

# Cornucopia Area Throbs With New Mining Activity

Mining Company Im-  
proves Property in  
Camp

MANY BUILDINGS  
ARE CONSTRUCTED

Compressor Room Con-  
struction Feature of  
Improvements

By KLASS V. POWELL

Extensive developments in the underground workings of the Cornucopia Gold Mines and construction of additional camp buildings have converted the old town of Cornucopia, located high in the Cornucopia mountains, into a veritable bee-hive.

The successful operation of the extensive property by the company has prompted increased activity in the town of Cornucopia outside of the mining camp itself, and of course, is having a beneficial influence over a wide area.

The increase in the population of Cornucopia, resulting from operation of the mine, has made necessary the construction of a new school building, which will contain two classrooms and a large assembly room.

Additional mining activity is also underway along Pine creek below Cornucopia. Two drag-line companies and several individual placer miners are operating along the creek.

The Cornucopia Gold Mines company has been so successful during the last few years that it has been able to meet the strict requirements for entrance of stock on the New York curb market. The Cornucopia stock was placed on the curb last month.

In addition to constructing many buildings in the camp, the company has also made at least two major improvements in the mine during the last year.

The company has raised the track in the Coulter tunnel, which involved the laying of 8 by 8 inch stringers tied in every six feet with cross ties, and then laid heavy rails, the lightest of 40-pound weight. This project gave the company extra water clearance for the tunnel, so that it was possible to carry almost twice as much water in the ditch as before the track was raised. The new rails were laid from the portal of the tunnel to the Union vein, a distance of 6400 feet, and also on the outside of the mine. The rail system also includes "fancy" switches, which were made to fit mining conditions.

The mine employes tore up the old track and laid the new track in three and one-half days with a train rolling over it in the regular operation of the mine. Since the laying of the new track, the train of 29 cars has been pulled by the storage battery locomotive used in the mine the entire 6400 feet in four minutes. However, this speed is not general. The time required is usually six minutes when the train is loaded with ore and 12 minutes when men are being transported from the tunnel.

Another outstanding improvement in the mine is the construction of a new concrete compressor room, which was made possible by the removal of tons of solid rock. The space includes an L shaped room 60 feet long on the main compressor room side, by 16 to 18 feet wide and 14 to 20 feet high. The short leg of the L, intended for a lunch room for the men, consists of a room 25 feet long by 14 feet wide and 14 feet high.

Both rooms will be made of concrete, reinforced with steel I beams and 40 pound rail cross pieces as well as No. 6 wire netting. When completed the compressor room will contain two large compressors of a total capacity of around 2000 cubic feet of air. The new compressors are already on the ground ready for installation, which will probably be done in about a month.

The lunch room will be heated by the air lines, in which the air will not be cooled until after it goes through the lunch room.

The present compressor room is on the outside of the mine so that it is necessary to carry the compressed air a distance of 6400 feet.

The company is doing development work on the veins. Workmen have reached the north end line on the Union vein and are drifting steadily on the southward extension on the Union vein. They are down

200 feet below the Coulter tunnel with a development winze, which has shown that the ore is just as good and as wide as in the upper workings. A drift running out from the 200-foot level in the winze 500 feet to the south has exposed good ore most of the way. The biggest line of development has been on the 1730-foot level, which is about 325 feet above the Coulter tunnel. On this level ore has been opened up for more than 300 feet in length in one contiguous ore body, which averages three to five feet in width.

Development to the south on the 1700-foot level has exposed a continuation of the vein southward in an area which heretofore had been looked upon as "a bad bet," but by a thorough geological study and subsequent diamond drilling the ore body was located and is now being developed as rapidly as possible.

The Last Chance vein above the Clark level, which is approximately 1000 feet above the Coulter tunnel on the dip of the vein, is being worked mainly by lessee operation.

Over the entire mine, including the Coulter tunnel, 22 individual lessees are working various sized mining blocks. The lessees employ from two to 20 men, or a total of approximately 90 men. The Cornucopia Gold Mines company employs approximately 200 men, including outside construction workers.

