver City. **Development:** Approximately 400 ft. **Remarks:** Idle.

**WAR EAGLE CONSOLIDATED MINING CO.**

**Officers:** Frank T. Lewis, Pres., 919 Real Estate Trust Bldg., Valley, Pa. **Property:** Operated by Sinker Tunnel Mining Co., q. v.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Addie Group	French	W. S. Cook	Silver City
Afterthought et al.	French	Ernest V. Orford	Boise
Amida	Flint	John W. Shore	De Lamar
Burns et al.	Carson	C. M. Caldwell	Silver City
Daly Group	Carson	J. W. Daley	Silver City
Dandy Jim	Castle Creek	Castle Falls Min- ing Co.	Nampa
De Lamar	Carson	H. H. Bonnell	De Lamar
Flint Mines	Flint	R. C. Dougdale	Silver City
High Ore	French	P. C. Conway	Silver City
Homestake	French	George Schlack	Silver City
Homestake	Placer	Chas. Brown	Murphy
May Queen	Snake River	Chas. O. Hartley	Emmett

## MINING INDUSTRY OF IDAHO

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Never Sweat	French	Louis Sorensen	Silver City
Ontario	Carson	Mrs. J. Mattenson	Boise
Pauper	Carson	R. H. Leonard	Silver City
Poorman	French	Fred Grete	Silver City
Potosi	Carson	Jack Stoddard	Silver City
Rich Gulch	Carson	Sam Williams	Tulsa, Okla.
Ruth	French	Geo. Westlake	Hailey
Smith	Castle Creek	Dr. F. B. Smith	Nampa
Sugar Loaf	French	A. P. Nugent	Silver City
Sunnyside	Carson	G. A. Bergh	1228 State St., Boise
Teddy	Steele	B. H. Hyde	Oreana
Triangle et al.	Steele	Dave H. Johnson	Oreana
Village Blacksmith	Carson	Duncan & Lackey	Silver City
Wannensten Group	Carson	Andrew Wannesten	Nampa
War Eagle Group	French	Wm. Healy	Boise

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## PAYETTE COUNTY

The principal mineral resources of Payette County are diatomaceous earth, clay deposits and natural gas.

### IDAHO OIL & GAS CO.

**Officers:** C. A. Glougie, Pres., Nampa. **Property:** Oil and gas leases. **Development:** 1015 ft. well. **Plant:** Complete steam driven standard drilling outfit. **Men employed:** Average, 3. **Remarks:** This company started drilling at the town of Payette, in June 1921, and sunk a well 1015 ft., at which depth a strong flow of gas was encountered. This company is a consolidation of the Idaho Oil & Gas Co. and the Payette Oil & Development Co.

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## POWER COUNTY

A few prospectors on the placer deposits of the Snake River, Power County's principal mineral resource, and two companies that are drilling for oil constituted the entire mining activity during 1921.

### THE IDAHO RESEARCH & DEVELOPMENT CO.

**Officers:** George Stoll, Sr., Sec.-Treas., Pocatello. **Property:** Oil leases on 15,000 acres of agricultural land near Arbon. **Plant:** Complete drilling equipment. **Mineral sought:** Oil.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Diamond et al. Placer	Snake River	Wm. M. Main	Aberdeen
Golden Cliff Placer	Snake River	Geo. J. Wheeler	American Falls
Placer	Snake River	L. N. Rosencrans	American Falls
Daylight Placer	Snake River	James J. Sorensen	Neily

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## SHOSHONE COUNTY

Shoshone County lies in the northern part of the State and is bounded on the east by the State of Montana, on the south by Clearwater County, on the west by Latah, Benewah and Kootenai Counties and on the north by Bonner County. It is noted for the famous Coeur d'Alene district which lies within its borders; a district with mythical boundaries, but known throughout the world as the home of a large number of the greatest lead-silver other mineral resources are, zinc, gold, copper, antimony and tungsten, named in the order of their prominence. The magnitude of the mining industry in Shoshone County can be readily realized on considering that Idaho ranks second in the United States in the production of lead, of which approximately 90 per cent is produced in this county.

The general depression that existed throughout 1921 affected mining more than any other industry and resulted in this county having the least production that has been recorded for many years. The principal factors affecting the industry were, excess profit taxes, high freight rates and low price of metals, which compelled the Hercules, Tamarack-Custer, Gold Hunter, Callahan Zinc-Lead, and Success companies to suspend operations. These suspensions threw a large number of men out of work, as well as causing the low production record.

Depression, however, was not so noticeable in this county as in other counties. The Bunker Hill, Morning, Hecla, Western Union and Caledonia, all large lead producers, maintained capacity production. The Big Creek and Sunshine, principally silver producers, approximately 17 other small producers, and a large number of development companies carried on active work. These activities gave employment to about 2800 men.

Mining, living, sanitary and welfare conditions in the Coeur d'Alene district are almost ideal. The mines are well ventilated and timbered, every safety law and requirement is complied with, safety organizations are maintained by the large operators and every possible precaution that will make the mines safe is taken. Living and sanitary conditions are excellent; many men own their own homes and the boarding houses are well kept and clean. The effort, care and expense to which the large companies have gone in providing modern well-heated change houses, with shower baths, individual wash basins and lockers, in fireproof, well-kept buildings, and the social buildings erected by them, such as the Y. M. C. A. at Kellogg, the Morning Club at Mullan and Hercules Hall at Burke, are sufficient proof that the welfare of the men has been given considerable attention, and are some of the reasons for the large number of contented workmen that is to be found in the district.

The developments at the Galena, Lookout Mountain, Pine Creek and Sidney mines resulted in very gratifying discoveries, as practically all of these are located in sections that heretofore have been considered unfavorable. The new discoveries are of such importance that many opinions and theories have been reversed; active development work has been resumed on many adjoining properties, and in all probability 1921 witnessed the coming in of some new sections in the Coeur d'Alene district. At the property of the Galena Mining Company, formerly called Chicago-Boston, an excellent showing of ore was opened up on the 400-foot level, and during the closing months of the



year it had been sufficiently developed to warrant the assumption that a new producer had been added to the county. The strikes made by the Lookout Mountain Mining Company, Pine Creek Mining & Milling Company and Sidney Mining Company, whose properties are located in different sections of Pine Creek, indicate three new producers in this section. These important developments and the new ore encountered by the Cedar Creek Mining & Development Co., Ltd., and the Independence Lead Mines, Ltd., during the closing months of 1921, all lend encouragement to the future outlook of the county.

The principal new milling plants constructed during 1921 were the east mill of the Bunker Hill & Sullivan M. & C. Co., that of the Sunshine Mining Co., and the enlargements at the Big Creek Mining Co. The most important mining operation started during 1921 was the long cross-cut tunnel from the 2000-foot level of the Hecla to the Star ore bodies. This tunnel will be over 8000 feet in length and the longest one in the world at such a depth.

The settlement of the Star litigation and the commencement of the Star crosscut were the two greatest achievements of the past year; and the most important news affecting the future of the county was the announcement by the Bunker Hill & Sullivan M. & C. Co. that an electrolytic zinc plant would be added to their smelter during 1922.

All of the companies that suspended production conducted active development work throughout the year. This work greatly increased their ore reserves. These ore reserves and the new ore developed by the Bunker Hill, Hecla and Morning place all of the large mines in a strong position, and in such shape that capacity production can be maintained and the county returned to her former production standard when operations are resumed.

The deep developments at all of the large mines have proven the permanence of their ore bodies. The important new discoveries of 1921, and the great number of prospects that are worthy of development indicate that the Coeur d'Alene district is facing many years of continuous and active mining operations.

#### **AETNA MINING & MILLING CO., LTD.**

**Officers:** J. J. Murphy, Pres., Burke; O. W. Lewis, Sec., Wallace. **Property:** 4 unpatented claims; Lelande dist.; 1 mile southeast of Burke. **Development:** 300 ft. of tunnels. **Plant:** None. **Ore:** Lead-silver. **Remarks:** Idle since 1915.

#### **AJAX MINING CO.**

**Officers:** F. Moriarity, Pres., 1315 Fourth Ave., Spokane, Wash.; A. C. Bixby, Mgr., Burke. **Property:** 13 patented claims, 184 acres, Lelande dist.; adjoining Hercules on the east; Burke. **Development:** Total, approximately 16,000 ft.; several tunnels; 1 No. 2 over 3000 ft. in length with 400 ft. drifting on vein; 250 ft. shaft 650 ft. from Hercules boundary. **Plant:** Fully equipped with air hoist, compressor, electric motors and small tools. **Ore:** Lead-silver. **Men employed:** Average, 14. **Output:** None. **Remarks:** A tunnel 1 mile in length to tap the vein at a depth of 550 ft. below the present workings was started during 1921.

#### **ALBANY LEAD MINING CO.**

**Officers:** John Dunphy, Pres., Burke; Charles W. Betts, Sec., Wallace. **Property:** This company has sold all of its mining property, but is preserving its corporate existence.

#### **ALHAMBRA MINING CO., LTD.**

**Officers:** W. J. C. Wakefield, Vice Pres., Spokane, Wash.; W. A. Corey, Sec., Empire State Bldg., Spokane, Wash. **Property:** 22 patented, 1 unpatented claim; Yreka dist.; Kellogg. **Development:** By tunnels. **Plant:** Concentrator, 30-ton fine grinding, flotation; electrically driven air compressor and tool sharpeners. **Ore:** Lead-silver. **Men employed:** Average, 6.

**ALMA RAY MINING CO.**

**Officers:** R. A. Brockman, Pres.; C. B. Forbes, Sec., both of Kellogg. **Property:** Four and a fraction unpatented claims; 90 acres; Yreka dist.; one-half mile east of Kellogg. **Development:** Several tunnels. **Ore:** Lead-silver. **Men employed:** Average, 2.

**AMAZON-MANHATTAN MINING CO. (Copartnership. Controlled by Day family.)**

**Officers:** Eugene R. Day, Wallace. **Property:** 6 patented claims; Beaver dist.; northwest of property Callahan Zinc-Lead Co.; Wallace. **Development:** By approximately 7000 ft. of tunnels with a total depth of 900 ft. **Plant:** Complete mining equipment. One-half mile tramway connecting mine with Ray-Jefferson mill which treated ore produced. **Ore:** Lead-silver, zinc. **Remarks:** A substantial producer with considerable reserves. Idle throughout the year.

**AMERICAN COMMANDER MINING & MILLING CO., LTD.**

**Officers:** Herman Marguardt, Pres., Wallace; H. B. Kingsbury, Sec.-Mgr., Mullan. **Property:** 2 patented claims, 32½ acres, situated between the Gold Hunter and Morning mines; Hunter dist.; Mullan. **Development:** 3 tunnels; approximately 4400 ft., 1500 ft. surface trenches, and 60 ft. shaft. **Plant:** Electrically driven compressor, machine drills, and necessary small equipment. **Ore:** Lead-silver. **Men employed:** Average, 4. **Remarks:** This company was rejuvenated during 1921 under the management of Mr. Kingsbury. Complete mining equipment was installed, and active development work was carried on throughout the year.

**AMERICAN MINING CO., LTD.**

**Officers:** William Stimson, Pres., Spokane, Wash.; John Dolan, Sec.-Treas. Wallace; Tony Molitor, Mgr., Wallace. **Property:** 2 unpatented claims, 35 acres; Placer Center dist.; Nine Mile Canyon; Wallace. **Development:** Approximately 500 ft. of tunnels. **Ore:** Lead-silver. **Remarks:** Assessment work only throughout the year.

**ANCHOR MINING CO.**

**Officers:** Evan Evans, Pres.-Mgr., Burke. **Property:** 8 patented claims, 75 acres; Lelande dist.; near Burke. **Development:** About 6000 ft. of tunnels and shaft 200 ft. deep. **Plant:** Electric hoist and electrically driven compressor. **Ore:** Lead-silver. **Remarks:** Idle throughout the year.

**ARCTIC MINING & MILLING CO., LTD.**

**Officers:** Henry Lalonde, Pres.-Mgr., Wallace; George H. Heller, Sec., Kellogg. **Property:** 4 full and 4 fractional unpatented claims, 120 acres; Placer Center dist.; Placer Creek; 6 miles south of Wallace. **Development:** Tunnels, approximately 750 ft. **Ore:** Lead-silver. **Remarks:** Assessment work only.

**ARGENTA MINING CO., LTD.**

**Officers:** E. Lindsly, Pres., Missoula, Mont.; C. D. Brock, Sec.-Treas., Wallace; W. C. Richardson, Mgr., Mullan. **Property:** 3 patented, 1 full claim and 1 fraction unpatented, 60 acres; Hunter dist.; Willow Creek; Wallace. **Development:** 2 tunnels. **Ore:** Lead-silver. **Men employed:** Average, 2.

**ATLANTIC MINING CO.**

**Officers:** Herman J. Rossi, Pres., Wallace; Otto A. Olsson, Mgr., Wallace. **Property:** 7 unpatented claims, 140 acres; Beaver dist.; Prichard. **Development:** Tunnels. **Ore:** Lead-silver. **Men employed:** Average, 1.

**BANNER-IDAHO MINING CO.**

**Officers:** L. H. Snyder, Pres., Spokane, Wash.; R. H. Finley, Sec., Spokane, Wash. **Property:** 5 patented claims, 70 acres; Hunter dist.; Mullan. **Development:** Approximately 600 ft. of tunnels. **Ore:** Lead-silver. **Remarks:** Idle throughout the year.

**BASIN MINING CO.**

**Officers:** Eugene R. Day, Pres.; P. J. Maggy, Sec., both of Wallace. **Property:** 5 patented claims; Lelande dist.; south of and adjoining Hercules, Burke. **Development:** Approximately 400 ft. of drifts and shafts. **Remarks:** Controlled by Hercules Mining Co. Idle.

**BEAR CREEK MINING CO.**

**Officers:** L. L. Sweet, Pres.; W. J. Stratton, Sec.-Treas., both of Wallace. **Property:** 11 unpatented claims owned by company, Orofino group; 7 patented claims held under lease and bond, Bear Top group; Summit dist.; 7 miles east of Murray. **Development:** Tunnels. **Plant:** 100-ton concentrator, including flotation. **Ore:** Lead-silver-zinc. **Men employed:** Average, 12. **Remarks:** Considerable ore was developed and extracted during the year, but the cost of transportation prohibited shipment.

**BELL MINING CO.**

**Officers:** M. J. Flohr, Pres., Wallace; Charles Hussey, Sec., Empire State Bldg., Spokane, Wash. **Property:** 9 patented claims; Lelande dist.; Wallace. **Development:** Approximately 7000 ft. of tunnels. **Remarks:** Property has been idle for 15 years.

**BELL OF THE WEST MINING CO.**

**Officers:** George R. Trask, Pres.-Mgr., Wallace. **Property:** 2 patented, 2 unpatented claims, approximately 45 acres; Placer Center dist.; adjoining Success; Wallace. **Development:** 2 tunnels about 700 ft. **Ore:** Lead-silver. **Men employed:** Average, 5.

**BELMONT-BANNER MINING CO.**

**Officers:** Conrad Wolf, Pres.-Mgr., Spokane, Wash.; M. E. Poole, Sec.-Treas., 417 Hutton Bldg., Spokane, Wash. **Property:** 10 unpatented claims, 200 acres; Deer Creek; Beaver dist.; near Delta, 12 miles from Wallace. **Development:** About 500 ft. of tunnel and 60 ft. shaft. **Ore:** Lead-silver. **Remarks:** Assessment work only throughout the year.

**BELMONT MINING CO., LTD.**

**Officers:** William Scheave, Pres., Wallace; Frank P. Hess, Sec.-Treas., Wallace. **Property:** 12 unpatented claims, 200 acres; Evolution dist.; Two Mile Gulch, near Osburn. **Development:** Approximately 2000 ft. of tunnels. **Men employed:** Average, 2. **Remarks:** This company was engaged in extending its crosscut tunnel.

**BENTON MINING CO.**

**Officers:** John Callahan, Pres., Nine Mile, Wash.; E. G. Gnaedinger, Mgr., Wallace. **Property:** 5 patented claims, 90 acres; Lelande dist.; Gorge Gulch; adjoining Stanley and Moonlight, one-fourth mile from Burke. **Development:** 1500 ft. of tunnels and 200 ft. shaft. **Plant:** Small compressor and electric hoist. **Ore:** Lead-silver. **Remarks:** Idle throughout the year.

**BEST CHANCE MINING CO., LTD.**

**Officers:** Charles H. Bell, Pres., 614 Hyde Bldg., Spokane, Wash.; Charles Harr, Sec., Wallace. **Property:** 12 unpatented claims, 240 acres; Evolution dist.; Two Mile Gulch; Wallace. **Development:** 2800 ft. crosscut tunnel, 1700 ft. of drifts and crosscuts. **Plant:** Air compressor. **Ore:** Lead-silver. **Remarks:** A small amount of development work.

**BIG CREEK LEASING CO.**

**Officers:** D. W. Price, Pres., Kellogg. **Property:** 2 unpatented claims, 40 acres; Yreka dist.; Big Creek; 5 miles east of Kellogg. **Development:** Tunnels. **Ore:** Lead-silver. **Remarks:** Assessment work only.

**BIG CREEK MINING CO., LTD.**

**Officers:** G. Scott Anderson, Pres.-Mgr., Wallace; W. W. Smith, Sec., Wallace. **Property:** 8 claims, patented and possessory; Yreka dist.; 1½ miles up Big Creek, near Kellogg. **Development:** Property opened by 3400 ft. crosscut tunnel and about 2000 ft. of drifts. **Plant:** 75-ton concentrator and electrically driven compressor. **Ore:** Lead-silver. **Men employed:** Average, 34. **Remarks:** This company maintained continuous production throughout the year, and is one of the principal producers of high-grade silver ore in the Coeur d'Alene district.

**BIG DIVIDE MINING CO., LTD.**

**Officers:** Alexander Murphy, Pres., Wallace; E. H. Pattison, Sec., Long Beach, Cal. **Property:** 10 patented claims, 137 acres; Lelande dist.; near the Success; Wallace. **Remarks:** Idle throughout the year.

**BIG IT MINING & MILLING CO.**

**Officers:** H. S. Davenport, Pres., Enaville; M. L. Pratt, Sec.-Treas., Kellogg. **Property:** 15 unpatented claims, approximately 280 acres; Yreka dist.; Pine Creek section; Kellogg. **Development:** 650 ft. tunnel. **Remarks:** This company was actively engaged in extending its crosscut tunnel, which will cut the vein at a depth of about 400 ft.

**BLACK BEAR MINES CO.**

**Officers:** Chris. C. Hagan, Pres., Moscow; Peter Bernier, V. Pres.; H. J. Arnett, Sec.-Treas., both of Wallace. **Property:** 5 patented, 2 unpatented claims, approximately 70 acres; Lelande dist.; Black Bear. **Development:** Developed to a depth of 1200 ft. below surface by a number of crosscut tunnels, the longest of which is 2400 ft., and by a number of raises. **Plant:** Electrically driven compressor, and shop. **Ore:** Lead-silver-zinc. **Men employed:** Average, 6.

**BLACK HAWK MINING & DEVELOPING CO., LTD.**

**Officers:** Al. Page, Pres., Spokane; Frederick Burbidge, Mgr., Wallace. **Property:** 13 patented claims, 179 acres; Yreka dist.; Government Gulch; near Wallace. **Development:** About 4000 ft. of tunnels, drifts and crosscuts. **Ore:** Lead-silver-zinc. **Remarks:** Idle throughout the year. Controlled by Federal Mining & Smelting Co.

**BLAINE & EMMETT MINING CO., LTD.**

**Officers:** Merrill Heblethwaite, Pres.-Mgr., Prichard; R. W. Skeman, Sec.-Treas., Kellogg. **Property:** 4 unpatented claims, 80 acres; Eagle dist.; 3 miles northwest of Murray. **Development:** Crosscut tunnel 850 ft. **Men employed:** Average, 2.

**BLUE GROUSE MINING CO., LTD.**

**Officers:** Donald A. Callahan, Pres., Wallace; C. W. Newton, Mgr., Interstate. **Property:** 4 patented claims, 70 acres; Beaver dist. **Remarks:** Idle throughout the year.

**BLUE RIBBON MINING CO.**

**Officers:** George Goebler, Pres.-Mgr., Spokane, Wash.; Al Harris, Sec.-Treas., Spokane, Wash. **Property:** 7 unpatented claims, 140 acres; Hunter and Lelande dist.; 5 miles northwest of Burke. **Development:** 2200 ft. tunnels. **Ore:** Lead-silver. **Men employed:** Average, 1.

**BLUE STAR MNG. & MLG. CO., LTD.**

**Officers:** A. M. Powell, Pres., Kingston; A. C. Morbeck, Sec.-Treas., Kingston. **Property:** 8 unpatented claims, 160 acres; Yreka dist.; Pine Creek; Kingston. **Development:** 500 ft., 2 compartment shaft, 3000 ft. drifts and crosscuts. **Plant:** Hoist, compressors, boilers and small equipment. **Ore:** Lead-silver. **Remarks:** Idle.

**BLUE WING MINING CO.**

**Officers:** Peter Zanetti, Pres.; Herman J. Rossi, Sec.-Treas., both of Wallace. **Property:** 3 unpatented claims; Placer Center dist.; Nine Mile; Wallace. **Remarks:** Assessment work only.

**BOBBY ANDERSON GROUP MINING CO.**

**Officers:** Theodore Brown, Pres., Kellogg; Herman J. Rossi, Sec.-Treas., Wallace. **Property:** 5 unpatented claims; Yreka dist.; Pine Creek; Kellogg. **Remarks:** Assessment work only.

**BOSS ZINC MINING CO.**

**Officers:** H. Lieb, Pres.; A. F. Lieb, Sec.-Treas., both of Wallace. **Property:** 5 unpatented claims, approximately 100 acres; Evolution dist.; Two Mile Canyon; north of Osburn. **Remarks:** Considerable surface work was done in tracing out the veins.

**BOULDER CREEK MINING & MILLING CO., LTD.**

**Officers:** Lee Greenough, Pres.-Mgr., 922 Old National Bank Bldg., Spokane, Wash.; W. J. Beaton, Sec.-Treas., Spokane, Wash. **Property:** 1 patented claim, 20 acres; Hunter dist.; about 2 miles south of Mullan. **Development:** Several tunnels, longest 1200 ft. **Remarks:** Idle for a number of years.

**BRADY DEVELOPMENT CO.**

**Officers:** J. C. Parsons, Pres., Pittsburgh, Pa.; Patrick Brady, Mgr., Wallace. **Property:** Lease and bond on Rose claim and the Olympia group of 12 claims; Lelande dist.; Wallace. **Development:** Tunnels, approximately 1750 ft. **Plant:** Electrically driven compressor. **Ore:** Lead-silver. **Men employed:** Average, 6. **Remarks:** The company was engaged in developing its ground through the Headlight workings which are at a depth of 1200 ft. below the croppings of the Rose-Olympia vein.

**BULLION MNG. CO. LTD.**

**Officers:** William Sqaunce, Pres.; James H. Taylor, Sec.-Mgr., both of Wallace. **Property:** 3 patented, 13 unpatented claims, 320 acres; St. Joe dist.; 5 miles south of Borax, Montana; Wallace. **Development:** 3 cross-cut tunnels, approximately 5000 ft. and one small shaft. **Plant:** Pelton water wheel, compressor, machine drills and shop. **Ore:** Copper. **Men employed:** Average, 4. **Remarks:** The company is actively engaged in developing and has a considerable tonnage of copper ore blocked out.

**BUNKER HILL & SULLIVAN M. & C. CO.**

**Officers:** F. W. Bradley, Pres., 1022 Crocker Bldg., San Francisco, Calif.; Stanly A. Easton, Mgr., Kellogg. **Property:** 237 patented, 94 unpatented claims, approximately 4330 acres; Yreka dist.; Wardner and Kellogg. **Development:** Tunnels and shaft. The main or Kellogg tunnel is 8 x 9 ft. in section and about 2 miles long, above this tunnel the ore bodies have been explored to the surface. From near the face of Kellogg tunnel the main working shaft is 1600 ft. deep with stations 200 ft. apart. All of the underground workings total approximately 50 miles. **Plant:** MINE. Kellogg tunnel is equipped with electric trolley haulage, and all power used is furnished by company's plant and W. W. P. Co.; electric hoists, compressors, complete machine and blacksmith shops, saw-mills, and other equipment necessary for economical operations. MILL. 3 complete and modern concentrators, including flotation, with a daily capacity of about 2000 tons. The mine and mill surface plant has a replacement value of over \$2,000,000. **Ore:** Lead-silver. **Men employed:** Average, 872 in all departments. **Remarks:** This mine has been in continuous operation for 35 years, and is one of the largest dividend paying lead-silver mines in the world. Over 75 per cent of the men employed are Americans and about 70 per cent of these are married and own their

own homes. These homes are on company ground and were constructed either by the company or through financial aid advanced and retired on long time rental basis. This plan and the modern change houses are two of the many considerations given the men. The esprit de corp is excellent and the management cannot be excelled in operations, initiative or progressiveness. The history, development and operations of the company are fully described and profusely illustrated in the interesting and well-written article, "The Bunker Hill Enterprise" by T. A. Rickard, to which the reader is referred.

#### BUNKER HILL SMELTER

**Officers:** Frank M. Smith, Director, 1117 Paulsen Bldg., Spokane, Wash.; M. H. Sullivan, Supt., Kellogg. Railroad station, Bradley, 1 mile west of Kellogg. The smelter was erected in 1917 and since then it has been enlarged and improved, and as it stands today is one of the most modern and up-to-date plants in the United States. The plant covers about 30 acres and consists of complete equipment for sampling, roasting, sintering, smelting and refining lead, silver and gold ores. In addition to refined lead, silver and gold, antimonial lead and copper sulphate are also produced. This plant and its operations are fully described in a series of profusely illustrated articles by C. T. Rice in the Engineering and Mining Journal, issues of July 20, 1918, Sept. 7, 1918, Oct. 12, 1918, Oct. 26, 1918, and Nov. 2, 1918. All plans have been completed for the installation of an electrolytic zinc plant, and construction will probably start during the coming year.

#### BURKE MINING CO., LTD.

**Officers:** Ernest Brewer, Pres.-Mgr., Black Bear; John C. Glahe, Sec., Wallace. **Property:** 10 patented claims; 186 acres; Lelande dist.; Canyon Creek, 2 miles east of Burke. **Remarks:** Idle for the past 5 years.

#### CALEDONIA MINING CO.

**Officers:** Stanly A. Easton, Pres., Kellogg. **Property:** 2 claims and one fraction patented, 17.7 acres, Yreka dist.; adjoining property of Bunker Hill and Sullivan M. & C. Co.; Kellogg. **Development:** 500 ft. shaft, 2 tunnels, lower tunnel 4000 ft. long; total to date, approximately 15,520 ft. **Ore:** Lead-silver. **Men employed:** Average, 12. **Remarks:** Equipment for the operation of this property is furnished by the Bunker Hill & Sullivan M. & C. Co., which controls the majority of the stock.

#### CALIFORNIA GULCH PLACER MINING CO.

**Officers:** A. O. Rickert, Pres., Coeur d'Alene. **Property:** 3 unpatented claims, 160 acres; Eagle dist.; Murray. **Plant:** Hydraulic equipment. **Ore:** Placer gold. **Remarks:** The property is idle on account of litigation.

#### CALLAHAN ZINC-LEAD CO.

**Officers:** John Borg, Pres., 61 Broadway, New York; Charles W. Newton, Mgr., Interstate. **Property:** 80 patented and unpatented claims, 1300 acres; Beaver dist.; Interstate. **Development:** By adit and 1400 ft. vertical shaft; total, approximately 50,000 ft. **Plant:** Electrically driven compressor, hoist, sawmill, blacksmith and machine shop, electric haulage, and all necessary mining equipment; 600-ton concentrating mill with flotation unit. **Ore:** Zinc-lead-silver. **Men employed:** Average, approximately 200. **Remarks:** On account of unsettled conditions and the price of zinc, production was suspended early in the year and only a small part of the mine crew was retained on development work, which consisted principally in sinking the shaft 200 ft. deeper and drifting from this level. This property is the largest producer of zinc in the State.

#### CARBONATE HILL MINING CO.

**Officers:** A. P. McRea, Pres., Mullan; John C. Hoppe, Sec.-Treas., Hyde Bld., Spokane, Wash. **Property:** 10 patented, 2 unpatented claims; Hunter dist.; near Mullan. **Development:** Approximately 3500 ft. of workings. **Remarks:** Idle.

**CARBONATE MINING & MILLING CO.**

**Officers:** C. Wise, V. Pres., Wardner; C. W. Simmons, Sec., Kellogg. **Property:** 4 unpatented claims; Yreka dist.; Wardner. **Remarks:** Assessment work only.

**CARNEY COPPER CO., LTD.**

**Officers:** J. L. Martin, Pres.; C. D. Miller, Sec., both of Mullan. **Property:** 11 unpatented claims; Hunter dist., Mullan. **Development:** 2400 ft. of tunnels and crosscuts. **Ore:** Lead-silver. **Remarks:** Assessment work only.

**CEDAR CREEK MINING & DEVELOPMENT CO., LTD.**

**Officers:** J. W. Weyer, Pres.; William Becker, Sec.-Treas., both of Wallace. **Property:** 19 unpatented claims, 380 acres; Summit dist.; Wallace. **Development:** Tunnels and shaft; approximately 6000 ft. **Plant:** 3-drill compressor and blacksmith shop. **Remarks:** Active development work continued throughout the year. It is claimed that a large tonnage of ore is blocked out ready for extraction. This development represents one of the principal new discoveries in their district during the year.

**CENTRAL MINING CO.**

**Officers:** Maurice McNamee, Pres.; F. C. Richardson, Mgr., both of Burke. **Property:** 5 unpatented claims, 100 acres; Lelande dist.; between Hercules and Oom Paul; Burke. **Development:** About 400 ft. of tunnels. **Remarks:** This company was actively engaged in the development of its property by the extension of the Oom Paul tunnel.

**CHICAGO-BOSTON MINING CO.**

**Officers:** Donald A. Callahan, Pres., Wallace; C. W. Newton, Mgr., Interstate. **Property:** 2 patented and 9 unpatented claims, 175 acres, Placer Center dist., Lake Gulch, Wallace. **Development:** By 6 tunnels and one shaft approximately 6000 ft. **Plant:** 600 cu. ft compressor, air hoist, drill sharpeners and complete small equipment. **Ore:** Lead-silver. **Men employed:** Average, 15. **Remarks:** The control of this company is held by the Callahan Zinc-Lead Co. and active development work has continued throughout the year. This company absorbed the Killbuck Group and its name changed to Galena Mining Co. During the year the development work consisted of drifting on the vein on the 200 and 400-ft. levels. This work exposed considerable new ore which is recognized as one of the principal discoveries in Shoshone County in 1921. The discovery is of considerable importance, as heretofore this district has not been favorably considered.

**CLARK MONTANA REALTY CO.**

**Officers:** W. A. Clark, Pres.; W. C. Siderfin, 2d Vice Pres., both of Butte, Montana; Therrett Towles, Stat. Agent, Wallace. **Property:** 2 unpatented claims, 40 acres; Beaver dist.; Interstate. **Remarks:** Idle since 1918.

**CLEAR GRIT MINING CO., LTD.**

**Officers:** F. C. Rood, Pres., Walla Walla, Wash.; O. W. Lewis, Sec., Wallace. **Property:** 7 unpatented claims, 140 acres; Beaver dist. **Development:** About 1600 ft. of tunnels and drifts. **Remarks:** The main drift was extended 100 ft. during the year.

**CLIMAX SILVER LEAD MINING CO.**

**Officers:** David C. McKissick, Pres.; H. V. Edwards, Sec.-Treas., both of Wallace. **Property:** 1 patented and 3 unpatented claims, 75 acres; Placer Center dist.; Revenue Gulch; 1½ miles north of Wallace. **Development:** 2500 ft. of tunnels. **Plant:** Electrically driven compressor and drills. **Remarks:** Assessment work only.

**COEUR D'ALENE ANTIMONY MINING CO., LTD.**

**Officers:** M. E. Jolley, Pres., Coulee City, Wash.; C. M. Powell, Mgr., Kellogg. **Property:** 1 unpatented claim; Yreka dist.; Kellogg. **Development:** 600 ft. of shafts and drifts on the vein. **Plant:** Complete mining plant and 75-ton concentrator, including flotation. **Ore:** Antimony. **Remarks:** Idle.

**COEUR D'ALENE CHAMPION MINING CO.**

**Officers:** M. A. Doyle, Pres., Spokane, Wash.; James Keeth, Sec., 311 Hyde Blk., Spokane, Wash. **Property:** 17 unpatented claims, 320 acres; Hunter and Lelande dists.; 3½ miles northeast of Burke. **Development:** By 3 tunnels, totaling approximately 4000 ft. **Men employed:** Average for the year, 3.

**COEUR D'ALENE CRESCENT MINING CO.**

**Officers:** L. W. Bonney, Pres., Seattle, Wash. F. W. Mauser, Sec., 404 Jamieson Bldg., Spokane, Wash. **Property:** 6 unpatented claims; Evolution dist.; 1 mile northwest of Osburn. **Development:** By 600 ft. tunnel and double compartment shaft 600 ft. deep and several hundred feet of drifts. **Remarks:** Assessment work only.

**COEUR D'ALENE EMPIRE MINING & MILLING CO.**

**Officers:** F. D. Garrett, Pres., Spokane, Wash.; A. Herman, Sec.-Treas., 427 Rookery Bldg., Spokane, Wash. **Property:** 6 unpatented claims, 120 acres; Yreka dist.; Wardner. **Development:** 2 tunnels, upper 800 ft., lower 1650 ft. **Remarks:** Assessment work only.

**COEUR D'ALENE GOLD CRAG MINING CO., LTD.**

**Officers:** Stewart Fuller, Pres.; Jesse E. Fuller, Sec.-Treas., both of Spokane, Wash. **Property:** 11 unpatented claims in Illinois Gulch; unorganized dist.; nearest postoffice, Iron Mountain, Mont. **Development:** Approximately 1500 ft. of tunnels. **Remarks:** Assessment work only.

**COEUR D'ALENE JUMBO MINING CO.**

**Officers:** Fred M. Prichard, Pres.; Elmer Johnson, Sec.-Treas., both of Wallace. **Property:** 9 unpatented claims, 175 acres; Evolution dist.; Wallace. **Development:** Tunnels and shafts, approximately 2500 ft. **Remarks:** Assessment work only.

**COEUR D'ALENE LEAD & SILVER MINING CO.**

**Officers:** J. M. Porter, Pres., Spokane, Wash. **Property:** 4 patented, 1 unpatented claim, 103 acres; Hunter dist., Mullan. **Development:** By about 1000 ft. of tunnels. **Remarks:** Idle.

**COEUR D'ALENE MINING CO.**

**Officers:** John F. Murphy, Mgr., Murray. **Property:** 2800 acres of placer ground extending 7 miles west and 4 miles east of Murray on Eagle and Prichard Creek; Eagle dist.; Murray. **Remarks:** Under lease to Yukon Gold Co.

**COEUR D'ALENE MINING & SMELTING CO.**

**Officers:** Alec D. Wallace, Pres., Wallace. **Property:** 7 unpatented claims, 140 acres; Placer Center dist.; 3½ miles north of Wallace. **Development:** Upper tunnel 300 ft., lower 1100 ft. and shaft 100 ft. deep. **Remarks:** Assessment work only.

**COEUR D'ALENE SILVER-LEAD MINING CO.**

**Officers:** Charles J. Heidenreich, Pres., 1004 E. 8th St., Spokane, Wash. **Property:** 6 patented, 1 unpatented claim, 140 acres; Hunter dist.; Mullan. **Development:** Approximately 1500 ft. of tunnels. **Remarks:** Assessment work only for past 5 years.



**COEUR D'ALENE VULCAN MINING CO.**

**Officers:** George E. Beedle, Pres., Chicago, Ill.; Edward Felshow, Sec., Clintonville, Waupaca Co., Wis. **Property:** 7 patented claims; Evolution dist.; 3 miles west of Wallace. **Remarks:** Idle.

**COLUMBIA COPPER CO., LTD.**

**Officers:** Joseph Huber, Pres.-Mgr., Mullan. **Property:** 22 unpatented claims, 400 acres; Hunter dist.; Mullan. **Development:** Approximately 2100 ft. of tunnels. **Remarks:** Assessment work only.

**COLUMBUS MINING CO. OF COEUR D'ALENE.**

**Officers:** Daniel J. McElhatton, Pres., 2432 N. Marshall St., Philadelphia, Pa.; B. V. Carlson, Mgr., Prichard. **Property:** 3 patented, 14 unpatented claims, 296 acres; Eagle dist.; 8 miles northeast of Eagle; Prichard. **Development:** 2 large tunnels approximately 2000 ft. **Ore:** Lead-silver. **Men employed:** Average, 8. **Remarks:** During the year an 80 h. p. boiler and 4-drill steam driven compressor, air drills, and small equipment were installed. This company has an encouraging showing of high-grade ore.

**COLUSA MINING CO., LTD.**

**Officers:** William Thyson, Pres.; Paul Leuschel, Sec.-Treas., both of Wallace. **Property:** 1 unpatented claim; Yreka dist.; Wallace. **Remarks:** Assessment work only.

**COPPER CHIEF MINING CO.**

**Officers:** William Squance, Pres.; James H. Taylor, Sec.-Mgr., both of Wallace. **Property:** 11 unpatented claims; St. Joe dist.; 5 miles south of Borax, Mont. **Development:** Approximately 1200 ft. of tunnels. **Ore:** Copper. **Men employed:** Average, 3. **Remarks:** Property is being developed through crosscut tunnel and with plant of Bullion Mining Co.

**COPPER PLATE MINING CO., LTD.**

**Officers:** John Hendrickson, Pres., Mullan. **Property:** 6 unpatented claims; Hunter dist.; Deadman Gulch; Mullan. **Development:** By tunnels; approximately 3000 ft. **Remarks:** Assessment work only.

**CRESCENT MINING & MILLING CO.**

**Officers:** Dennis P. Woods, Sec.-Treas.-Mgr., Spokane, Wash. **Property:** 5 unpatented claims; Yreka dist.; West fork of Moon Creek; Kellogg. **Development:** By 5 tunnels, aggregate length 1500 ft. **Remarks:** Assessment work only.

**C. & R. MINING CO.**

**Officers:** Edwin Roberts, Pres., Herman J. Rossi, Sec.-Treas., both of Wallace. **Property:** 9 patented claims; Placer Center and Lelande dists.; near Sunset; Wallace. **Development:** Approximately 4000 ft. of tunnels. **Plant:** Electrically driven compressor. **Ore:** Lead-silver. **Men employed:** Average, 4.

**CUBA MINING CO.**

**Officers:** D. L. Hopkins, Pres., Portland, Ore; John Dolan, Sec.-Treas., Wallace. **Property:** 2 patented claims, 40 acres; Placer Center dist.; Nine Mile; Wallace. **Development:** By tunnels; approximately 1100 ft. **Remarks:** Idle.

**DAISY MINING CO., LTD.**

**Officers:** C. D. Miller, Sec., Mullan. **Property:** 2 unpatented claims; Hunter dist.; Mullan. **Development:** 100 ft. shaft, and 800 ft. of tunnels and crosscuts. **Remarks:** Assessment work only.

**DEEP WONDER MINING CO.**

**Officers:** James H. Taylor, Pres., Wallace; Charles J. Kapps, Sec. pro tem., Spokane, Wash. **Property:** 12 patented claims, 210 acres; Hunter dist.; Trowbridge Gulch; Wallace. **Development:** By tunnels, 3000 ft. **Remarks:** Idle since 1915.

**DOBSON PASS MINING CO.**

**Officers:** J. P. Rogers, Pres., Wallace. **Property:** 6 unpatented claims; Placer Center dist.; Wallace. **Development:** 1000 ft. of tunnel. **Remarks:** Assessment work only.

**DOUGLAS MINING CO., LTD.**

**Officers:** Herman J. Rossi, V. Pres., Wallace. **Property:** 10 patented claims; Yreka dist.; Pine Creek; Kellogg. **Development:** By approximately 1600 ft. of tunnels. **Plant:** Electrically driven compressor. **Men employed:** Average, 1.

**DU BOIS MINING CO.**

**Officers:** J. B. Eberhart, Sec.-Treas., Box 441, Punxsutawney, Pa. **Property:** 6 patented claims, 130 acres; Yreka dist.; 2 miles east of Kellogg. **Remarks:** Idle since 1911.

**EAGAN COPPER MINING CO.**

**Officers:** Roy A. Hinkle, Pres., Spokane; L. L. Brainard, Sec., Wallace. **Property:** 10 unpatented claims; Bald Mountain dist., Adair. **Development:** About 1000 ft. of drifting, crosscutting and shaft. **Remarks:** Assessment work only.

**EAST ALAMEDA MINING CO., LTD.**

**Officers:** Walter Graham, Pres., Wallace; Everett H. Pattison, Sec., Long Beach, Cal. **Property:** 1 patented and 1 unpatented claim; Lelande dist.; Wallace. **Remarks:** Idle.