Plans for the near future include re-tracking the Clark tunnel level from the portal to the Last Chance vein, a distance of 4500 feet, with 40-pound rail, which will replace the present 16 and 20 pound steel. After this work is completed, the Clark tunnel will be driven into the hill another 2000 feet to the Wallingford vein, which is expected to materially increase ore reserves when completed.

Construction work this summer includes erection of 12 company houses for workmen, five larger houses for members of the operating staff, a new power sub-station, three new bunk houses at the upper mine and a six-car garage. The sub-station and several of the houses for the workmen have already been completed. Plans are also developing for construction of a new "dry" room for the workmen and recreation hall, which will include a gymnasium, pool and bowling alley. The hall will include a locker room, which will give the men in 20 to 30 minutes the equivalent of from four to six hours in the sunshine. The company expects the solarium to reduce the loss of time due to colds from 60 to 75 per cent.

A new baseball diamond of regulation size is also under construction on the old slum dam. The dam has been filled in with earth and all that remains to be done is to level the ground.

The company is milling steadily between 165 and 175 tons of ore a day. A good share of the production at the present time is secured from the individual lessees, supplemented

by the ore secured mainly from the company's development faces.

The monthly "take" is about the same as last year, approximately \$100,000 a month. The May production for this year was 1923 ounces of gold and 7624 ounces of silver.

From 10 to three cars of concentrates, trucked to Robinette and placed in specially constructed steel cars, are shipped to Tacoma each month.

The company is operating the mill with two crushing and three operating shifts. The mine is operated on the basis of two shifts.

As the ore is taken from the mine, it drops onto a conveyor, which has an automatic weighing device, and goes through a jaw crusher to a vibrating screen. The under-size of the screen goes into fine ore bins and is sampled at this point by an automatic sampler. The over-size goes back through a set of rolls and proceeds back through the screen. The crushed ore is fed by automatic feeders into a ball mill, from whence it passes over jigs and through a unit flotation cell to a classifier, which is in closed circuit with two ball mills.

The overflow of the classifier passes into a series of six flotation cells, from whence "rejects" go to the tailing ponds and the concentrates go to a thickener, from whence they are pumped to a drum vacuum filter, which extracts the larger percentage of the moisture. The concentrates are then shoveled into trucks and taken to Robinette.

In the summer time the ore from the Last Chance workings is hauled to the mill in trucks and in the winter by means of a 100 horsepower caterpillar with a trailer, mounted on pneumatic tires. The trailer, equipped with tires that cost \$400 each, holds from 15 to 20 tons of ore.

Officers of the company are as follows: General Manager, Leverett Davis; president, R. E. Fuller of Seattle; secretary-treasurer, A. Scott Hill of Seattle; general superintendent, A. V. Quine; mill superintendent, T. S. Bailey; construction foreman, J. H. Donley; master mechanic, A. Ginther; chief electrician, A. F. Fosterling; mine accountant, Everett McKeellar, and engineers, J. E. Dunn and C. C. March.



Otto Karg and Pleas Brown, left to right, recently brought back from firemen in the hose coupling contest. Mr. Karg, fire chief of the local written examination for fire chiefs of the state. The others formed ok second place in the five-event evolutions contest, a bare second be-

aterialize, we may look forward o further growth of mining activities in Baker county and eastern Oregon for a number of years to come.

## BAKER FIREMEN TO DEMONSTRATE

### State Hose-Coupling Champions to Give Exhibition

The Baker fire department, the drill team of which is the state champion in hose-coupling contests, will perform for local residents at 8:30 a. m. Tuesday morning on Main street.

Members of the team, Dr. W. F. Haupt, Pleas Brown and Chester Brown, will demonstrate the skill they displayed at the recent firemen's convention in Portland and which won them the state meet. They will also perform several drills in addition to the hose-coupling.