**EASTERN STAR MINING CO., LTD.**

**Officers:** Jack Johnstone, Pres., Burke. John C. Glahe, Sec., Wallace. **Property:** 17 unpatented claims, Lelande dist., Burke. **Development:** Approximately 1100 ft. of tunnels and drifts. **Remarks:** Assessment work only.

**EAST HERCULES EXTENSION MINING CO.**

**Officers:** W. O. Appelquist, 337 Rookery Bldg., Acting Sec., Spokane, Wash.; W. H. Reeves, Mgr., Burke. **Property:** 7 unpatented claims; Lelande dist.; 3 miles from Burke. **Development:** 2 tunnels; one 140 ft., one 175 ft. **Remarks:** Assessment work only.

**EAST STANDARD MINING CO.**

**Officers:** Joseph Matt, Pres.-Mgr., Burke. **Property:** 4 patented claims, 38.8 acres; Lelande dist.; adjoining Hecla on the west; Burke. **Development:** By tunnel 1600 ft. **Men employed:** Average, 1.

**ECHO MINING CO., LTD.**

**Officers:** O. A. Olin, Pres., Wallace. **Property:** 8 patented claims; Lelande dist.; Wallace. **Remarks:** Idle.

**ECLIPSE MINING CO.**

**Officers:** E. W. Conrad, 1729 Mallon Ave., Pres.-Mgr. Spokane, Wash. **Property:** 13 unpatented claims; Evolution dist.; McFerren Creek; Osburn. **Development:** By approximately 1700 ft. of tunnels. **Plant:** Electrically driven compressor. **Remarks:** Assessment work only.

**ELDORADO MINING & SMELTING CO.**

**Officers:** J. C. Waddell, Pres., Rose Lake; G. W. Dougherty, Sec.-Treas., Wallace. **Property:** 4 unpatented claims, approximately 70 acres; Yreka dist.; Kellogg. **Development:** By about 800 ft. of tunnels. **Remarks:** Assessment work only.

**ELK MINING CO.**

**Officers:** John F. Carson, Pres., Mullan. **Property:** 3 patented claims, 28 acres; Hunter dist.; Mullan. **Development:** Approximately 2000 ft. of tunnels and prospect shafts. **Remarks:** Idle.

**EUREKA MINING & MILLING CO., LTD.**

**Officers:** W. R. Prowell, Pres.-Sec.-Mgr., Wenatchee, Wash. **Property:** 7 patented claims; Placer Center dist.; Nine Mile, Wallace. **Development:** By several tunnels, approximately 1500 ft. **Remarks:** Idle.

**FAIRVIEW MINING CO., LTD.**

**Officers:** James Quinlan, Pres., Globe, Ariz.; Mary Quinlan, Mgr., Portland, Ore. **Property:** 3 unpatented claims; Hunter district; Mullan. **Remarks:** Assessment work only.

**FANNIE GREMM MINING CO.**

**Officers:** P. P. Weber, Pres., Kellogg, Hunter dist.; Wallace. A. J. Dunn, Sec., Wallace. **Property:** 2 patented claims, 20 acres. **Remarks:** Idle.

**FEDERAL MINING & SMELTING CO.**

**Officers:** F. H. Brownell, Pres., 32 Broadway, New York; Frederick Burbidge, Gen. Mgr., Wallace. **Property:** BURKE GROUP, 1 patented mill-site, Lelande dist., Burke; MACE GROUP, 30 patented claims, 434 acres, Lelande dist., Mace; FRISCO GROUP, 12 patented claims, 197 acres, Lelande dist., Burke; MORNING GROUP, 23 patented, 17 unpatented claims, 843 acres, Hunter dist., Mullan; CON BIEDERMAN GROUP, 2 patented claims, 62 acres, Yreka dist., Kellogg; BIG CREEK GROUP, 3 patented claims, 40.5 acres, Evolution dist., Wallace; GOVERNMENT GULCH GROUP, controlling interest in one patented claim, 20.6 acres, Yreka dist., Kellogg; PAGE GROUP, 88 patented claims, 1512 acres, Yreka dist., Kellogg. **Development:** No information available except on Morning Mine at Mullan, which has been developed to a depth of 3800 ft. from the surface and is operated through No. 6 tunnel, 2 miles in length from portal to shaft; the vertical 4 compartment shaft being 2250 ft. deep with 12 intermediate levels. The total development is approximately 30 miles. **Plant:** Morning Mine, fully equipped and modern, electric hoist, machine and blacksmith shops, compressors, drills; power furnished by plant owned by company and W. W. P. Co.; electric haulage (trolley and storage battery); Morning mill, Mullan, 1000-ton concentrator, including flotation; Standard mill, Wallace, 500-ton concentrator; Mammoth mill, Frisco 400-ton concentrator. **Ore:** Lead-silver, zinc. **Men employed:** Average, 520. **Remarks:** The Morning Mine is the principal property of this company and is one of the largest in the State in the number of men employed, tonnage produced and ore reserves. Capacity production was maintained throughout the year.

**FIDELITY CO., LTD.**

**Officers:** Oscar B. Bergstrom, Pres., Wallace; Allen G. Kennedy, Mgr., Wallace. **Property:** 6 patented, 30 unpatented claims, 600 acres, Summit dist.; Monarch. **Development:** By tunnels, shafts and raises, approximately 16,000 ft. **Plant:** Water power, 1050 cu. ft. compressor, 3 hoists and all necessary small mining equipment, 100-ton concentrator. **Ore:** Lead-silver-zinc. **Men employed:** Average, 5. **Remarks:** This property was operated successfully by five lessors throughout the year.

**FIRST NATIONAL SILVER MINES, LTD.**

**Officers:** F. Baumgartner, Pres., Wallace; Matt Baumgartner, 323-324 Lindelle Blk., Sec., Spokane, Wash. **Property:** 7 patented, 25 unpatented claims, 640 acres; Evolution dist.; Big Creek; Kellogg. **Development:** About 3500 ft. of tunnels. **Plant:** Steam driven compressor, with complete mining equipment. **Men employed:** Average, 2. **Remarks:** A small amount of development work.

**FISHHOOK MINING CO.**

**Officers:** Louis Olson, Pres., 907 W. Jackson Ave., Spokane, Wash.; Martin Olson, V. Pres., Avery. **Property:** 5 unpatented claims; St. Joe dist.; Fishhook Creek; Avery. **Development:** Approximately 140 ft. **Remarks:** Assessment work only.

**FLAG STAFF MINING CO., LTD.**

**Officers:** Joseph S. Thomas, Pres., Wallace. **Property:** 4 unpatented claims; Placer Center dist.; Dudley Creek; Wallace. **Development:** 800 ft. tunnels and open cuts. **Remarks:** Assessment work only.

**FLORENCE MINING & MILLING CO., LTD.**

**Officers:** Charles Dallaire, Pres., Kellogg; John B. Steffes, Sec.-Treas.-Mgr., Kellogg. **Property:** 10 unpatented claims, 170 acres; Yreka dist.; Big Creek; adjoining Alhambra; Kellogg. **Development:** 980 ft. tunnel. **Men employed:** Average, 2.

**FORMOSA LEAD MINING CO., LTD.**

**Officers:** Charles Hussey, Sec.; Spokane, Wash.; J. H. McCarty, Mgr., Wallace. **Property:** 3 patented claims; Lelande and Placer Center dists.; Gem. **Remarks:** Idle since 1907.

**FORTUNATE MINING CO.**

**Officers:** Frank Olson, Mgr., Kingston. **Property:** 6 unpatented claims; Yreka dist.; North Fork of Coeur d'Alene River; Kingston. **Development:** About 800 ft. of tunnels. **Remarks:** Assessment work only.

**FRIEND MINING CO.**

**Officers:** T. F. Haven, Pres., Spokane, Wash.; William Schierding, Sec., 321 Lindelle Blk., Spokane, Wash. **Property:** 9 unpatented claims, approximately 170 acres; Beaver dist.; Wallace. **Development:** By tunnels and shaft, approximately 3400 ft. **Equipment:** Electrically driven compressor; crusher and handjigs. **Ore:** Lead-silver-zinc. **Men employed:** Average, 3.

**GALENA MINING COMPANY. (See Chicago-Boston Mining Co.)****GERTIE MINING CO.**

**Officers:** L. W. Hutton, Pres.; A. A. Booth, Mgr., 708 Hutton Bldg., Spokane, Wash. **Property:** 3 patented claims; Lelande dist.; 42 acres; adjoining Hecla on the southeast; Burke. **Development:** About 7000 ft. of tunnels. **Plant:** Electrically driven compressor. **Remarks:** Idle since 1918.

**GIANT LEDGE MINING CO.**

**Officers:** John H. Taylor, Pres., 617 Peyton Bldg., Spokane, Wash.; W. W. Johnston, Sec., Spokane, Wash.; Charles G. Taylor, Mgr., Murray. **Property:** 65 unpatented claims; Summit dist.; Granite Gulch; 4 miles east of Murray. **Plant:** Water driven compressor, electric hoist, sawmill, and small equipment. **Ore:** Lead-silver, copper, gold. **Men employed:** Average, 6. **Remarks:** During 1921 a small concentrator to handle lead-silver-zinc ore was constructed and development work on the 400-ft. level was conducted throughout the year. This work proved a good gold vein.

**GIANT MINING & DEVELOPMENT CO.**

**Officers:** Paul Liver, Pres.-Mgr.; E. R. Turk, Sec.-Treas., both of Wallace. **Property:** 9 unpatented claims; 150 acres; Beaver dist.; Wallace. **Development:** 2800 ft. of tunnels. **Ore:** Lead-silver. **Men employed:** Average, 2.

**GOLD HUNTER MINING & SMELTING CO.**

**Officers:** P. J. Hennessy, Pres., 44 E. Superior St., Chicago, Ill.; Thos. F. Kelley, Treas., Chicago, Ill.; Chas. L. Herrick, Mgr., Mullan. **Property:** 12 patented claims, 160 acres; Hunter dist.; Mullan. **Development:** Shaft and tunnels, the main tunnel being 4800 ft. long with shaft from this level 1500 ft. deep, with intermediate levels. **Plant:** Complete and modern; electric hoist, two 3000 cu. ft. electrically driven compressors, pumps, machine and blacksmith shops, electric haulage; 400-ton concentrator with flotation equipment. **Ore:** Lead-silver. **Men employed:** Average, 26 lesses; 12 by company. **Remarks:** On account of the general depression that existed throughout the year, production was suspended in 1920, the upper workings were turned over to lessees, and only a small crew was retained on repairs and development.

**GOVERNMENT GULCH MINING & DEVELOPMENT CO.**

**Officers:** Frederick Burbidge, Pres.-Mgr., Wallace. **Property:** 8 patented claims; 102 acres; Yreka dist.; Wallace. **Development:** 1850 ft. tunnel, 100 ft. inclined shaft. **Remarks:** Idle. Controlled by Federal Mining & Smelting Co.

**GREAT EASTERN MINING CO., LTD.**

**Officers:** John O. Carlson, Pres., Wallace; John C. Furst, Sec.-Treas., Wallace. **Property:** 12 patented claims; 140 acres; Lelande dist.; **Development:** About 4000 ft. of tunnels and drifts. **Remarks:** Idle.

**GREAT WESTERN MINING CO., LTD.**

**Officers:** Jesse Norton, Pres., Duluth, Minn. **Property:** 7 patented claims; 122.5 acres; Lelande dist.; 3 miles from Burke. **Development:** Approximately 4000 ft. of tunnels with a 200-ft. shaft. **Plant:** Electrically driven compressor. **Remarks:** Idle since 1915.

**GREEN HILL CLEVELAND MINING CO.**

**Officers:** Frederick Burbidge, Mgr., Wallace. **Property:** 3 patented claims; Lelande dist.; Mace. **Development:** Through the workings of the Standard Mammoth Mine. **Remarks:** Controlled by Federal Mining & Smelting Co.

**GUELPH MINING & MILLING CO., LTD.**

**Officers:** Byrd Coyle, Pres., Walla Walla, Wash.; A. B. Corby, Sec.-Treas., Kellogg. **Property:** 5 patented claims, 5 unpatented fractions; 100 acres, Lelande dist.; Nine Mile; Wallace. **Development:** No. 2 tunnel 1800 ft., shaft 250 ft., with 650 ft. of crosscuts on 250 ft. level. **Plant:** Electrically driven 5-drill compressor; air hoist and complete mining equipment. **Men employed:** Average, 1.

**HAYES CO.**

**Officers:** Arthur Hayes, Pres., Kellogg. **Plant:** Concentrator. **Ore:** Lead-silver produced from tailings recovered from Coeur d'Alene River. **Men employed:** Average, 13.

**HEADLIGHT MINING CO., LTD.**

**Officers:** Frank P. Markwell, Pres., 689 S. Catalina St., Los Angeles, Calif.; E. H. Pattison, Sec., Long Beach, Calif.; Alexander Murphy, Stat. Agent, Wallace. **Property:** 12 patented, 2 unpatented claims, 125 acres; Lelande dist., adjoining Standard Mammoth mine on the west and south of Green Hill-Cleveland; Wallace. **Development:** Many hundred ft. of tunnels. **Remarks:** Idle since 1917.

**HECLA MINING CO..**

**Officers:** James F. McCarthy, Pres.-Mgr., Wallace; L. E. Hanley, Sec., Wallace. **Property:** 43 patented claims, 471 acres; Lelande dist., Burke. **Development:** By shaft and tunnels. The main shaft is 2000 feet deep with over 30,000 ft. of drifts and cross-cuts. Extensions during the year amounted to over 10,000 ft. **Plant:** One of the most complete in the state; electric hoist that can be operated to 2400 ft. depth; complete electrical pumping equipment, complete machine and blacksmith shop, compressors, drills, ore sorting plant and electric haulage (storage battery) on all levels; 700-ton concentrator, including flotation, is located at Gem. **Ore:** Lead-silver. **Men employed:** Average, 433. **Remarks:** The Hecla mine is one of the leading dividend payers in the State. It was developed from funds obtained through stock sales, and the estimated ore reserves assure a life for many years. The property is very efficiently managed and the excellent esprit de corps is a dominant factor in the low cost of production. The physical condition of the property is kept up to a very high standard.

**HELVETIA MINING CO.**

**Officers:** Paul Liver, Pres.; Thomas Nicholson, Sec.-Mgr., both of Wallace. **Property:** 5 unpatented claims; Placer Center dist.; Wallace. **Development:** About 400 ft. of tunnel. **Men employed:** Average, 2.

**HERCULES MINING CO. (Partnership)**

**Officers:** Eugene R. Day, Mgr., Wallace. **Property:** Extensive patented holdings; Lelande dist.; Burke. **Development:** By a total depth of approximately 3200 ft. from the surface. Humming Bird, or No. 5, is the main working tunnel; the portal is in the town of Burke and but a few feet higher; total length from portal to four compartment vertical shaft, 8000 ft. **Plant:** Electric haulage; traction on No. 5 and storage battery on intermediate levels. Ignner type electric hoist, one of the largest in the world operating underground; machine and blacksmith shops. All fitted with modern machinery. One of the most completely equipped mines in the State. The 700-ton concentrator, including flotation, is located at Wallace. **Ore:** Lead-silver. **Men employed:** Average is about 500 when in full operation. During the year the average was 206. **Remarks:** Because of the lead market and the general depression, production was suspended on March 18, and the men employed were engaged in repairs, prospecting and developing. The Hercules is one of the bonanza mines of the Coeur d'Alenes, and dividends totaling many millions have been paid continuously since 1901.

**HIDDEN TREASURE MINING CO.**

**Officers:** Frederick Burbidge, Pres.-Mgr., Wallace. **Property:** 4 patented claims; Lelande dist.; Burke. **Remarks:** Controlled by Federal Mining & Smelting Co. Idle for a number of years.

**HIGHLAND-SURPRISE CONSOLIDATED MINING CO.**

**Officers:** Dr. Charles R. Mowry, Pres. Wallace; George D. Lamielle, Sec., Kellogg; M. J. Sinclair, Mgr., Kellogg. **Property:** 3 patented, 30 unpatented claims, 600 acres; Yreka dist.; Pine Creek; Kellogg. **Plant:** 700 cu. ft. compressor; 40 h. p. hoist, together with complete mining equipment; 125-ton concentrator. **Ore:** Lead-silver-zinc. **Men employed:** Average, 4.

**HILL MINING & MILLING CO.**

**Officers:** Josiah Hill, Pres., Kellogg. **Property:** 4 unpatented claims, Yreka dist.; Slaughter House Gulch; Kellogg. **Development:** By tunnels, one over 900 ft. long. **Remarks:** Assessment work only.

**HONOLULU MINING CO., LTD.**

**Officers:** J. W. Tabor, Pres., Wallace. **Property:** 4 unpatented claims, 60 acres; Lelande dist.; Wallace. **Development:** Approximately 1400 ft. of tunnels. **Remarks:** Assessment work only.

**HORNSILVER MINING & MILLING CO.**

**Officers:** James R. Taylor, Pres.; O. R. Young, Sec., Wallace. **Property:** 2 unpatented claims; Placer Center dist.; Wallace. **Development:** Approximately 1000 ft. of tunnel and drifts. **Remarks:** Assessment work only.

**HORSESHOE MINING CO.**

**Officers:** J. B. Scoles, Pres.-Mgr., Mullan. **Property:** 9 unpatented claims; Hunter dist.; Mullan. **Development:** 1600 ft. of tunnels. **Plant:** Electrically driven compressor. **Ore:** Lead-silver, copper, gold. **Men employed:** Average, 6.

**HUMMING BIRD MINING CO.**

**Officers:** Eugene R. Day, Wallace, Pres.; H. J. Hull, Sec.-Treas. **Property:** 19 patented claims; Lelande dist.; adjoining town of Burke and Hercules mine. **Remarks:** This company is controlled by the Hercules Mining Co., which is using the Humming Bird tunnel as the main working tunnel for the Hercules.

**HYPOTHEEK MINING & MILLING CO.**

**Officers:** Walter H. Hanson, Pres.; Otto A. Olsson, Mgr., both of Wallace. **Property:** 640 acres purchased from N. P. Ry. Co.; Yreka dist.; 3 miles south of Kingston. **Development:** Approximately 2 miles underground working, including a 700-ft. and an 1100-ft. shaft. **Plant:** Complete. Electrically equipped 200-ton concentrator. **Ore:** Lead, silver, gold. **Men employed:** Average, 3.

**IDAHO CARBONATE HILL CONSOLIDATED MINING CO.**

**Officers:** W. D. Greenough, Pres., 928 Old National Bank Bldg., Spokane, Wash. **Property:** 14 patented, 20 unpatented claims; Hunter dist.; Willow Creek; Mullan. **Development:** Workings aggregate over 5000 ft. **Plant:** Used Snowstorm equipment. **Remarks:** Idle.

**IDAHO EASTERN MINING & MILLING CO.**

**Officers:** Eugene R. Day, Pres.; P. J. Maggy, Sec., both of Wallace. **Remarks:** Controlled by Hercules Co. No information available.

**IDAHO GIANT MINING CO.**

**Officers:** Leo Greenough, Mgr., Spokane, Wash.; W. J. Beaton, Sec.-Treas., Spokane, Wash. **Remarks:** This company has sold all of its property, but is preserving its corporate existence.

**IDAHO LEADVILLE MINES CO.**

**Officers:** Thomas Fahey, Pres., W. 1609 Clark Ave., Spokane, Wash. **Property:** 12 unpatented claims, 240 acres; Evolution dist.; Osburn. **Development:** Approximately 900 ft. including 250 ft. vertical shaft. **Remarks:** Assessment work only.

**IDAHO & LOS ANGELES MINING & MILLING CO.**

**Officers:** John W. Flink, Pres., Albuquerque, New Mexico; Alfred J. Dunn, Sec.-Mgr., Wallace. **Property:** 7 patented and 7 unpatented claims; Placer Center & Beaver dists.; Wallace. **Development:** By about 3000 ft. underground workings. **Men employed:** Average, 2.

**IDAHO MINES LEASING CO.**

**Officers:** John S. Wheeler, Pres.; W. J. Stratton, Sec.-Mgr., both of Wallace. **Property:** Lease on Frisco Group owned by Federal Mining & Smelting Co.; Lelande dist.; Burke. **Plant:** Electrically driven compressor; 50-ton concentrator. **Men employed:** Average, 10.

**IDAHO NORTHERN MINERAL CO.**

**Officers:** J. A. Sandgren, Pres., Pincher Creek, Alberta, Canada; O. M. Nordquist, Wallace, Mgr. **Property:** 18 unpatented claims; Summit dist.; Beaver Creek dist.; Carbonite. **Development:** Approximately 800 ft. of depth of 400 ft. and about 500 ft. of drifts. **Men employed:** Average, 2.