Fire Chief Otto Karg stated that the men have been keeping in practice since their return from Portland and are in fine shape to give the best possible exhibition. The intricacies of laying a line and making fast all of the couplings in a minute or so will undoubtedly prove interesting to visitors who have never seen a contest team in action, Mr. Karg said.

The team won the acclaim of visiting firemen at Portland and received high praise from various drill captains and fire chiefs in the northwest. Chief Karg also distinguished himself by placing second among chiefs in the state in a written examination. Cash and a silver cup were brought back to Baker by the team.

## RING BATTLES WILL BE GOOD

Golden Glove Champs  
and N. J. Titlist Will  
Annear

pleased with the spirit shown by the fighters.

The fights will start promptly at 8 o'clock so that all present will have plenty of time to attend the dance of Phil Harris and his orchestra at the Covered Wagon.

## I. E. U. Official of Portland Talks At Pondosa Gathering

PONDOSA, June 28—(Special)—An important I. E. U. meeting was conducted here Wednesday. A D. Chisholm of the Portland headquarters and D. T. Williams of Emmett were guest speakers. Dick Crocker, local chairman, conducted the meeting.

Mr. and Mrs. Leonard were week-end visitors in Camp.

Clifford Perkins, who has been attending Northwestern university in Chicago the past year, is visiting his brother, J. W. Perkins, here.

Mr. and Mrs. Elmer, Norwood and Larry and Woody Norwood drove to Emmett over the week-end. Carolyn returned with them.

The Pondosa Womens club will have a cooked food sale at the store June 30.

Mr. and Mrs. T. E. Hansen spent the week-end in La Grande with Mr. and Mrs. Harry Baum.

Dorothy Sager is quite ill of influenza in St. Elizabeth's hospital. Her parents, Mr. and Mrs. J. E. Sager visited her there Monday evening.

Mr. and Mrs. Metz Lerwill and Mrs. Ed Lark spent the week-end in Emmett.

Mrs. M. F. Raymond has gone to Baker to be with her friend, Mrs. Littig, for several days.

Mr. and Mrs. David Meldrum and Atholl and Eunice Meldrum, Marjorie Jackson and Viola Driver drove to Wallowa lake Sunday. Eunice and Viola will stay this week at the Girl Scout camp.

Mr. and Mrs. L. F. McClure and sons, Luther and Chuck, Louis Dunning, Mr. and Mrs. Duward Moore, Elgin Childers, Betty Stein, Harold Lewis, Bob Childers, Donna Claire Gale, Mrs. W. V. Lindquist, Frank Nelder and Mrs. Burnette spent the week-end at Anthony lake.

Mr. and Mrs. Paul Foote, Mrs. Beckly, Mrs. Jenkins, Pauleen Foote and Jacqueline Smith spent the week-end at Wallowa lake. Jacqueline will stay this week at Girl Scout camp.

Charles Smith Will  
Pull 25,000 Pound  
Weight With Teeth

Chief Otto Karg.

Many cash prizes will be offered to the youngsters competing and even the men will have a chance for glory in a special 100-yard event.

Foot races will be held as well as sack races, an egg race, a potato race and a three-legged race.

Following is the list of events and prizes:

Girls under eight, 40-yard race, \$1.50, \$1 and 75c boys; under eight, 40-yard race, \$1.50, \$1 and 75c; girls under 10, 40-yard race, \$1.50, \$1 and 75c; boys under 10, 40-yard race, \$1.50, \$1 and 75c; girls under 15, 60-yard race, \$1.50, \$1 and 75c; boys under 15, 60-yard race, \$1.50, \$1 and 75c; girls under 15, 40-yard sack race, \$1.50, \$1 and \$75; boys under 15, 40-yard sack race, \$1.50, \$1 and 75c; girls under 15, egg race, \$1.50, \$1 and 75c; boys under 15, potato race, \$1.50, \$1 and 75c; girls under 15, three-legged race, \$1.50, \$1 and 75c; boys under 15, three-legged race, \$1.50, \$1 and 75c, and men's free for all 100-yard dash, \$5, \$2.50 and \$1.