**IDORA MINING CO., LTD.**

**Officers:** J. C. Broad, Pres., Spokane, Wash.; C. E. Mallett, Sec.-Treas., Spokane, Wash. **Property:** 1 patented, 8 unpatented claims, 154 acres; Beaver Creek dist.; Carbonite. **Development:** Approximately 800 ft. of tunnels, drifts and raises. **Plant:** Complete mining equipment, including electrically driven hoist and compressor; 100-ton concentrator. **Ore:** Lead, silver, zinc. **Men employed:** Average, 1.

**IMPERIAL MINING CO.**

**Officers:** John H. Nordquist, Pres.; Homer G. Brown, Sec.-Mgr., both of Wallace. **Property:** 10 patented claims; Lelande dist.; 1 mile east of Burke. **Development:** By 6500 ft. of tunnels and crosscuts. **Equipment:** Electrically driven compressor, including small equipment. **Ore:** Lead-silver. **Men employed,** Average, 6. **Remarks:** All work was confined to drifting on the ledge in the lower tunnel. This tunnel is 700 ft. below No. 1 tunnel in which is a good showing of ore, which is expected to extend to the lower tunnel.

**INDEPENDENCE LEAD MINES, LTD.**

**Officers:** W. E. Cullen, Jr., Pres., Spokane, Wash.; H. B. Kingsbury, Sec., Mullan. **Property:** 10 patented claims, Hunter dist.; 1 mile from Mullan between Gold Hunter and Morning. **Development:** By crosscut tunnels; approximately 4000 ft. with a total vertical depth of about 1000 ft. **Ore:** Lead-silver. **Men employed:** Average, 4. **Remarks:** This property has been idle for a number of years and during the year under the active management of Mr. Kingsbury it was opened up and active development work started. This work was successful in developing a good showing of ore.

**INDEPENDENT COPPER MINING & MILLING CO., LTD.**

**Officers:** John H. Nordquist, Pres.-Mgr.; Otto A. Olsson, Sec., both of Wallace. **Property:** 3 patented claims; Hunter dist.; 3½ miles northeast of Mullan; Snowstorm Copper Belt. **Development:** 1300 ft. of tunnels; number of drifts and 200 ft. shaft. **Plant:** Electrically driven compressor.

**INLAND EMPIRE MINING & MILLING CO.**

**Officers:** Mary Madar, Pres.; John Madar, Sec., both of Burke. **Property:** 1 patented claim, 12 acres; Lelande dist.; Burke. **Development:** About 2500 ft. of tunnels and 225 ft. inclined shaft. **Plant:** Electrically driven compressor and hoist, including small equipment and a partly completed concentrator. **Remarks:** Idle.

**INTERNATIONAL MINING CO.**

**Officers:** W. F. Robertson, Sec.-Treas., Rolette, N. Dak.; F. C. May, Mgr., Kellogg. **Property:** 15 unpatented claims; Yreka dist.; Pine Creek; Kellogg. **Development:** Approximately 3000 ft. of underground workings. **Plant:** Gas driven compressor. **Men employed:** Average, 3.

**IRON KING MINING CO., LTD.**

**Officers:** Herman J. Rossi, Pres.; Otto A. Olsson, Sec.; A. P. Reinhardt, Mgr., all of Wallace. **Property:** 4 unpatented claims; Evolution dist.; Wallace. **Development:** Approximately 1700 ft. of tunnels. **Men employed:** Average, 1. **Remarks:** In December the mine was leased to two miners and active prospecting started.



**IRON SPAR COPPER MINING CO.**

**Officers:** A. L. Honeker, Treas., Wallace. **Property:** 4 unpatented claims, partly in Hunter district and partly in St. Regis district, Montana; Wallace. **Development:** Approximately 900 ft. of tunnels. **Remarks:** Assessment work only.

**IVANHOE MINING CO., LTD.**

**Officers:** James A. Bean, Pres., Los Angeles, Calif.; C. D. Miller, Sec.-Mgr., Mullan. **Property:** 2 patented claims; Hunter dist.; adjoining Star on the south; Mullan. **Development:** By approximately 2000 ft. of tunnels. **Remarks:** Idle.

**JACK WAITE MINING CO., LTD.**

**Officers:** E. Windsby, Pres., Oakland, Calif.; C. E. Chamberlain, Treas., P. O. Box 2173, Spokane, Wash.; Earl Smith, Supt., Prichard. **Property:** 4 patented claims, 32 acres, 5 unpatented claims; Eagle dist.; 10 miles from Eagle; Prichard. **Development:** 2 tunnels connected by a raise; approximately 4,400 ft. **Equipment:** Steam driven compressor. **Ore:** Lead-silver. **Men employed:** Average, 4.

**JIM BLAINE SILVER SYNDICATE, LTD.**

**Officers:** Matt Baumgartner, Sec., 321 Lindelle Blk., Spokane, Wash. **Property:** 25 unpatented claims, approximately 500 acres, consisting of a consolidation of the Jim Blaine, Bristol and Chesapeake groups; Yreka dist.; Pine Creek; near Nabob; Kellogg. **Development:** By tunnels. **Plant:** Gas driven compressor. **Ore:** Lead-silver-zinc. **Men employed:** Average, 5. **Remarks:** Mining equipment installed during the year and active development maintained.

**KELLOGG GALENA MINING CO.**

**Officers:** C. C. McEachran, Pres., Spokane, Wash.; Samuel A. McCoy, Mgr., Old National Bank Bldg., Spokane, Wash. **Property:** 2 groups: one, 3 miles northwest, the other, 2 miles west of Kellogg; 14 unpatented claims, 80 acres patented; Yreka dist.; Kellogg. **Development:** Both groups approximately 1000 ft. of tunnels. **Remarks:** Assessment work only.

**KELLOGG PEAK MIDLAND MINING CO.**

**Officers:** J. B. Cox, Resident Agent, Kellogg. **Property:** 10 unpatented claims; Yreka dist.; Kellogg. **Development:** By tunnels. **Remarks:** Idle.

**KELLOGG UNITED MINES CO.**

**Officers:** J. A. McEachran, Pres.-Mgr., Spokane, Wash. **Property:** 10 unpatented claims; Yreka dist.; Pine Creek; Kellogg. **Development:** Shafts, tunnels and raises. **Equipment:** Gasoline hoist. **Men employed:** Average, 3. **Remarks:** This company also holds a lease from the Federal Mining & Smelting Company on the Greatwestern Group and part of the year operated a lease from the Bunker Hill & Sullivan M. & C. Co., known as the Beaudry lease. The company has under construction a concentrator for the ground held under lease from the Federal, but owing to market and financial conditions, construction work was suspended.

**KING OF PINE CREEK MINING CO.**

**Officers:** J. H. Otto, Pres.; E. C. Young, Sec.-Mgr., both of Wallace. **Property:** 4 unpatented claims; Yreka dist.; Pine Creek; Kellogg. **Development:** Approximately 600 ft. of tunnels and winzes. **Remarks:** Assessment work only.

**LACLEDE MINING CO.**

**Officers:** C. Fred Katzer, Pres., 706 W. Euclid Ave., Spokane, Wash.; James A. Wayne, Sec.-Treas., Wallace. **Property:** 9 patented claims; Lelande dist.; between Hercules and Tamarack-Custer, adjoining Hercules. **Remarks:** Reported to be controlled by Day family. No information available. Idle throughout the year.

**LEAD CRYSTALS MINING CO., LTD.**

**Officers:** John E. Steen, Pres., Spokane, Wash.; L. Leighty, Sec.-Treas., Wallace. **Property:** 10 unpatented claims; Eagle dist.; 7 miles from Union. **Development:** By tunnels. **Remarks:** This company developed what appears to be a good grade of shipping ore.

**LEROY CONSOLIDATED GOLD & COPPER MINING CO.**

**Officers:** G. F. Damn, Pres.; C. E. Clarke, Sec., both of Wallace. **Property:** 5 patented claims; 83 acres; Adair. **Remarks:** Idle.

**LEWIS & CLARK MINING CO.**

**Officers:** William Grismer, Pres.; J. R. Bean, Sec., both of Mullan. **Property:** 7 unpatented claims; Hunter dist.; near Mullan. **Remarks:** Idle.

**LIBERTY GEM MINING & MILLING CO.**

**Officers:** Sarah M. Weigle, Pres., St. Helens, Oregon; F. B. Reinking, Sec., Boise. **Property:** 4 patented, 7 unpatented claims; 220 acres; Yreka dist.; Kellogg. **Remarks:** Assessment work only.

**LITTLE BUTTE MINING CO.**

**Officers:** Mack Cyr, Pres.; Herman J. Rossi, Sec.-Treas., Wallace. **Property:** 27 unpatented claims; Lelande dist.; 4 miles above Burke. **Remarks:** Assessment work only.

**LOMBARDY MINING & MILLING CO.**

**Officers:** Peter Albinola, Pres.; Herman J. Rossi, Sec.-Treas., Wallace. **Property:** 16 patented claims; Yreka dist.; Italian Gulch; Kellogg. **Development:** Tunnels and shaft approximately 1600 ft. **Plant:** Electrically driven compressor. **Remarks:** A small amount of development work was done during 1921.

**LOOKOUT MOUNTAIN MINING & MILLING CO.**

**Officers:** R. L. Brainard, Pres.; W. L. Penney, Sec.-Treas., both of Kellogg. **Property:** 14 unpatented claims; Yreka dist.; Pine Creek; Kellogg. **Development:** 2 tunnels, lower one 375 ft. below upper, length 500 ft. **Plant:** Gas driven compressor. **Ore:** Lead-silver. **Men employed:** Average, 3. **Remarks:** Lower tunnel intersected Lookout vein in June; and continued drifting is proving this to be one of the new discoveries in this district for the year. A considerable tonnage of ore was blocked out, a tramway constructed, and shipments will commence early in 1922.

**LUCKY BOB MINING CO., LTD.**

**Officers:** Charles Harr, Pres., Wallace; Charles A. Gram, Sec., Spokane. **Property:** 5 unpatented claims; Evolution dist.; Wallace. **Development:** By 600 ft. tunnel. **Remarks:** Idle.

**LUCKY BOY MINING & CONCENTRATING CO.**

**Officers:** M. D. Needham, Pres.-Mgr., Mullan. **Property:** 17 claims; Hunter dist.; 2 miles east of Mullan. **Development:** By tunnels, approximately 4000 ft. **Men employed:** Average, 2.

**LUCKY CALUMET COPPER MINING CO., LTD.**

**Officers:** John H. Nordquist, Pres.-Mgr.; Otto A. Olsson, Sec., Wallace. **Property:** 10 patented claims; Hunter dist.; on Snowstorm Hill 5 miles northeast of Mullan. **Development:** About 8000 ft. of tunnels. **Equipment:** Electrically driven compressor. **Remarks:** Idle.

**LUCKY STONE MINING CO.**

**Officers:** Dr. Peter Reid, Pres.; George H. Walters, Sec., Empire State Bldg., Spokane, Wash. **Property:** 20 unpatented claims; Evolution dist.; 2 miles south of Osburn. **Development:** By approximately 500 ft. of tunnels. **Men employed:** Average, 3.

**MAINE STANDARD MINING CO., LTD.**

**Officers:** Alexander Murphy, Pres., Wallace. **Property:** 5 unpatented claims; Yreka dist. **Remarks:** Assessment work only.

**MAJESTIC MINING CO., LTD.**

**Officers:** James Dunne, Pres., Burke; Therrett Towles, Sec.-Treas., Wallace. **Property:** 13 patented claims; Lelande & Summit dists.; 1½ miles northeast of Burke. **Development:** By 1500 ft. of tunnels. **Ore:** Lead-silver. **Men employed:** Average, 2.

**MARSH MINES CONSOLIDATED.**

**Officers:** Ed Pohlman, Pres., Spokane, Wash.; F. Cushing Moore, Mgr., Old Nat. Bank Bldg., Spokane, Wash. **Property:** 13 patented claims; 130 acres; Lelande dist.; Burke. **Development:** Approximately 8000 ft.; main adit over 1400 ft.; shaft from same 900 ft. **Plant:** One 1150 cu. ft. and one 690 cu. ft. electrically driven compressors, air hoist, pumps, and complete equipment; 200-ton concentrator with zinc flotation plant. **Ore:** Lead-silver. **Men employed:** Average, 10. **Remarks:** Of the development work performed during past years approximately 2100 ft. was on Russell claim under lease from the Federal Mining & Smelting Co. This lease was surrendered to Hecla Mines Co. in March in settlement of the litigation with Hecla.

**MIDNIGHT MINING CO.**

**Officers:** N. C. Sheridan, Pres., Wallace. **Property:** 2 patented claims, 21.5 acres; Hunter dist., lying between the Morning and You Like claims of the Federal Mining & Smelting Co.; Mullan. **Development:** By tunnels and raises, approximately 5500 ft. **Plant:** 530 cu. ft. electrically driven compressor with complete shop. **Ore:** Lead-silver. **Men employed:** Average, 6.

**MILITARY MINING & MILLING CO., LTD.**

**Officers:** George Renkert, Pres.-Mgr., R. F. D. 4, Spokane, Wash. **Property:** 2 patented claims; Lelande dist.; 3½ miles southeast of Burke. **Remarks:** Idle.

**MINERAL FARM MINING CO., LTD.**

**Officers:** C. J. Carlson, Pres.-Mgr., 1215 Grove St., Spokane, Wash.; C. D. Miller, Sec., Mullan. **Property:** 8 patented, 1 unpatented claim, 180 acres; Hunter dist.; 1 mile west of Mullan. **Development:** About 2600 ft. of tunnels. **Remarks:** Idle.

**MINERAL POINT MINING CO.**

**Officers:** Paul Leuschel, Sec.-Treas.-Mgr., Wallace. **Property:** 1 patented, 7 unpatented claims; Evolution dist.; 1 mile south of Osburn. **Development:** Over 3000 ft. of workings. **Remarks:** Assessment work only.

**MINGO CHIEF MINING CO., LTD.**

**Officers:** George H. Van Dorn, Pres.-Mgr., W. 1512 Riverside, Spokane, Wash. **Property:** 7 patented claims, 115 acres; Placer Center dist.; Nine Mile; Wallace. **Plant:** Electrically driven compressor. **Men employed:** Average, 1.

**MISSOULA COPPER MINING CO.**

**Officers:** R. J. McLeod, Pres., Mullan; J. R. Bean, Sec., Mullan. **Property:** 9 patented claims, 180 acres; Hunter dist.; Mullan. **Development:** Approximately 1 mile of underground workings. **Remarks:** Idle.

**MONTANA-IDAHO COPPER CO.**

**Officers:** H. F. DeBower, Pres., 13 Astor Place, New York; S. P. Burr, Mgr., Delage; W. J. Kirby, Sec.-Treas., Spokane, Wash. **Property:** 10 patented, 34 unpatented claims, 720 acres; St. Regis dist.; Delage. **Plant:** 3 Pelton water wheels operating under 295 ft. head, 3 compressors, complete mine equipment. **Ore:** Copper, gold. **Men employed:** Average, 11. **Remarks:** Driving an adit to tap Monitor vein at a depth of 1700 ft.

**MOON CREEK MINING CO.**

**Officers:** L. N. Peck, Pres., Union, Wash.; W. J. Bailey, Mgr., Wallace; Otto A. Olsson, Sec., Wallace. **Property:** 3 unpatented claims; Evolution dist.; Moon Creek; Wallace. **Remarks:** Assessment work only.

**MOUNTAIN QUEEN MINING CO., LTD.**

**Officers:** William Wylie, Pres., Murray; Walter M. Keiser, Sec.-Treas., Murray. **Property:** 10 unpatented claims; Eagle dist.; Murray. **Remarks:** Assessment work only.

**MOUNTAIN ROSE MINING CO.**

**Officers:** D. W. Knudson, Pres.; A. O. Larsen, Sec.-Treas., both of Kellogg. **Property:** 4 unpatented claims; Yreka dist.; 2 miles east of Kellogg. **Development:** 900 ft. of tunnels. **Remarks:** Assessment work only.

**MULLAN MINING CO.**

**Officers:** Charles M. Baillie, Pres., Mullan. **Property:** 2 patented, 1 unpatented claim; 50 acres; Hunter dist.; Deadman Gulch; Mullan. **Development:** By 3 tunnels, total 1500 ft. **Remarks:** Assessment work only.

**MURRAY HILL MINING CO.**

**Officers:** C. E. Malletto, Pres., Spokane, Wash.; J. C. Feehan, Mgr., Murray. **Property:** 9 unpatented claims; Summit dist.; Murray. **Plant:** 150-ton concentrator. **Ore:** Lead-silver-zinc. **Men employed:** One watchman.

**NATIONAL COPPER MINING CO.**

**Officers:** August Paulsen, Pres.; William J. Stratton, Acting Secretary, Wallace. **Property:** 12 patented claims; Hunter dist.; Deadman Gulch; Mullan. **Development:** Approximately 2 miles of underground workings. **Plant:** 500-ton concentrator, including flotation. **Remarks:** Idle.

**NATIONAL LEAD MINING CO.**

**Officers:** P. J. Gearon, Pres., Wallace. **Property:** 5 full and 2 fractional unpatented claims; Hunter dist.; 2 miles northwest of Mullan. **Development:** By tunnels. **Remarks:** Assessment work only.

**NEVADA STEWART MINING CO.**

**Officers:** Dr. C. R. Mowery, Pres., Wallace; M. J. Sinclair, Mgr., Kellogg. **Property:** 8 patented claims; Yreka dist.; Pine Creek, Kellogg. **Development:** By 1600 ft. of tunnels. **Plant:** Electrically driven compressor. **Remarks:** Operated 150 shifts.

**NEW CALEDONIA CONSOLIDATED MINING CO.**

**Officers:** George S. Decker, Pres., Kellogg; Milton W. Emmett, Mgr., Kellogg. **Property:** One patented, 13 unpatented claims; three claims held under lease; approximately 340 acres; Yreka dist.; Wardner. **Development:** 1300 ft. drifts and crosscuts. **Plant:** Two electrically driven compressors, drills, sharpeners and complete mining equipment. **Men employed:** Average, 4.

**NEW HOPE MINING CO., LTD.**

**Officers:** Eugene Thomas, Pres., Osburn; Otto A. Olsson, Sec., Wallace. **Property:** 8 unpatented claims; Evolution dist.; Two Mile Gulch; Dan Patch mine; Osburn. **Remarks:** Work was started on a new crosscut tunnel which will be 1500 ft. in length, and which will intersect the veins at a depth of 375 ft. below the present tunnel.

**NINE MILE MINING CO.**

**Officers:** Ole K. Linn, Pres.; Charles W. Betts, Sec.-Treas., both of Wallace. **Property:** 6 patented claims, 95 acres; Placer Center dist.; Nine Mile; Wallace. **Development:** About 6000 ft. of tunnels crosscuts and raises. **Remarks:** Idle.

**NONPAREIL COPPER MINING CO.**

**Officers:** Harry C. McAllister, Pres., Wallace. **Property:** 3 and one fraction patented claims; Hunter dist.; on west side of Willow Creek; Mullan. **Remarks:** Idle.

**NORTH AMERICAN MINING & MILLING CO., LTD.**

**Officers:** John J. Presley, Pres., Kellogg. **Property:** 24 patented claims, 390 acres; Evolution and Yreka dists.; Big Creek; Kellogg. **Development:** By about 2000 ft. of tunnels. **Remarks:** Idle.

**NORTH BUNKER HILL MINING CO., LTD.**

**Officers:** Elmer Brown, Pres.; N. T. Hardy, Sec.-Mgr., both of Kellogg. **Property:** 4 patented claims; Yreka dist.; adjoining Bunker Hill; Wardner. **Development:** By 5000 ft. of underground workings, including a 500-ft. inclined shaft. **Plant:** 500 cu. ft. compressor and hoist, electrically driven with complete mining equipment. **Men employed:** 6. **Remarks:** Work done during the year consisted of extending the crosscut from the bottom of the 500 ft. shaft.

**NORTHERN LIGHT MINING & MILLING CO.**

**Officers:** Benjamin E. Harmon, Sec.; Sidney L. Shonte, Mgr., Wallace. **Property:** 1 patented claim, 13.10 acres; Yreka dist.; Pine Creek, Kellogg. **Development:** By 500 ft. of tunnel, 400 ft. vertical shaft, with 2600 ft. crosscuts. **Plant:** Electrically driven compressor, air hoist and complete small equipment. **Remarks:** Property idle due to litigation.

**NORTH IDAHO MINING CO.**

**Officers:** C. M. Johnson, Pres., Wallace. **Property:** 3 patented claims, 60 acres; Placer Center dist.; Wallace. **Development:** 800 ft. of tunnels and 50 ft. shaft. **Remarks:** Idle.

**NORTH STAR MINING CO.**

**Officers:** Aaron Norling, Pres.; T. S. Tweed, Sec., both of Wallace. **Property:** 1 unpatented claim; St. Joe dist. **Remarks:** Assessment work only.

**NORTH STAR MINING & DEVELOPMENT CO.**

**Officers:** G. W. Dougherty, Sec.-Treas., Wallace. **Property:** 5 unpatented claims; Placer Center dist.; Nine Mile; Wallace. **Development:** 1100 ft. of tunnels. Main crosscut tunnel 700 ft. below discovery has been driven 1250 ft. **Remarks:** Main crosscut was extended 100 ft. during the year.

**OLD CHARLES DICKENS MINING CO.**

**Officers:** A. D. Gritman, Pres., Spokane, Wash.; G. E. Bowman, Sec., 427 Hutton Bldg., Spokane, Wash. **Property:** 14 unpatented claims; Evolution and Yreka dists.; Moon Creek; Kellogg. **Development:** Approximately 5000 ft. of underground workings, including a shaft 850 ft. deep. **Plant:** 900 cu. ft. compressor and hoist electrically driven, including complete mine equipment, 150-ton concentrator. **Remarks:** Assessment work only.

**OLD VETERAN MINING CO.**

**Officers:** M. J. Farrell, Pres., Burke; L. L. Brainard, Sec., Wallace. **Property:** 8 unpatented claims; Lelande dist.; 2 miles above Burke. **Development:** By 1800 ft. of tunnels. **Men employed:** Average, 2.

**OREANO MINING CO., LTD.**

**Officers:** John C. Glahe, Pres.; H. M. Peterson, Mgr., both of Wallace. **Property:** 4 patented claims; Lelande dist.; Burke. **Remarks:** Idle.

**OSCEOLA MINING CO.**

**Officers:** Charles F. Ruddy, V. Pres.-Mgr., Wallace. **Property:** 9 unpatented claims; Placer Center dist.; West Fork of Placer Creek; Wallace. **Development:** By two tunnels totaling 3000 ft. **Remarks:** Assessment work only.

**PACIFIC MINING & MILLING CO.**

**Officers:** Louis Kuhn, Pres., Wallace. **Property:** 3 patented claims, 50 acres; Lelande dist.; Wallace. **Remarks:** Idle.

**PARAGON MINING CO.**

**Officers:** George S. Monson, Pres., St. Paul, Minn.; C. W. Grimsmoe, Mgr., Murray. **Property:** 19 patented, 24 unpatented claims, 9 claims under contract to purchase, 1000 acres; Summit dist.; Murray. **Development:** By 1750 ft. of tunnels, shafts and raises. **Plant:** Water and steam driven compressor, hoist, electric light plant and complete small equipment, 100-ton concentrator. **Ore:** Lead-silver. **Men employed:** Average, 16.

**PARK COPPER & GOLD MINING CO., LTD.**

**Officers:** O. W. Lewis, Pres.; N. J. Stockbridge, Sec.-Treas., both of Wallace. **Property:** 6 patented mining claims; Hunter dist.; Stevens Peak; Mullan. **Development:** About 3000 ft. of tunnels and shafts. **Remarks:** Idle.

**PATUXENT MINING CO.**

**Officers:** Donald A. Callahan, Sec., Wallace. **Property:** 10 patented claims; Placer Center dist.; adjoining Rex; Wallace. **Development:** About 3600 ft. underground workings. **Remarks:** Idle.

**PAWHATAN MINING CO.**

**Officers:** Joseph Turner, Pres.; O. R. Young, Sec., both of Wallace. **Property:** 2 unpatented claims; Evolution dist.; Wallace. **Remarks:** Assessment work only.

**PEARSON MINING COMPANY.**

**Officers:** Morris Pearson, Pres.; John F. Ferguson, Sec.; Harry P. Pearson, Mgr., all of Wallace. **Property:** 4 patented, 20 and a fraction unpatented claims. 485 acres; St. Joe dist.; 3 miles northwest of Bogle Spur. **Development:** By crosscut tunnel 1700 ft. **Plant:** Gas driven compressor, drill sharpener and small equipment. **Ore:** Copper. **Men employed:** Average, 4.

**PENN-IDAHO MINING CO.**

**Officers:** John W. Hope, Pres., Chambersburg, Pa.; A. P. Berlin, Sec., Slatington, Pa.; Charles Sullivan, Mgr., Murray. **Property:** 19 unpatented claims; Summit dist.; 3 miles east of Murray. **Development:** 1050 ft. underground workings. **Remarks:** Assessment work only.

**PINE CREEK MINING & MILLING CO.**

**Officers:** C. S. Stone, Pres.; O. W. Lewis, Sec., both of Wallace. **Property:** 14 unpatented claims; Yreka dist.; Pine Creek; Kellogg. **Remarks:** This company owns the old Hilarity. Active development work was conducted throughout the year; this work exposed such a good showing of ore that it is considered one of the principal developments in Shoshone County during 1921.

**PIONEER MINING CO., LTD.**

**Officers:** O. A. Olin, Pres., Wallace. **Property:** 14 unpatented claims; Beaver dist.; adjoining the Ray-Jefferson; Wallace. **Remarks:** Assessment work only.

**PLACER CREEK SILVER LEAD MINING & MILLING CO.**

**Officers:** Oscar Cain, Pres.; F. C. Bailey, Sec.-Treas.-Mgr., both of Spokane, Wash. **Property:** 7 unpatented claims; Placer Center dist.; 6 miles west of Wallace. **Development:** By a 1400 ft. tunnel. **Men employed:** Average, 2. **Remarks:** A small amount of development work was done during the year.

**PROGRESS GOLD MINING CO.**

**Officers:** Harry Clark, Pres., Prichard. **Property:** 9 unpatented claims; Eagle dist.; on East Eagle Creek; Prichard. **Development:** By a 340 ft. tunnel. **Men employed:** Average, 6. **Ore:** Gold. **Remarks:** In addition to constructing a new camp installing a compressor and mining equipment, and considerable surface prospecting, work was started on a long crosscut tunnel which will fully prove the property.

**PURITAN MINING CO., LTD.**

**Officers:** Theo. Anderson, Pres.; Chas. A. Solberg, Sec. **Property:** 5 patented claims; Placer Center dist. **Remarks:** Idle.

**RAINBOW MINING & MILLING CO., LTD.**

**Officers:** George Austin, Pres.-Mgr., 745 Peyton Bldg., Spokane, Wash. **Property:** 2 groups: No. 1, four patented, nine unpatented claims; No. 2, three patented, two unpatented claims; 360 acres; Evolution dist. and Little North Fork, Coeur d'Alene River, Kootenai County, and Shields Gulch, near Osburn. **Development:** Group near Wallace, approximately 2400 ft. of underground workings; group in Kootenai County, approximately 700 ft. of underground workings. **Men employed:** Average, 2.

**RAY-JEFFERSON MINING CO.**

**Officers:** Eugene R. Day, Pres., Wallace; P. J. Maggy, Sec., Wallace. **Property:** 38 claims, the majority of which are patented; 600 acres; Beaver dist.; adjoining holdings of Callahan Zinc-Lead Co.; at terminus of Beaver Creek Branch of O. W. R. & N. R. R., Wallace. **Development:** By approximately 7000 feet of underground workings, totaling 1000 feet below upper workings. **Plant:** Electrically driven 8-drill compressor, with complete mining equipment; 400-ton concentrator; complete in all details. **Ore:** Lead-silver, zinc. **Remarks:** Controlled by Day family. One of the substantial mines of the Coeur d'Alenes. Idle throughout the year.

**RED CLOUD MINING CO.**

**Officers:** Herman J. Rossi, Sec.-Treas., Wallace. **Property:** 1 patented claim; Yreka dist.; Pine Creek; Kellogg. **Remarks:** Idle.

**REED LEVEL MINING CO.**

**Officers:** Elmer C. Brain, Pres.-Mgr., Kellogg; J. A. McEachran, Sec.-Treas., Kellogg. **Property:** Yreka dist.; Wardner. **Plant:** 16 drills were furnished by Bunker Hill & Sullivan M. & C. Co.; 200-ton concentrator, including flotation. **Ore:** Lead-silver. **Men employed:** Average, 30. **Remarks:** This company is operating ground under lease from the Bunker Hill and Sullivan M. & C. Co., having four leases known as the Beaudry, Lafaver, Gordon and Savage.

**REINDEER QUEEN MINING CO.**

**Officers:** J. C. Glahe, Pres., Wallace; J. R. Bean, Sec.-Mgr., Wallace. **Property:** 3 patented, 12 unpatented claims; Hunter dist.; Willow Creek; Mullan. **Development:** By crosscut tunnel which cut the vein at a depth of 800 ft. **Remarks:** Idle.

**REX CONSOLIDATED MINING CO.**

**Officers:** L. E. Wicher, Pres.; 25 Broad St., New York; Raymond Guyer, V. Pres., 318 Symons Bldg., Spokane, Wash. **Property:** 5 patented, 11 unpatented claims, 204 acres; Placer Center dist.; Nine Mile; Wallace. **Development:** Over 10,000 ft. of tunnels and a 1500 ft. shaft. **Plant:** 1150 cu. ft. electrically driven compressor, including complete mining equipment; 300 ton concentrator with zinc flotation unit. **Ore:** Lead-silver-zinc. **Men employed:** Average, 4. **Remarks:** Part of mine leased. Company has been doing active development work on the Okanagan vein.

**RHODE ISLAND MINING CO., LTD.**

**Officers:** A. J. Webb, Pres.-Mgr., Wallace. **Property:** 4 unpatented claims; Evolution dist.; McFerran Gulch; Osburn. **Men employed:** Average, 2.

**ROANOKE MINING CO., LTD.**

**Officers:** Herman J. Rossi, Pres.; F. E. Stone, Sec., both of Wallace. **Property:** 7 patented claims, Yreka dist.; Elk Creek; Kellogg. **Remarks:** Idle.

**ROBERTA MINING & MILLING CO.**

**Officers:** Joseph Lutey, Pres., Butte, Mont.; R. F. O. Merriman, Wallace, Stat. Agent. **Property:** 6 patented, 3 unpatented claims; Lelande dist.; Gem. **Development:** By tunnels, the lower of which is 1000 ft. **Remarks:** Idle.

**ROB ROY MINING CO.**

**Officers:** S. D. Macdonald, Pres.-Mgr., Wallace. **Property:** 7 unpatented claims; Beaver dist.; Sunset Peak; Wallace. **Development:** By 900 ft. of crosscuts and drifts. **Remarks:** Assessment work only.

**ROYAL MINING CO.**

**Officers:** A. E. Bronson, Pres., Gibbs; Soren Simson, Sec.-Treas., Coeur d'Alene; A. H. Moe, Mgr., Avery. **Property:** 20 unpatented claims; St. Joe dist.; West Fork of Slate Creek; Avery. **Development:** By 700 ft. crosscut tunnel. **Plant:** 6 x 6 compressor driven by 36-inch Pelton water wheel; complete small equipment. **Ore:** Lead-silver. **Men employed:** Average, 4.

**RUTH CONSOLIDATED MINING & MILLING CO.**

**Officers:** C. M. Crego, Pres.; F. W. Tueting, Mgr.; G. D. Crego, Sec., Box 2186, Spokane, Wash. **Property:** 7 unpatented claims; Placer Center dist.; 3 miles north of Wallace. **Plant:** Electrically driven compressor, drills and small equipment. **Ore:** Lead-silver. **Remarks:** Company was actively engaged in prospecting during the year by diamond drill. **Men employed:** Average, 3.



**SAINT JOE MINING CO., LTD.**

**Officers:** George G. Evans, Pres.; Marie W. Clary, Sec.-Treas., both of Wallace. **Property:** 6 unpatented claims; St. Joe dist. **Remarks:** Assessment work only.

**SAINT LOUIS & IDAHO MINING & MILLING CO.**

**Officers:** Ben L. Collins, Sec.-Treas., Spokane, Wash. **Property:** 3 patented claims; Lelande dist.; Burke.

**SAMSON MINING & DEVELOPMENT CO., LTD.**

**Officers:** R. L. Brainard, Sec., Wardner. **Property:** 8 unpatented claims; Eagle dist. **Development:** 1000 ft. tunnels and shaft. **Plant:** Steam mine equipment. **Men employed:** Average, 2.

**SAN FRANCISCO MINING CO., LTD.**

**Officers:** T. R. Mason, Pres., Kellogg. **Property:** 4 unpatented claims; Yreka dist.; Pine Creek; Kellogg. **Remarks:** Assessment work only.

**SENATOR MINING CO.**

**Officers:** Ed Ehrenberg, Pres., 1124 W. 14th Ave., Spokane, Wash. **Property:** 18 patented claims; Hunter dist.; Mullan. **Development:** By tunnels and diamond drilling. **Plant:** Electrically driven compressor, including complete mine equipment. **Men employed:** Average, 18. **Remarks:** During the year the company was actively engaged in prospecting its property and that of the Flynn Mining Company with a diamond drill.

**SHERMAN DEVELOPMENT CO.**

**Officers:** Eugene R. Day, Pres.; P. J. Maggy, Sec., both of Wallace. **Remarks:** Idle. No information available.

**SHERMAN LEAD CO.**

**Officers:** Eugene R. Day, Pres.; H. R. Allen, Sec.-Treas., both of Wallace. **Property:** 4 patented claims; Lelande dist.; Wallace. **Remarks:** Idle.

**SHERMAN MINING CO.**

**Officers:** J. D. Taylor, Pres., Kellogg; John A. Rock, Sec., Kellogg. **Property:** 5 unpatented claims; Yreka dist.; West Fork of Pine Creek; Kellogg. **Remarks:** Assessment work only.

**SIDNEY MINING CO.**

**Officers:** L. W. Gay, Pres., Wallace; W. T. Simons, Sec.-Treas., Kellogg. **Property:** 18 unpatented claims; Yreka dist.; East Fork, Pine Creek; Kellogg. **Remarks:** One of the principal new discoveries of Shoshone County and particularly Pine Creek district was made at this mine early in 1921. This discovery was a high-grade lead-silver ore, of which a number of carloads was shipped. Active development and production by lessees was maintained throughout the year.

**SIERRA NEVADA CONSOLIDATED MINING CO.**

**Officers:** Stanly A. Easton, Pres., Kellogg. **Property:** 5 patented claims; Yreka dist.; Kellogg. **Development:** By 4200 ft. of tunnels and shafts. **Plant:** 3 hoists including complete mining equipment, electric power. **Ore:** Lead-silver. **Men employed:** Average, 20. **Remarks:** Subsidiary of Bunker Hill & Sullivan M. & C. Co.

**SILVERADO MINING CO.**

**Officers:** J. E. Orr, Pres., Spokane, Wash.; C. D. Muxen, Sec.-Mgr., 214 Symons Bldg., Spokane, Wash. **Property:** 21 unpatented claims; Evolution dist.; near Osburn. **Development:** By 6000 ft. of tunnels and drifts. **Plant:** Electrically driven compressor, complete mine equipment; 75-ton concentrator including flotation. **Ore:** Lead-silver-copper. **Men employed:** Average, 3. **Remarks:** Property operated under leasing system during the year.

**SILVER CLIFF GOLD & COPPER MINING CO., LTD.**

**Officers:** Thomas Jay, Pres., Wallace; Ed C. Young, Sec.-Mgr., Wallace. **Property:** 17 unpatented claims; Hunter dist.; Mullan. **Development:** Over 2 miles of underground workings. **Plant:** Compressor driven by Pelton water wheel. **Men employed:** Average, 1.

**SILVER DALE & BIG HILL MINING CO.**

**Officers:** Richard Neimeier, Pres., Kellogg; D. W. Knudson, Sec. **Property:** 25 unpatented claims; Yreka dist.; Big Creek; Kellogg. **Development:** 1300 ft. crosscut tunnel. **Plant:** Water driven compressor. **Men employed:** Average, 3. **Remarks:** All work done during the year consisted in the extension of the main crosscut tunnel.

**SILVER EAGLE MINING CO., LTD.**

**Officers:** John J. Hogus, Pres.-Mgr.; Charles W. Betts, Sec.-Treas., Wallace. **Property:** 13 unpatented claims; Placer Center dist.; Nine Mile; Wallace. **Development:** About 90 ft. of underground workings. **Remarks:** Assessment work only.

**SILVER MOON MINING CO., LTD.**

**Officers:** Eugene Sage, Pres., Burke; Gus Ehrenburg, Sec.-Treas., Palmerston Hotel, Spokane, Wash. **Property:** 10 unpatented claims; Lelande dist.; Burke Canon; Wallace. **Development:** By 2 tunnels aggregating 3860 ft., giving a total depth of 600 ft. **Plant:** Electrically driven compressor and complete mining equipment. **Men employed:** Average, 4.

**SILVER MOUNTAIN MINING CO., LTD.**

**Officers:** Phil Tice, Pres.; W. E. Horstkotte, Sec., both of Potlatch. **Property:** 4 patented, 12 unpatented claims; Hunter dist.; Mullan. **Development:** 1800 ft. of underground workings. **Men employed:** Average, 1.

**SILVER RANGE MINING & MILLING CO.**

**Officers:** C. W. Crews, Pres., Spokane, Wash.; E. M. Burt, Sec., Wallace. **Property:** 7 unpatented claims; Placer Center dist.; joins Chicago-Boston; Wallace. **Men employed:** Average, 1.

**SILVER REEF MINING CO.**

**Officers:** J. W. Buhler, Pres., N. 4512 Howard, Spokane, Wash. **Property:** 2 unpatented claims; Hunter dist.; Mullan. **Development:** Approximately 2200 ft. underground workings. **Plant:** 2-drill compressor. **Remarks:** During the year two shifts were employed in extending the Homestake tunnel, which is owned by the National Mining Company, to the Silver Reef vein. This tunnel will expose the vein at a considerable depth.

**SISTER MINING & MILLING CO., LTD.**

**Officers:** E. H. Pattison, Sec.-Treas., Long Beach, Cal. **Property:** 7 patented claims; Placer Center dist.; Burke Canyon; Wallace. **Development:** By over one mile of underground workings. **Remarks:** See Sisters Leasing Co.

**SISTERS LEASING CO.**

**Officers:** Dan Murphy, Pres., care Tamarack Mine, Wallace; Allen G. Kennedy, Sec.-Treas., Wallace. **Property:** 5 year lease and bond on property of the Sisters Mining & Milling Company. **Men employed:** Average, 4.

**SLAVONIAN MINING CO.**

**Officers:** Risto V. Kajovich, Pres.-Mgr., Wardner; G. W. Dougherty, Sec.-Treas., Wallace. **Property:** 3 unpatented claims; Yreka dist.; Wardner. **Development:** By 1000 ft. of underground workings. **Remarks:** Assessment work only.

**SMUGGLER VIRGINIA MINING CO.**

**Officers:** J. A. Reubens, Sec., Spokane, Wash.; Jake Lockman, Agent, Nampa. **Property:** 4 patented claims, 46 acres. **Remarks:** Idle.

**SNOWSHOE MINING CO.**

**Officers:** Paul Lucia, V. Pres.-Mgr., J. L. Smith, Sec., both of Mullan. **Property:** 7 patented claims; Hunter dist.; adjoining the Snowstorm on the east; Mullan. **Development:** About 5000 ft. of underground workings. **Remarks:** Idle.

**SNOWSTORM MINES CONSOLIDATED.**

**Officers:** Leo Greenough, Pres., 922 Old National Bank Bldg., Spokane, Wash.; W. J. Beaton, Sec.-Treas., Spokane, Wash. **Property:** 16 patented, 14 unpatented claims; Hunter dist.; Mullan. **Remarks:** Idle.

**SONORA MINING & MILLING CO.**

**Officers:** A. H. Featherstone, Pres.; W. A. Smith, Sec.-Mgr., both of Wallace. **Property:** 12 claims, some of which are patented; Lelande dist.; near Burke. **Development:** By tunnels, approximately 4000 ft. **Men employed:** Average, 2.

**SPOKANE MINING & MILLING CO.**

**Officers:** M. E. Wees, Pres., Los Angeles, Cal.; George W. Stocker, Sec., Court House, Spokane, Wash. **Property:** 4 patented claims; Yreka dist.; Wallace. **Remarks:** Idle.

**SPOKANE TUNNEL MINING CO.**

**Officers:** A. C. Blue, Pres.; Los Angeles, Cal.; Otto Olsson, Sec., Wallace; W. B. Lively, Mgr., Wallace. **Property:** 3 unpatented claims; Placer Center dist.; Wallace. **Men employed:** Average, 1. **Remarks:** The total amount of development work aggregates 1100 ft.

**SQUARE DEAL MINING & MILLING CO., LTD.**

**Officers:** F. W. Reed, Sec.-Treas., Coeur d'Alene. **Property:** 11 unpatented claims; Hunter dist.; Wallace. **Development:** 1000 ft. of tunnels. **Remarks:** Assessment work only.

**STAR MINING CO.**

**Officers:** W. J. C. Wakefield, Pres.; Charles Hussey, Sec., 507 Empire State Bldg., Spokane, Wash. **Property:** 15 patented claims; Hunter dist.; adjoining Morning Mine of Federal M. & S. Co.; Mullan. **Development:** About 15,000 ft. of underground workings.

**STERLING MINING CO., LTD.**

**Officers:** John J. Presley, Pres., Wallace. **Property:** 12 unpatented claims; Evolution dist.; Lake Gulch; Wallace. **Development:** By 700 ft. tunnel.

**STERLING SILVER MOUNTAIN MINING CO., LTD.**

**Officers:** Matt Baumgartner, Sec., 323 Lindelle Blk., Spokane, Wash. **Property:** 7 unpatented claims, 10 claims under option; Evolution dist.; Big Creek; 4 miles east of Kellogg. **Development:** 700 ft. of tunnels. **Men employed:** Average, 5. **Remarks:** The crosscut was extended 600 ft. and a promising ledge was drifted on approximately 300 ft. during the year. It is reported that this ledge carried a number of stringers of high-grade silver ore.

**SUCCESS MINING CO., LTD.**

**Officers:** Frank Pfirman, Pres.; Herman J. Rossi, Sec.; Allen G. Kennedy, Mgr., all of Wallace. **Property:** 9 patented, 1 unpatented claim; Placer Center dist.; Nine Mile; Wallace. **Development:** By 22,800 ft. of tunnels, shafts and drifts, shaft being double compartment, 990 ft. deep. **Plant:** Electric hoist and complete mining equipment; 250-ton concentrator. **Ore:** Zinc, lead-silver. **Remarks:** Operated by lessees.

**SULLIVAN MINING CO.**

**Officers:** F. W. Bradley, Pres., 1022 Crocker Bldg., San Francisco, Calif.; Stanly A. Easton, Mgr., Kellogg. **Property:** This company was organized to take over the property of the Star Mining Co. whose claims adjoin the Morning Mine of the Federal Mining & Smelting Co.; Hunter dist.; Mullan. The stock is owned equally by the Bunker Hill Sullivan M. & C. Co. and the Hecla Mining Co., but, owing to litigation, title has not passed. Present plans call for the operation of the Star Mine through the Hecla shaft, and in August the crosscut from the 2000 ft. level of the Hecla was started. This crosscut will be approximately 8000 ft. in length and will intersect the Star ore bodies a little below the present lower workings. A unique feature is that when the tunnel is completed it will be the longest in the world at such a depth below the surface. It is the largest undertaking started in the State during the year.

**SUMMIT MINING & MILLING CO.**

**Officers:** W. H. Robinson, Pres.; Samuel E. Meyer, Sec.-Treas., both of Wallace. **Property:** 5 unpatented claims; Placer Center dist.; 4 miles east of Wallace. **Remarks:** Assessment work only.

**SUNRISE MINING CO., LTD.**

**Officers:** Bruce G. Worstell, Wallace, Pres.; O. C. Smith, Sec.-Treas., Kellogg. **Property:** 1 patented, 10 unpatented claims, 167 acres; Beaver and Summit dists.; Summit Peak; Wallace. **Development:** 3300 ft. underground workings. **Men employed:** Average, 1.

**SUNSHINE MINING CO.**

**Officers:** George Keibel, Pres., Box 1393, Spokane, Wash.; William F. Newton, Mgr., Kellogg. **Property:** 7 patented, 7 unpatented claims; Evolution dist.; Big Creek; Kellogg. **Development:** Approximately 7000 ft. underground workings, principally tunnels. **Plant:** Electrically driven compressor. Complete mine equipment. **Ore:** Lead-silver. **Men employed:** Average, 50. **Remarks:** Company constructed 50-ton concentrator. Most of the ore was extracted under the leasing plan. The installation of the mine plant and new equipment and enlargements of the mill constitute one of the principal additions to Shoshone County during 1921.

**SUNSHINE MINING CO., LTD.**

**Officers:** Daniel L. McGrath, Mgr., Wallace. **Property:** 18 claims, approximately 300 acres; one-half interest in 4 patented, 7 unpatented claims; 5 unpatented claims obtained by absorbing Sunset Banner Mining Company; 2 additional unpatented claims owned outright; Beaver dist.; Wallace. **Development:** By approximately 3500 ft. of tunnels. **Plant:** Compressor with complete mining equipment. **Men employed:** Average, 1.

**SYNDICATE MINING & EXPLORATION CO., LTD.**

**Officers:** Carl Blomquist, Pres.; Louis Stevens, Sec., both of Wardner. **Property:** 7 unpatented claims; Evolution dist.; Kellogg. **Development:** Approximately 1200 ft. of underground workings. **Remarks:** Assessment work only.

**TAMARACK & CUSTER CONSOLIDATED MINING CO.**

**Officers:** Jerome J. Day, Pres.-Mgr., Wallace. **Property:** 51 claims, mostly patented, 533 acres; Lelande dist.; Wallace. **Development:** Approximately 32,000 ft. of underground workings. **Plant:** Complete mine equipment, including electric haulage; 400-ton concentrator with flotation unit. **Ore:** Lead-silver, zinc. **Men employed:** Average, 120. **Remarks:** Company suspended production early in the year but continued active development work which included sinking main shaft, driving a lower tunnel, and drifting on ore.

**TEDDY MINING & MILLING CO., LTD.**

**Officers:** T. R. Mason, Pres.; J. B. Cox, Sec.-Treas., both of Kellogg. **Property:** 9 unpatented claims; Yreka dist.; 3 miles east of Kellogg. **Development:** By tunnel approximately 1500 ft. **Remarks:** Assessment work only.

**TEN TO ONE MINING CO.**

**Officers:** E. J. Peterson, Pres., Old National Bank Bldg., Spokane, Wash.; W. W. Johnson, Sec.-Treas., 617 Peyton Blk., Spokane, Wash. **Property:** 18 unpatented claims; Summit dist.; Murray. **Men employed:** Average, 2.

**THRONDSOON METALS SAVINGS CO.**

**Officers:** Elmer C. Brail, Pres.-Mgr., J. A. McEachran, Sec.-Treas., both of Kellogg. **Property:** 2 unpatented claims and 80 acres patented ground; Yreka dist.; Kellogg. **Men employed:** Average, 6. **Remarks:** This company is operating a 100-ton flotation mill reclaiming mill tailings near Kellogg.

**TIBERIUS MINING CO.**

**Officers:** William Hunter, Pres., Moscow; Marshall L. Lewis, Sec., Spokane, Wash. **Property:** Patented land; Yreka dist.; Pine Creek; Kellogg. **Remarks:** Idle.

**TRADE DOLLAR MINING CO., LTD.**

**Officers:** Everett H. Pattison, Sec.-Treas., Long Beach, Cal. **Property:** 6 patented claims; Lelande dist., near Burke. **Remarks:** Idle since 1907.

**TREASURE VAULT MINING CO.**

**Officers:** Eugene R. Day, Pres.; George Miner, Sec., both of Wallace. **Property:** 4 patented claims; Placer Center dist.; Nine Mile; west of Success; Wallace. **Remarks:** Idle.

**TROJAN MINING CO.**

**Officers:** John R. Cassin, Pres., Spokane, Wash.; Theo. A. Huetter, Sec.-Treas., N. 1101 Division St., Spokane, Wash. **Property:** 6 unpatented claims; Placer Center dist.; Revenue Gulch; Wallace. **Remarks:** Assessment work only.

**TUCKER MINING & MILLING CO.**

**Officers:** Peter Bahn, Pres.-Mgr., Wallace. **Property:** 6 unpatented claims; Hunter dist.; Mullan. **Remarks:** Assessment work only.

**UNITED AMERICAN MINES CO., LTD.**

**Officers:** Frank P. Markwell, Pres., 689 S. Catalina St., Los Angeles, Cal.; E. H. Pattison, Sec., Long Beach, Cal. **Remarks:** This company holds control of the Trade Dollar Mining Company, Ltd., and Sisters Mining & Milling Co., Ltd.

**VIENNA INTERNATIONAL MINING & MILLING CO., LTD.**

**Officers:** A. H. Featherstone, Pres.; A. B. Livingston, Mgr., both of Wallace. **Property:** 4 patented, 3 unpatented claims, 110 acres; Placer Center dist.; 6 miles south of Wallace. **Development:** By 400-ft. shaft and about 800 ft. of tunnels. **Plant:** Steam driven hoist. **Remarks:** Idle.

**VIRGINIA MINING CO.**

**Officers:** L. L. Sweet, V. Pres.; Joseph F. Morton, Sec., both of Wallace. **Property:** Beaver dist.; 1 mile above Carbonite. **Remarks:** Idle.

**WALL STREET MINING CO.**

**Officers:** C. A. Cooley, Pres.-Mgr., Mullan. **Property:** 17 unpatented claims; Hunter dist.; Mullan. **Development:** The principal development is a 1200 ft. crosscut. **Remarks:** Assessment work only.

**WALLACE MINING CO.**

**Officers:** D. C. McKissick, Pres., Wallace. **Property:** 2 patented claims; Lelande dist.; Burke Canyon; Wallace. **Remarks:** Idle for 20 years.

**WALLACE MINING, MILLING & REALTY CO.**

**Officers:** Louis Dahl, Pres., Dixon, Mont.; G. G. Evans, Mgr., Wallace. **Property:** 1 patented, 20 unpatented claims; Placer Center dist.; adjoining city of Wallace. **Development:** Over 4000 ft. of underground workings. **Equipment:** Electrically driven compressor with complete mine equipment. **Men employed:** Average, 5.

**WARDNER LEASING CO.**

**Officers:** J. D. Owens, Sec.-Treas., Wardner. **Property:** Lease on part of townsite of Wardner; Yreka dist.; Wardner. **Development:** 1600 ft. of shafts, drifts and diamond drill holes. **Plant:** Electrically driven compressor. **Men employed:** Average, 6.

**WEST BELL MINING CO., LTD.**

**Officers:** J. Fred Markwell, Pres., 3132 E. 18th Ave., Spokane, Wash.; E. H. Pattison, Sec., Long Beach, Calif. **Property:** 5 patented claims; Lelande dist.; Burke Canyon; Gem. **Remarks:** Idle.

**WESTCHESTER MINING & MILLING CO.**

**Officers:** W. W. Papesh, Pres., Kellogg; S. A. Childs, Sec.-Treas., Spokane, Wash. **Property:** 12 unpatented claims; Yreka dist.; Kellogg. **Men employed:** Average, 2.

**WESTERN STAR MINING CO., LTD.**

**Officers:** Elmer Johnson, Mgr., Wallace. **Property:** 6 unpatented claims; Evolution and Yreka dists.; Nine Mile; Wallace. **Remarks:** Assessment work only.

**WESTERN UNION MINING CO.**

**Officers:** D. H. Anderson, Pres., 919 Railroad Ave., Spokane, Wash.; Ben L. Collins, Sec., 1109 Paulsen Bldg., Spokane, Wash. **Property:** 11 patented and 19 unpatented claims; Evolution dist.; Wallace. **Development:** Over 10,000 ft. of underground workings. **Plant:** Electrically driven compressor; complete mining equipment. **Ore:** Lead-silver. **Men employed:** Average, 7. **Remarks:** Property operated under leasing system. This company was one of the principal small producers of Shoshone County during 1921. A number of important discoveries were made which, if permanent, will add another important mine to this county.

**WEST GEM MINING CO.**

**Officers:** J. Fred Markwell, Pres., 3132 E. 18th Ave., Spokane, Wash.; E. H. Pattison, Sec., Long Beach, Cal. **Property:** 1 patented claim; Lelande dist.; Burke Canyon; Wallace. **Remarks:** Idle.

**WEST HECLA MINING CO.**

**Officers:** J. V. Pohlman, Treas., Spokane. **Property:** 3 patented claims, 35 acres; Lelande dist.; Burke. **Development:** By tunnel and crosscuts, approximately 1600 ft. **Remarks:** Idle.

**WEST HUNTER MINING CO., LTD.**

**Officers:** Edward T. Davey, Pres., Pacific Hotel, Spokane, Wash.; T. V. Cosgrove, V. Pres.-Mgr.; J. L. Martin, Sec., both of Mullan. **Property:** 1 patented, 6 unpatented claims; Hunter dist.; 1½ miles north of Mullan. **Development:** Approximately 800 ft. of tunnels and crosscuts. **Men employed:** Average, 2.

**WISCONSIN MINING CO.**

**Officers:** Louis Bolduc, Pres.-Mgr., Kellogg. **Property:** 5 unpatented claims, 85 acres; Yreka dist. **Development:** 1500 ft. tunnel, shaft and raisers. **Plant:** 2-drill compressor, water power from Moon Creek, and a hoist. **Remarks:** Assessment work only.

**WOLVERINE MINING CO., LTD.**

**Officers:** P. C. Harrington, Pres., White's Hotel, Spokane, Wash. **Property:** 6 unpatented claims; Yreka dist.; Kellogg. **Development:** Approximately 700 ft. of underground workings. **Remarks:** Assessment work only.

**WONDER OF PINE CREEK MINING & MILLING CO., LTD.**

**Officers:** Ed Hunt, Pres.; A. C. Morbeck, Sec., both of Kingston. **Property:** 2 unpatented claims and 160 acres deeded ground; Yreka dist.; Pine Creek; Kingston. **Remarks:** Assessment work only.

**WYOMING MINING & MILLING CO., LTD.**

**Officers:** Al Page, Pres., Spokane, Wash.; Frederick Burbidge, Mgr., Wallace. **Property:** 11 patented claims, 89 acres; Yreka dist., Wallace. **Development:** Approximately 5500 ft. of underground workings. **Remarks:** Idle. A subsidiary of Federal Mining & Smelting Co.

**YANKEE GIRL MINING CO.**

**Officers:** T. R. Mason, Pres.; J. B. Cox, Sec., both of Kellogg. **Property:** 10 unpatented claims; Evolution dist.; Big Creek, Kellogg. **Remarks:** Property operated under lease and bond to Sunshine Mining Company.

**YUKON GOLD CO.**

**Officers:** William Loeb, Jr., Pres., 120 Broadway, New York; D. H. Ferry, Mgr., Murray. **Property:** Lease from Coeur d'Alene Mining Co.; Eagle dist.; Murray. **Plant:** Self-contained all-steel dredge, 106 ft. long, 44 ft. wide, 8 ft. deep, operated by 400 h. p. individual drive electric motors. **Ore:** Placer gold. **Men employed:** Average, 13. **Remarks:** This company has been in successful operation since December, 1919, and is one of the substantial gold producers of Idaho. The history of the district, location of the property, and the operations of the company are fully described and illustrated in The Bunker Hill Enterprise, IV, "The Old Diggings and Modern Dredging Operations," by T. A. Rickard, Min. & Sci. Press, Feb. 7, 1920.

## MINING INDUSTRY OF IDAHO

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
American Placer	Summit	Joseph Laveigne	Murray
Amy Matchless	Yreka	G. A. Smith	Kellogg
Anchor et al.	Summit	Mike Melley	Murray
Ancient Gravel Bed	Yreka	George H. Heller	Kellogg
Argentine	Evolution	Coeur d'Alene Hdwe. Co. ½ in- terest White & Bender and Finch & Campbell each ¼ interest	Wallace
Aulbach Group	Eagle	Adam Aulbach	Murray
Bell Group	Lelande	E. A. Moffitt	Wallace
Big Four	Hunter	S. A. Tennal	Wallace
Birthday Group	St. Joe	Birthday Min. Co. Wes. J. Horsky	Falcon
Bismarck Lode	Eagle	Robert T. Horn Est	Murray
Blackhawk Group	Hunter	Chas. M. Baillie A. A. Hedrick	Mullan
Black Hill	Beaver	John Thiard	Delta
Blue Grouse	Evolution	C. M. Patterson	Wallace
Boulder Placer	Eagle	Clay Giles	Murray
Carruthers Placer	Eagle	E. N. Harwood	Billings, Mont.
Castle Rock et al.	Lelande	A. C. Livingston	Wallace
Comstock Group	Lelande	J. H. Smith	Wallace
Corby Group	Yreka	C. W. Simmons	Kellogg
Cornucopia	Eagle	Francis Frohling	Murray
Daddy Mining Co.		Robert T. Horn	Murray
Dora et al.	Placer Center	Peter McPhillips	Wallace
Eagle Placer	Eagle	Archie Smith	Murray
Eldorado	Summit	R. B. Lundy	Wallace
Eleventh Hour	Evolution	Victor Longley	Osburn
Empress	Beaver	Hugh Mabin	Wallace
Enterprise Group	Yreka	Fred G. Donaldson	Kellogg
Fay et al.	Yreka	Fred G. Donaldson	Kellogg
Ferguson & Davis	Summit	C. B. Ferguson	Murray
Florence Group	Eagle	Frank Rose	Murray
4000 Ft. Slide	Eagle	Clay Giles	Murray
Frances Jeanne	Eagle	W. A. Taylor	Murray
Galena	Lelande	A. W. McCune	200 N. Main St., Salt Lake City, Utah
Gilbert Placer	Beaver	W. A. Mather	Murray
Gold Back Co.	Eagle	John Docktor	Murray
Gold Circle	Summit	William Wylie	Murray
Gold Creek	Hunter	W. K. Moe	Wallace
Golden Gate	St. Joe	A. C. Olson	Superior, Mont.
Great Western & Silver Cord	Summit	Dunlap & Smith	Murray
Highland Chief	Yreka	H. T. Gilbert	Kellogg
Horseshoe Placer	Beaver	Charles Wilson	Murray
Indicator	Yreka	Chas. Kaufman	Wallace
Ionia Lode	Summit	Albert Otto	Murray
Jumbo Group	Eagle	Chas. J. Johnson	Murray
Liberal King Group	Yreka	Leslie Lamb	Kellogg
Little Pittsburgh	Yreka	Gus Smith	Wallace
Lucky Boy	Summit	D. A. Finlayson	Murray
Lucky Strike	Summit	M. E. Lewis	Moscow
Mayflower	Hunter	John Foss	Mullan
Midnight	Hunter	Forest Clark	Mullan
Morning Star	Eagle	Mike Franks	Murray
Mother Lode	Eagle	John F. Murphy	Murray
Mountain View	Eagle	E. M. Burt	Portland, Ore.



NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Nellie Potter	Eagle	David Goodman	Murray
Never Sweat	Lelande	John Nadar	Burke
New Road		Gust Lindroos	Wallace
Ninety Seven	Hunter	H. Thompson	Wallace
Old Timber	Eagle	Louis Feldman	Murray
Olympia	Lelande	A. G. Kerns Est.	Wallace
Omaha Group	Lelande	August Paulsen	Spokane, Wash.
Paradox	Summit	Charles Nordquist	Murray
Pilot Group	Eagle	Marlin Bridenbach	Murray
Prudent	Summit	F. R. Kimball	Murray
Sargeant	Evolution	Mrs. Charles Sargeant	Osburn
Seward Camp	Eagle	James R. Wood	Murray
Sherlock Group	St. Joe	Frank M. Rose	Wallace
Shipka	Eagle	Godfrey Kohl	Murray
Silver Reef	Yreka	Herman J. Rossi	Wallace
Silver Star	Beaver	E. R. Oxley	Murray
Slim Show	St. Joe	Nels Dahlberg	Iron Mountain, Mont.
Sunset Group	Beaver	W. A. Clark	Butte, Mont.
Tam O'Shanter	Evolution	David C. Coates	Spokane, Wash.
Terrible Edith	Summit	Wash Snyder	Murray
Toledo Group	Lelande	M. J. Farrell	Burke
Tommy Hawk	Yreka	Alex Vouchar	Kellogg
Troy Group	Hunter	L. E. Hanley	Wallace
Vindicator Group	Yreka	Charles Kaufman	Kellogg
Virgo et al.	Evolution	Sigurd Thorkelson	Wallace
Waddell Group	Summit	Frank Hall	Murray
Wallace Group	Evolution	Jos. Peila	Wallace
Whipsaw Placer	St. Joe	Frank A. Heller	Bonnors Ferry
Wild & Wooley	Beaver	J. A. Prichard	Prichard
Winnie	Eagle	W. M. Smith	Murray
Yankee Group	Evolution	Dennis Blake	Kellogg

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## TETON COUNTY

The only known commercial coal beds in Idaho are located in Teton County. These beds are fully described in the various publications referred to in the bibliography. In addition to coal the other mineral resources are phosphate rock, gold, tripoli, and bentonite. Many structures favorable to the accumulation of commercial oil are to be found in this county.

### GEM STATE COAL CO.

**Officers:** H. S. Wales, Pres.; Robt. H. Harlin, V. Pres., both of Driggs. **Property:** Operating property of Idaho Coal Mines Co. under a 20-year lease. **Development:** By over 10,000 ft. of tunnels and drifts, and a 500 ft. slope. **Plant:** One 100 and one 60 H. P. boilers; steam hoist; steam driven compressor; and 100,000 cu. ft. sirocco fan. **Mineral sought:** Coal. **Men employed:** Average, 8. **Remarks:** This company is composed of men with many years of experience in coal mining, and the men employed are all coal miners and are interested in the company, thus bringing to the property the necessary qualifications to assure success. The property was taken over by this company and active development work started on October 6. At present this work consists of a large water level development tunnel that has been driven over 700 ft. since work started, and if continued at this rate it will be completed in time to furnish coal to the 1922 fall and winter trade. Present plans call for the erection of a tippie, and the rehabilitation of the railroad from Tetonia to the mine. From the latest reports there seems to be no doubt as to the materialization of the company's plans and the development of Idaho's one commercial coal mine into a success.

### IDAHO COAL MINES CO.

**Officers:** R. S. Talbot, Pres., Spokane, Wash. **Property:** 960 acres patented; unorganized dist.; Driggs; under lease to Gem State Coal Co. q. v.

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## TWIN FALLS COUNTY

Gold found in the placer deposits of the Snake River is the principal mineral resource of this county. It has been reported that uranium and vanadium have been found in the southwest corner of the county, and one company has been formed to exploit the deposit. Sandstone suitable for building purposes is found in various parts of the county.

### CEDAR CREEK CONSOLIDATED MINING CO.

**Officers:** Arthur A. Diegel, Pres.-Mgr., Buhl. **Property:** 7 unpatented claims; unorganized dist., Buhl. **Development:** Approximately 200 ft. of workings. **Ore:** Uranium. **Men employed:** Average, 2.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Bonanza Placer	Snake River	Everett Sweeley	Twin Falls
Ether Placer	Snake River	W. S. Fairchild	Buhl
Homestake Placer	Snake River	J. W. Eaton	Twin Falls
Juniper Placer	Snake River	A. C. Urie	Twin Falls
Klondyke Placer	Snake River	H. E. Baylor	Twin Falls
Pleasant Side Placer	Snake River	Wm. Frisch	Twin Falls

## VALLEY COUNTY

Valley County, one of the largest counties in the State, contains a larger area, with less population, and more possibilities for mineral development than any other equal area in the United States. Lack of transportation and isolation have prevented development and compelled many valuable properties to lie idle. Prior to 1919 the greater part of this county was outside of the forest reserve and so sparsely settled that the cost of road construction was not justifiable. In 1919 this area was included within the forest reserve; after which the government laid out a system of forest roads that will tap all of the isolated districts. The first section from Cascade to Knox has been constructed, and many additional miles will be built in 1922. When these roads are finished, mining operations will be profitable, and much activity is anticipated.

The principal mineral resources of this county are gold (placer and lode), silver, copper, lead, zinc, antimony, quicksilver, tungsten, molybdenum, mica and monazite. The prospects containing these minerals are practically undeveloped. Many will justify the amount necessary to finance them; others warrant investigation. These prospects and the possibilities in undiscovered veins present many opportunities to the investor and prospector.

### DEADWOOD MINING CO., LTD.

**Officers:** James H. Hawley, Pres.; M. I. Church, Sec.-Treas., both of Boise. **Property:** 7 unpatented claims; Deadwood dist.; Pilgrim Mountain; Knox. **Development:** Approximately 400 ft. of tunnels. **Ore:** Lead-silver-gold. **Men employed:** Average, 2. **Remarks:** This company was actively engaged in developing a large body of high-grade lead-silver-gold ore, and reports a sufficient tonnage available to justify the installation of a milling plant and the construction of a road.

### FERN QUICKSILVER MINING CO.

**Officers:** J. A. Marks, Pres., Boise. **Property:** 7 unpatented claims; Yellow Pine dist.; Yellow Pine. **Development:** Approximately 750 ft. of tunnels. **Plant:** 12 cylinder Johnson-McKay retort. **Ore:** Quicksilver. **Remarks:** Small amount of development work was done during the year.

**GOLD FORK MINING CO.**

**Officers:** W. E. Pierce, Pres., Boise. **Property:** 20 patented placer claims, 1500 acres; Gold Fork dist.; Donnelly. **Ore:** Placer gold. **Remarks:** Idle.

**GOLD FORK PLACER MINING CO.**

**Officers:** J. F. Cook, Sec., Boise. **Property:** 3 unpatented claims, 60 acres; Gold Fork dist.; Donnelly. **Ore:** Placer gold. **Remarks:** Assessment work only.

**HALL INTERSTATE MINING CO.**

**Officers:** James H. Hawley, Pres., Boise. **Property:** 5 unpatented claims; Deadwood dist.; Lamont. **Remarks:** This company has been engaged in development work throughout the year. No other information available.

**HOLCOMB CO., LTD.**

**Officers:** F. W. Holcomb, Pres., Edwardsburg. **Property:** 16 patented claims, 317 acres; Thunder Mountain dist.; Edwardsburg. **Remarks:** Idle.

**INDEPENDENCE MINES & POWER CO.**

**Officers:** L. Briscoe, Acting Sec., 523 Kansas Ave., Topeka, Kas. **Property:** 10 patented claims, 200 acres; Big Creek dist.; Edwardsburg. **Remarks:** Idle.

**INTERSTATE GOLD BEACH & BAR MINING CO.**

**Officers:** Charles B. Boyce, Sec.-Treas., Rock River, Wyoming; B. F. Goldman, Mgr., Boise. **Property:** 12 unpatented claims; Big Creek dist.; Warren. **Men employed:** Average, 3.

**PROBIGLO MINES CO.**

**Officers:** Isaac P. Miller, Pres., 745 Hoyl St., Portland, Ore.; H. T. Abstein, Mgr., Yellow Pine. **Property:** 6 quartz, 1 placer claim, unpatented; Big Creek dist.; Profile Gap; Yellow Pine. **Remarks:** Assessment work only.

**PROFILE METALS CO.**

**Officers:** Col. Judson Spofford, Pres., Boise. **Property:** 3 unpatented claims; Big Creek dist.; Profile Creek; Yellow Pine. **Development:** 2 small shafts and 4 tunnels, approximating 300 ft. **Ore:** Silver, copper and gold. **Men employed:** Average, 2.

**PROSPECTORS MINING & DEVELOPING CO., LTD.**

**Officers:** John R. Clark, Pres., Albia, Iowa; Homer I. Clark, Mgr., Meyers Cove. **Property:** 10 unpatented claims; Thunder Mountain dist.; Meyers Cove. **Development:** Small shaft, 375 ft. drifts and 125 ft. crosscut. **Plant:** 2-stamp mill, steam driven.

**PRUDENTIAL MINES CO.**

**Officers:** H. D. Foote, Sec.-Treas. **Property:** 2 unpatented claims; unorganized district.

**UNITED MERCURY MINES CO.**

**Officers:** J. J. Oberbillig, Overland Bldg., Boise. **Property:** 41 unpatented claims; Big Creek dist.; Yellow Pine. **Development:** Approximately 930 ft. of tunnels during the year. **Plant:** Six 6 ft. cylindrical tubes. **Ore:** Quicksilver. **Men employed:** Average, 11. **Remarks:** This company is a consolidation of practically all of the properties in the Yellow Pine cinnamon belt. The consolidation and organization was perfected early in 1921; finances were then raised, a new camp was constructed, and active development work started. The development work has proceeded without interruption; and the company contemplates the erection of a reduction plant during 1922.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Dewey	Thunder Mountain	R. A. Davis, Jr.	Nampa
Gold Ridge	Big Creek	H. B. Abstein	Profile
Lake City Placer	Lake City	Jacob Storer	McCall
Lost Pilgrim	Deadwood Basin	George Wise	410 W. Bannock St Boise
Merry Blue	Deadwood Basin	Henry A. Vernon	Boise
Red Metal	Profile	Charles Ellison	Profile
Ruby Hill	Lake City	L. L. Alsager	Emmett
Silver Shield	Hurdy Creek	Charles Hardin	Fruitland
Snow Shoe	Big Creek	Jacob Jensen	Clover
Sunnyside	Thunder Mountain	James A. Russell	609 Magee Bldg., Pittsburgh, Pa.

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- Geology of the Yellow Pine cinnabar mining district, Idaho, by E. S. Larsen and D. C. Livingston, U. S. Geol. Survey Bull. 715e, **1920**.
- A reconnaissance in south central Idaho embracing Thunder Mountain, Big Creek, Stanley Basin, Sheep Mountain, and Seafoam districts, by J. B. Umpleby and D. C. Livingston, Idaho Bureau of Mines and Geology Bull. 3, pp. 3-12, **1920**.

## WASHINGTON COUNTY

The principal mineral resources of Washington County are silver, copper, gold, lead, zinc, diatomaceous earth and clay. Silver is the principal metal in the ores of Mineral (Washington) district, while copper is the chief metal in the ores of Heath district. During 1921 the Heath district was practically dormant, while considerable activity took place in the Mineral district. From the latter district one company and several prospectors shipped considerable high-grade concentrates and crude ore, which constituted the entire metal production of the county. The first work in developing the clay resources of this county was started in 1921 by the Idaho Clay Products Co., whose pioneering is directing attention to these commercial deposits.

### BANNER MINING COMPANY OF IDAHO, LTD.

**Officers:** Henry Raymond, Pres.-Mgr., Heath. **Property:** 3 unpatented claims; Heath dist.; Heath. **Remarks:** Idle.

### IDAHO CLAY PRODUCTS CO.

**Officers:** Stuart M. French, Sec., Weiser. **Property:** Approximately 1400 acres, near Weiser. **Mineral sought:** Tile and brick clay. **Remarks:** The clay produced by this company is of a very superior quality.

### IDAHO COPPER MINING & SMELTING CO.

**Officers:** M. R. Straight, Pres., Johnstown, Pa.; J. B. Adrian, Treas., Boise. **Property:** 67 unpatented claims; Heath dist.; Heath. **Ore:** Copper. **Development:** 2000 ft. tunnel. **Plant:** Gas driven compressor. **Remarks:** Assessment work only.

### IDAHO-OREGON COAL MINING CO.

**Officers:** A. E. Price, Pres., 118 Warm Springs Ave., Boise. **Property:** 1280 acres held under coal prospecting permit near Cobb Siding; Weiser. **Development:** Approximately 800 ft. of tunnel and 110 ft. shaft. **Mineral sought:** Coal. **Men employed:** Average, 6.

### SILVER CABLE MINING CO.

**Officers:** C. M. Martin, Pres., Boise. **Property:** 2 patented, 3 unpatented claims, approximately 96 acres, Washington dist.; Home, Ore. **Development:** Approximately 2000 ft. of underground workings. **Ore:** Silver-copper. **Men employed:** Average, 4.

NAME OF MINE	MINING DIST.	OWNER	P. O. ADDRESS
Black Jack	Washington	W. S. Slayer	Mineral
Contact	Heath	A. Houlahan	Brownlee, Ore.
Edna May	Heath	Roy Howland	Homestead, Ore.
Egan	Washington	Emil Melzer	Baker, Ore.
Fremont Group	Heath	M. K. Straight	Heath
Galena Silver Mine	Heath	I. A. Vaughn	Council
Hancock	Washington	Peter Davis	Mineral
Idaho Gold Coin	Washington	E. D. Ford	Weiser
Last Chance	Washington	W. W. Campbell	Weiser
Magdalene Group	Washington	J. R. Weaver	Mineral
Monarch	Heath	Rudolph Brown	Heath
Raymond Claims	Heath	Paul Raymond, Sr.	Heath



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- Gypsum deposits of the United States, by R. W. Stone and others, U. S. Geol. Survey Bull. 697, pp. 99-100, **1920**.
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## COMPANIES FAILING TO FILE ANNUAL REPORT.

COMPANY NAME	OFFICER	P. O. ADDRESS
Alice Mining Co.	James F. McCarthy	Wallace
Alpena Copper Mng. Co.	A. H. Featherstone	Wallace
Ambergris Mining Co.	E. R. Day	Wallace
American Mng., Co., Ltd	A. H. Kleinschmidt	Helena, Mont.
American Mng. & Development Co.	Hugh Roberts	Carmen
American Silver Syndicate, Inc.		Silver
Big Elk Mng. Co., Ltd.	A. H. Featherstone	Wallace
Bitter Root Mountain Mng. Co.	A. H. Featherstone	Wallace
Black Rock Mng. Co.	Bert Swartz	Kellogg
Blue Bell Mng. Co., Ltd.	F. Bland	Wallace
Brown & Sons Yellowbird M. & D. Co.	F. J. Brown	Lamont
Capital Mng. & Milling Co.	Joseph F. Whelan	Wallace
Caribou Mng. Co., Ltd.	C. O. Sowder	Coeur d'Alene
Castle Creek Mng. & Mill. Co.	F. B. Smith	Nampa
Chester Mng. Co., Ltd.	C. W. Simmons	Kellogg
Clipper Gold Mng. & Mill. Co.	Charles J. Sherry	Fairfield
Coeur d'Alene Exploration Co., Ltd.	F. Bland	Wallace
Coeur d'Alene Syndicate	Rush J. White	Wallace
Comet Gold & Copper Mng. Co., Ltd.	Joseph F. Whelan	Wallace
Commonwealth Mng. Co.	Elgin E. Cole	Garwood
Comstock Copper Mng. Co.	J. H. Nordquist	Wallace
Copper & Uranium Mng. Co.	George W. Flamm	Rexburg
Corona Mining Co.	C. A. Toney	Clayton
Daley Cons. Mng. Co.	Daniel Reber	Mountain Home
Deer Creek Cons. Mng. Co.		Forest
Demming Mines Co.	M. T. Rowland	Nampa
Doughboy Mng. & Leasing Co.	Francis Armour	Idaho Falls
East Caledonia Mines Co.	Franklin Pfirman	Wallace
East Hecla Mng. Co., Ltd.	A. H. Featherstone	Wallace
Elgin & Ogden Mng. Co.		
Ella & Eagle Cons. Gold M. & D. Co.	E. M. Herriott	Twin Falls
Equitable M. & M. Co.	G. R. Scott	Coeur d'Alene
Flynn Group Mng. Co.	Joseph F. Whelan	Wallace
Galena Silver Mng. Co.	S. H. Bolton	Twin Falls
Garfield M. & M. Co.	William Duling	Garfield, Wash.
George F. Roth Co.	George F. Roth	Rochester, N. Y.
Golden Rose Mines Co.	George R. Colvin	Fairfield
Gold Valley Placer Mng. Co.	William B. Horn	Salmon
Grangeville Coal & Dev. Co.	George A. Smith	Grangeville
Hamilton Copper Mng. Co.	Norman Ebbley	Wallace
Hampton M. & M. Co.	D. J. Paul	Hampton
Haynes-Stellite Co.		Kokomo, Ind.
Hennessy-Burns Mng. Co.	Joseph F. Whelan	Wallace
Hunch Mng. & Mill. Co.	Fred Vinter	Moscow
Hercules Mng. Co., Ltd.	E. J. Conley	Elk City
Idaho Copper Mng. Co., Ltd.	A. H. Featherstone	Wallace
Idaho Gold Mng. Co.	H. E. Heath	Gray
Idaho Mines & Metals Co., Ltd.	Cornelius Dorr, Jr.	2 Rector St. Bldg., New York
Idaho Lead & Copper Co.	Leon N. Brown	Bonnors Ferry
Idaho-Montana Mng. Co.	E. P. Miller	Burke
Idaho Stone Co.	Thomas McMillan	Boise
Idaho Standard Mines Co.	J. H. Richards	Boise
Imperial Min. & Mill. Co., Ltd.	Theo. D. Fry	Silver City
Kennan Mining Co.	C. T. Kennan	Murray
Killbuck Mng. Co., Ltd.	C. W. Gossert	Wallace
Lansing Silver-Lead Mng. Co.	A. H. Featherstone	Wallace

COMPANY NAME	OFFICER	P. O. ADDRESS
Legal Tender Mng. Co., Ltd.	A. H. Featherstone	Wallace
Liquidator Mng. Co.	L. E. Hanley	Wallace
Little Smoky Mng. Co., Ltd.	J. J. McFadden	Hailley
Log Cabin M. & M. Co., Ltd.	W. H. Hanson	Wallace
Lucky Friday Mng. Co.	James A. Wayne	Wallace
Lucky Strike Mng. Co.	W. W. Webb	Clark Fork
Macedonia Mng. Co.	A. M. Mundell	Wallace
Mayflower Mng. Co.	W. W. Smith	Wallace
Modoc M. & M. Co., Ltd.	Frank Harris	Weiser
Monumental Mercury Mng. Co.	H. H. A. Brandt	Boise
O. & E. Copper Co.	Judge De Horen	Grangeville
Oom Paul Cons. Mng. Co.	L. E. Hanley	Wallace
Ossaska Mng. Co.	J. H. Moore	S. 109 Stevens St., Spokane, Wash.
Phoenix M. & M. Co., Ltd.	Norman Ebbley	Wallace
Pocahontas Mng. Co.	W. H. Hanson	Wallace
Polaris D. & M. Co.	L. C. Wilson	Wallace
Pope-Shenon Mng. Co.		Salmon
Pretoria M. & M. Co.	Joseph F. Whelan	Wallace
Pullman M. & M. Co.	D. C. Dow	Pullman
Raven Mining Co., Ltd.	Franklin Pfirman	Wallace
Red Monarch Cons. Mng. Co.	T. H. Keefer	Wallace
Sabina Mines Co.	E. J. Duff	Wallace
Sheridan M. & M. Co.	Joseph F. Whelan	Wallace
Silver Creek Cons. M. & M. Co.	J. E. Stone	Kellogg
Silver King Limestone Co.	Carl Evans	Bayview
Snow Storm Apex Mng. Co.	W. E. Allen	Spokane, Wash.
Snowy Peak Mng. Co.	John H. Wourm	Wallace
Sunset Mining Co.	Joseph Cooke	602 Dooly Bldg., Salt Lake City, Utah.
Talmadge Rawhide Mines Co.	M. T. Rowland	Nampa
Torino Mng. Co.	Joseph F. Whelan	Wallace
United Golden Chest M. & M. Co.	Charles J. Johnson	Murray
United States Silver Lead Mines Co.	Joseph McCarthy	Spokane, Wash.
Vindicator M. & M. Co.	T. A. Powers	Mace
Wampum Mng. Co.	Franklin Pfirman	Wallace
Wisdom Gold Mines Co.	Evan Colwell	Wallace
Wolverine Placer Mines Co.	Rasmussen Bros.	Gray
Wonderful Mng. Co.	A. H. Featherstone	Wallace
Yankee Fork Placer Co.	James H. Hawley	Boise

### MISCELLANEOUS MINERALS

COMPANY OR MINE	OWNER OR OFFICER	P. O.	COUNTY
<b>ANTIMONY</b>			
Coeur d'Alene Antimony Min. Co., Ltd.....	C. M. Powell, Sec.....	Kellogg .....	Shoshone
Buzzwhizzer .....	I. A. Brim.....	Arco .....	Butte
United Mercury Mines Co.....	J. J. Oberbillig, Pres.....	Boise .....	Valley
	Albert Hennessy.....	Yellow Pine .....	Valley
<b>ASBESTOS</b>			
Western Mineral Co.....	Geo. H. Watterman, Mgr.....	Kamiah .....	Idaho
<b>BARYTES</b>			
Barium Group.....	Frank Lee.....	411 Thatcher St., Boise .....	Blaine
Barytes Rare Mineral Mfg. Co.....	John H. Ware, Pres.....	224 Puget Sound..... Bldg., Tacoma, Wash.	Blaine
Bonnie Group .....	Frank Plughoff.....	Hailey .....	Blaine
<b>COBALT</b>			
Beliel Group .....	Haynes-Stellite Co.....	Kokomo, Ind.....	Lemhi
Copper Chief M. & M. Co., Ltd. ....	Robert Olson, Pres.....	Troy .....	Latah
Home Builder Min. & Dev. Co., Ltd.....	Frank M. Slagle, Pres.....	528 Hutton Bldg., Spokane, Wash.	Kootenai
<b>DIATOMACEOUS EARTH</b>			
Insulation Mfg. Co.....	Gordon T. Hyde, Mgr.....	612 Templeton Bldg., Salt Lake City, Utah .....	Camas Elmore
	Frank Halford.....	Mountain Home .....	Elmore

Amalgamated Sugar Co.....		Salt Lake City, Utah	Butte
International Portland Cement Co.....	Chas. F. Sechrist, Sec.....	Spokane, Wash.....	Bonner
Utah-Idaho Sugar Co.....		Salt Lake City, Utah	Butte
Washington Brick, Lime & Sewer Pipe Co.....		Spokane, Wash.....	Bonner

### MANGANESE

Hub Group .....	S. O. Nelson.....	1211 E. Bannock St., Boise	Butte
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### MARBLE

Fairchild & Bedke.....	Basin .....	Cassia
Ben L. Schultz.....	Lewiston .....	Nez Perce
John Lambert.....	Lewiston .....	Nez Perce

### MICA

Muscovite Mica Mine.....	A. H. Bentz.....	Avon .....	Latah
Pacific White Mica Co.....	W. C. McAllister, Pres.....	534 N. Y. Bldg., Seattle, Wash.	Latah
Washington Mica Co.....	George H. Doerr, Sec.....	Spokane, Wash.....	Latah
	M. L. Gifford.....	Council .....	Adams
	Gillman Rinehart.....	Council .....	Adams

### MOLYBDENUM

W. G. Cadby.....	Warren .....	Idaho
W. R. Deckard.....	Pine .....	Elmore
A. J. Kent.....	Bonnors Ferry .....	Boundary
A. R. Mulkey.....	Leadore .....	Lemhi
N. H. Redient.....	Port Hill .....	Boundary
Mack Rheinboldt.....	Pine .....	Elmore

## MISCELLANEOUS MINERALS—(Continued)

COMPANY OR MINE	OWNER OR OFFICER	P. O.	COUNTY
<b>OIL AND GAS</b>			
Goose Creek Oil & Dev. Co.....	D. P. Carpenter, V. Pres.....	Pittsburgh, Pa .....	Cassia
Idaho Leasing Co.....	E. S. Slocane, Sec.....	Pocatello .....	Caribou
Idaho Oil & Gas Co.....	C. A. Glougie, Pres.....	Nampa .....	Payette
Idaho Research & Dev. Co., Inc.....	George Stoll, Sec.....	Pocatello .....	Power
March Basin Oil & Gas Co.....	Charles O. Dumas, Pres.....	Albion .....	Cassia
Nez Perce Oil Co.....	Ben H. Jackson, Dir.....	Lewiston .....	Nez Perce
Oasis Oil Co. ....	William D. Reynolds, Sec.....	Burley .....	Cassia
Red River Oil & Dev. Co.....	James E. Ogden, Sec.....	Rockland .....	Power
Tammany Oil Co.....	V. F. Lorang, Pres.....	Lewiston .....	Nez Perce

## PHOSPHATE

American Phosphate Corporation.....	C. F. Nibley, Pres.....	722 Kearns Bldg., Salt Lake City, Utah	Bear Lake
Anaconda Copper Co.....	C. E. Nighman, Mgr.....	Conda .....	Caribou
Bear Lake Phosphate Co.....	Russell Shepherd, Pres.....	Paris .....	Bear Lake
Idaho Phosphate Co.....	Ray C. McIlwee.....	Paris .....	Bear Lake
San Francisco Chemical Co.....	Matt Miller, Trustee.....	Cavanaugh .....	Bear Lake
	Joseph J. Taylor, Supt.....	Montpelier .....	Bear Lake
	William F. Kelt, Pres.....	332 Pine St., San Francisco, Calif.	
Southern California-Orange Grove Fertilizer Co.....	Robert J. Shields, Mgr.....	Salt Lake City, Utah	Caribou
U. S. Phosphate Co. of Michigan.....	H. F. Chaney, Sec.....	1724 Ford Bldg., Detroit, Mich.	Bear Lake
Utah Fertilizer & Chemical Mfg. Co.....	Robert J. Shields, Mgr.....	Salt Lake City, Utah	Bear Lake

## QUICKSILVER

Fern Quicksilver Mng. Co.....	J. A. Marks, Pres.....	Boise .....	Valley
United Mercury Mines Co.....	J. J. Oberbillig, Pres.....	Boise .....	Valley

Jesse Draney.....	Auburn, Wyo. ....	Caribou
John McGrew & Co.....	Auburn, Wyo. ....	Caribou
John W. Booth.....	Fairview, Wyo. ....	Caribou

**SANDSTONE**

Boise Stone Co.....	Thomas McMillan.....	Boise .....	Ada
Idaho State Penitentiary.....	Warden .....	Boise .....	Ada

**SULPHUR**

Idaho Sulphur Co.....	I. B. Perrine.....	Twin Falls .....	Caribou
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**TUNGSTEN**

Blue Wing Tungsten M. & M. Co.....	W. P. Barton, Sec.....	Patterson .....	Lemhi
Golden Chest .....	E. M. Smith.....	Murray .....	Shoshone
Hub Group .....	S. O. Nelson.....	1211 E. Bannock St., Boise	Butte
Kennan.....	Chester T. Kennan.....	Murray .....	Shoshone
Mother Lode .....	John F. Murphy.....	Murray .....	Shoshone
Tungsten Hill Mng. Co.....	C. D. Muxen, Sec.....	Symons Bldg., Spokane, Wash.	Boundary
Unity Gold Mines Co.....	Jay A. Cizek, Mgr.....	Warren .....	Idaho

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## PRODUCTION

Conditions which retarded mining during 1921 resulted in a production equalling approximately one-half that of 1920. The low price of lead, zinc and copper was one of the principal reasons that caused several large producers to suspend production, and only the high price of silver prevented other producers of lead-silver ores from closing.

The total value of the lead, silver, gold, copper and zinc mined in Idaho in 1921 was about \$16,564,014.59, a decrease in value of \$14,606,161.00 from that of 1920. Shoshonc County produced \$14,594,399.93 or approximately 85 per cent of the total for the State. The other principal counties were Blaine, Custer, Boise and Lemhi named in the order of their production position.

The most significant fact presented by the county totals is Blaine County's position as the second largest producer. It is the first time in over 25 years that Blaine County has gained this distinction; and during the last 16 of these 25 years, with but one exception (1919), it never exceeded third place, but always held around sixth.

### Gold

The output of gold in 1921 was valued at \$552,938.23 compared with \$485,590 in 1920, an increase of \$67,384.00. This gain is not large, but is important in indicating a return to gold mining, as the increase was not from the large producers but from several new operations.

### Silver

In 1921 the production of silver was 6,184,989.73 ounces, and in 1920 it was 7,326,794.00 ounces, a decrease of 1,141,804 ounces. The Coeur d'Alene district produced approximately 80 per cent of the total for the State, and as a number of large lead-silver producers in this district were idle the greater part of the year the decrease can be attributed to them. Full credit must be given to the Pitman Act, which fixed the price of silver at \$1 an ounce, for being directly responsible in keeping a large number of the lead-silver mines of the State in operation.

### Lead

The production of lead decreased from 249,609,976 pounds in 1920 to 210,100,194 pounds in 1921, with a value of \$9,559,558.85. The value of the 1921 output based on 1920 prices would have been \$16,808,015.52, a difference, or loss, of \$7,248,456.67, caused by the price of lead, which averaged 8 cents a pound in 1920 and 4.55 cents a pound in 1921.

### Zinc

Practically all of the zinc produced in Idaho in 1921 was recovered during January and February, and the average price of this metal (5.17 cents a pound) for these months was used in valuing the total zinc output.

The low price of zinc during 1921 compelled all the producers to close. This resulted in a production of 1,818,313 pounds with a total value of \$94,006.78, as compared with 27,932,326 pounds in 1920, valued at \$2,262,518.

### Copper

The output of copper decreased from 2,538,396 pounds in 1920 valued at \$467,065 to 1,380,168 pounds in 1921 valued at \$172,521.00. The decrease was principally due to the low price of this metal, which dropped from an average 1920 price of 17.46 cents a pound to an average of 12.50 cents a pound in 1921. This decrease and the general abnormal conditions compelled practically all of the mines to suspend production early in the year.

## Statistics

The tabulation of the mineral production is based upon the gross metal content of the mineral shipped. The values were figured from the average New York quotations. These statistics represent the production reported to the inspector's office and are not complete, as a few small producers refused to submit their statements; however, these were unimportant and in all probability will not increase the total for the State over 1 per cent. The reported gold production for the State is within less than 1 per cent of the total but may be in error as to county source, as the gold shipped from the State to U. S. mints was credited to the State as a whole; so it was necessary to do considerable guessing as to the county from which it originated.

## 1921 METAL PRODUCTION BY COUNTIES

## ADA COUNTY

Gold .....	124.55 oz.....	\$	2,574.45
Silver .....	43.87 oz.....		43.87
		\$	2,618.32

## ADAMS COUNTY

Gold .....	1.79 oz.....	\$	37.00
Silver .....	0.59 oz.....		.59
		\$	37.59

## BINGHAM COUNTY

Gold .....	43.10 oz.....	\$	890.88
Silver .....	2.30 oz.....		2.30
		\$	893.18

## BLAINE COUNTY

Gold .....	1,150.51 oz.....	\$	23,781.04
Silver .....	585,828.32 oz.....		585,828.32
Lead .....	4,870,692.00 lbs.....		221,616.49
Copper .....	15,517.00 lbs.....		1,939.63
		\$	833,165.48

## BOISE COUNTY

Gold .....	13,817.31 oz.....	\$	285,603.80
Silver .....	6,401.35 oz.....		6,401.35
Lead .....	5,294.00 lbs.....		240.88
		\$	292,246.03

## BONNER COUNTY

Gold .....	6.68 oz.....	\$	138.08
Silver .....	8,451.88 oz.....		8,451.88
Lead .....	11,452.00 lbs.....		521.07
Copper .....	1,953.00 lbs.....		244.03
		\$	9,355.06

## MINING INDUSTRY OF IDAHO

## BONNEVILLE COUNTY

Gold .....	9.57 oz.....	\$	197.81
Silver .....	4.58 oz.....		4.58
		\$	202.39

## BOUNDARY COUNTY

Gold .....	20.19 oz.....	\$	417.33
Silver .....	45.14 oz.....		45.14
Lead .....	1,818.00 lbs.....		82.72
Copper .....	125.00 lbs.....		15.63
		\$	560.82

## BUTTE COUNTY

Silver .....	332.89 oz.....	\$	332.89
Lead .....	67,812.00 lbs.....		8,085.45
		\$	3,418.34

## CAMAS COUNTY

Gold .....	25.49 oz.....	\$	526.88
Silver .....	500.17 oz.....		500.17
		\$	1,027.05

## CANYON COUNTY

Gold .....	3.65 oz.....	\$	75.45
Silver .....	2.12 oz.....		2.12
		\$	77.57

## CLEARWATER COUNTY

Gold .....	194.13 oz.....	\$	4,012.67
Silver .....	28.01 oz.....		28.01
		\$	4,040.68

## CUSTER COUNTY

Gold .....	1,263.22 oz.....	\$	26,110.76
Silver .....	364,611.51 oz.....		364,611.51
Lead .....	803,092.00 lbs.....		36,540.69
Copper .....	1,189,457.00 lbs.....		148,682.13
		\$	575,945.09

## ELMORE COUNTY

Gold .....	55.40 oz.....	\$	1,145.12
Silver .....	51.25 oz.....		51.25
		\$	1,196.37

## GEM COUNTY

Gold .....	0.37 oz.....	\$	7.65
Silver .....	1.40 oz.....		1.40
		\$	9.05

## IDAHO COUNTY

Gold .....	1,284.30 oz.....	\$	26,546.48
Silver .....	422.54 oz.....		422.54
		\$	26,969.02

## JEROME COUNTY

Gold .....	4.72 oz.....	\$	97.56
Silver .....	0.24 oz.....		.24
		\$	97.80

## LATAH COUNTY

Gold .....	6.27 oz.....	\$	129.60
Silver .....	0.38 oz.....		.38
		\$	129.98

## LEMHI COUNTY

Gold .....	1,149.10 oz.....	\$	23,751.90
Silver .....	56,565.97 oz.....		56,565.97
Lead .....	2,164,670.00 lbs.....		98,492.49
Copper .....	11,674.00 lbs.....		1,459.25
		\$	180,269.61

## LINCOLN COUNTY

Gold .....	1.20 oz.....	\$	24.80
Silver .....	.06 oz.....		.06
		\$	24.86

## NEZ PERCE COUNTY

Gold .....	49.44 oz.....	\$	1,021.92
Silver .....	2.27 oz.....		2.27
		\$	1,024.19

## OWYHEE COUNTY

Gold .....	216.48 oz.....	\$	4,474.64
Silver .....	19,098.71 oz.....		19,098.71
		\$	23,573.35

## POWER COUNTY

Gold .....	11.16 oz.....	\$	230.68
Silver .....	0.51 oz.....		.51
		\$	231.19

## SHOSHONE COUNTY

Gold .....	7,217.33 oz.....	\$	149,182.21
Silver .....	5,132,320.00 oz.....		5,132,320.00
Lead .....	202,175,364.00 lbs.....		9,198,979.06
Copper .....	159,295.00 lbs.....		19,911.88
Zinc .....	1,818,313.00 lbs.....		94,006.78
		\$	14,594,399.93

## MINING INDUSTRY OF IDAHO

## TWIN FALLS COUNTY

Gold .....	1.01 oz.....	\$	20.88
Silver .....	0.10 oz.....		.10
		\$	20.98

## VALLEY COUNTY

Gold .....	51.63 oz.....	\$	1,067.19
Silver .....	33.65 oz.....		33.65
		\$	1,100.84

## WASHINGTON COUNTY

Gold .....	42.16 oz.....	\$	871.45
Silver .....	10,239.92 oz.....		10,239.92
Copper .....	2,147.00 lbs.....		268.38
		\$	11,379.75

## STATE TOTALS FOR 1921

Gold .....	26,750.76 oz.....	\$	552,938.23
Silver .....	6,184,989.73 oz.....		6,184,989.73
Lead .....	210,100,194.00 lbs.....		9,559,558.85
Copper .....	1,380,168.00 lbs.....		172,521.00
Zinc .....	1,818,313.00 lbs.....		94,006.78
		<b>Total.....</b>	<b>\$16,564,014.59</b>
Asbestos, Building Stone, Coal .....		\$	63,650.00
Limestone .....			206,250.00
Phosphate Rock .....			49,198.50
		<b>Grand total.....</b>	<b>\$16,883,113.09</b>



## ANNUAL METAL OUTPUT FOR IDAHO SINCE 1903

(From U. S. Geol. Survey, Mineral Resources)

## 1903

Gold .....	65,850 oz.....	\$ 1,361,119
Silver .....	7,398,970 oz.....	3,951,790
Lead .....	213,143,618 lbs.....	9,135,335
Copper .....	569,484 lbs.....	78,589
Total value.....		\$14,526,833

## 1904

Gold .....	82,739 oz.....	\$ 1,710,365
Silver .....	7,666,382 oz.....	4,389,004
Lead .....	233,096,375 lbs.....	10,197,966
Zinc .....	2,600 lbs.....	130
Copper .....	5,087,518 lbs.....	635,940
Total value.....		\$16,933,405

## 1905

Gold .....	52,033 oz.....	\$ 1,075,618
Silver .....	8,679,093 oz.....	5,242,172
Lead .....	259,812,428 lbs.....	12,211,184
Zinc .....	1,228,449 lbs.....	72,479
Copper .....	7,321,585 lbs.....	1,142,167
Total value.....		\$19,743,620

## 1906

Gold .....	55,588 oz.....	\$ 1,149,100
Silver .....	9,018,815 oz.....	6,042,606
Lead .....	255,014,446 lbs.....	14,535,823
Zinc .....	2,065,597 lbs.....	126,001
Copper .....	9,558,913 lbs.....	1,844,870
Total value.....		\$23,698,400

## 1907

Gold .....	60,755 oz.....	\$ 1,255,911
Silver .....	8,415,431 oz.....	5,554,185
Lead .....	233,823,854 lbs.....	12,392,664
Zinc .....	6,985,732 lbs.....	412,158
Copper .....	10,890,731 lbs.....	2,178,146
Total value.....		\$21,793,064

## 1908

Gold .....	69,827 oz.....	\$ 1,443,459
Silver .....	7,469,981 oz.....	3,959,090
Lead .....	206,827,816 lbs.....	8,686,768
Zinc .....	37,410 lbs.....	1,758
Copper .....	10,041,850 lbs.....	1,325,524
Total value.....		\$15,416,599

## MINING INDUSTRY OF IDAHO

## 1909

Gold .....	70,329	oz.....	\$ 1,453,822
Silver .....	7,041,633	oz.....	3,661,649
Lead .....	215,986,285	lbs.....	9,287,410
Zinc .....	1,351,010	lbs.....	72,954
Copper .....	9,115,489	lbs.....	1,185,014
Total value.....			\$15,660,849

## 1910

Gold .....	53,060	oz.....	\$ 1,096,842
Silver .....	7,369,742	oz.....	3,979,661
Lead .....	228,258,839	lbs.....	10,043,389
Zinc .....	5,603,114	lbs.....	302,568
Copper .....	7,037,292	lbs.....	893,736
Total value.....			\$16,316,196

## 1911

Gold .....	66,389	oz.....	\$ 1,372,387
Silver .....	8,196,136	oz.....	4,343,952
Lead .....	272,556,525	lbs.....	12,265,044
Zinc .....	8,340,249	lbs.....	475,394
Copper .....	5,152,937	lbs.....	644,117
Total value.....			\$19,100,894

## 1912

Gold .....	66,816	oz.....	\$ 1,381,214
Silver .....	8,294,745	oz.....	5,101,268
Lead .....	284,185,657	lbs.....	12,788,355
Zinc .....	13,905,502	lbs.....	959,479
Copper .....	7,492,152	lbs.....	1,236,205
Total value.....			\$21,466,521

## 1913

Gold .....	65,043	oz.....	\$ 1,344,559
Silver .....	9,989,193	oz.....	6,033,473
Lead .....	317,871,945	lbs.....	13,986,366
Zinc .....	23,173,953	lbs.....	1,297,741
Copper .....	9,592,966	lbs.....	1,486,910
Total value.....			\$24,149,049

## 1914

Gold .....	55,743	oz.....	\$ 1,152,315
Silver .....	12,479,516	oz.....	6,901,172
Lead .....	348,526,069	lbs.....	13,592,517
Zinc .....	42,012,435	lbs.....	2,142,634
Copper .....	6,445,187	lbs.....	857,210
Total value.....			\$24,645,848

## 1915

Gold .....	57,069	oz.	\$ 1,179,731
Silver .....	11,769,128	oz.	5,966,948
Lead .....	345,999,466	lbs.	16,261,975
Zinc .....	70,153,234	lbs.	8,699,001
Copper .....	6,978,713	lbs.	1,221,275

Total value.....\$33,328,930

## 1916

Gold .....	53,977	oz.	\$ 1,115,810
Silver .....	12,300,873	oz.	8,093,974
Lead .....	375,081,781	lbs.	25,880,643
Zinc .....	86,505,219	lbs.	11,591,699
Copper .....	8,478,281	lbs.	2,085,657

Total value.....\$48,767,783

## 1917

Gold .....	38,933	oz.	\$ 804,809
Silver .....	12,029,338	oz.	9,912,175
Lead .....	393,559,521	lbs.	33,846,119
Zinc .....	79,854,136	lbs.	8,145,122
Copper .....	7,827,574	lbs.	2,136,928

Total value.....\$54,845,153

## 1918

Gold .....	33,999	oz.	\$ 702,816
Silver .....	9,172,340	oz.	9,172,340
Lead .....	294,695,993	lbs.	20,923,416
Zinc .....	45,161,712	lbs.	4,109,716
Copper .....	6,533,888	lbs.	1,613,870

Total value.....\$36,522,158

## 1919

Gold .....	34,503	oz.	\$ 713,238
Silver .....	5,579,056	oz.	6,248,543
Lead .....	182,341,898	lbs.	9,664,121
Zinc .....	15,994,229	lbs.	1,167,579
Copper .....	3,122,763	lbs.	580,834

Total value.....\$18,374,315

## 1920

Gold .....	23,490	oz.	\$ 485,590
Silver .....	7,326,794	oz.	7,986,205
Lead .....	249,609,976	lbs.	19,968,798
Zinc .....	27,932,326	lbs.	2,262,518
Copper .....	2,538,396	lbs.	467,065

Total value.....\$31,170,176

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