## WATER CARNIVAL IS BIG FEATURE

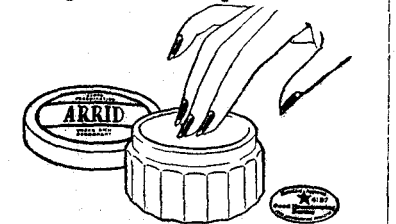
### Grace Mineff, Archie Murray Arranging Program

The water carnival at the natatorium, which will be presented Sunday afternoon at 4:30, will feature the best swimmers of Baker performing in a free exhibition for visitors at the Baker Mining Jubilee and Rodeo, according to George Balch, in charge of the affair.

Miss Grace Mineff and Archie Murray, manager of the natatorium, are arranging a complete program for the public, which they promise will be one of the finest ever presented here. A loudspeaking system has been placed in the natatorium and all events will be clearly announced.

Last year more than 600 persons crowded into the seating space to view the carnival. This year there will be room for at least that many.

## New Under-arm Cream Deodorant safely Stops Perspiration



1. Does not rot dresses—does not irritate skin.

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# Cornucopia ends lease talks

TORONTO—Valley View Gold Mines Ltd. has announced that its wholly owned subsidiary, Cornucopia Gold Mines Inc., had terminated further negotiations with UNC Cornucopia Gold Mines Inc. to extend a mining lease on the Cornucopia mining properties located in eastern Oregon.

While the mining lease expired at the end of last year, Cornucopia had previously been in negotiation with UNC to extend the lease under a revised 1988 exploration program and expenditure commitment.

Valley View said that its ex-

penditures of about \$600,000 incurred in 1987 in exploration on the Oregon properties would be written off. Based on the report of the independent mining consultants employed by Valley View to supervise the 1987 exploration, Valley View decided not to commit to further expenditures on the Cornucopia properties under the terms insisted upon by UNC.

Irwin Singer, Valley View's president, said, "The results obtained from the 1987 exploration program were not as favorable as had been expected. Based upon historical records and

given the commitment that UNC was demanding of Valley View, the shareholders of Valley View will be better served by allocating its resources in a joint venture with Jefferson State Exploration & Development Co. to develop and place into production, commencing in 1988, Jefferson's gold mine properties located in Siskiyou County, Calif., rather than in further exploration of the UNC Cornucopia properties."

Valley View had previously announced the details of its joint venture with Jefferson on the northern California gold mining properties.

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# Lien Foreclosure Action Filed On Cornucopia Mines

## Schneider Initiates Case Against Big Bankrupt Gold Mine

Foreclosure of the huge Cornucopia mining company properties in this county is sought in a suit filed by Chris Schneider, long-time employee, in circuit court here March 25.

Included in the property listed in the complaint are 66 patented mining claims including the big Union-Companion property, one of the largest gold mines in the West, 20 unpatented lode claims, besides a number of patented and unpatented placer mining claims, as well as the property.

Mr. Schneider alleges he worked for the mine as caretaker from 1958 through Sept. 1959 and has owing him \$4487 for which he has previously filed a miner's lien.

He cites that the property is in process of bankruptcy, asks the lien be declared, the property foreclosed and a deficiency judgment if any be issued. Grant, Fuchs, Rose and Daron are his attorneys.

The 'Copia mines closed down under the gold order of 1941, during the early phases of War II. Much of the real property improvements of the former mining camp have been sold and removed.

The property itself includes miles of underground workings both at the Union and the Coulter levels and at other points of the innumerable claims. The Coulter tunnel itself from which the final operation was conducted is a mile into the mountain, in addition to drifts and raises. A big dining hall, dry room, power room and other quarters are fashioned in solid granite a mile under the mountain at the terminus of the tunnel, driven about 1936.

Jackson and Johnson of Baker are representatives of the trustees of the 'Copia bankruptcy action.

The case is filed in state court and will involve the lien rights of the action in respect to the federal bankruptcy proceedings.

# Cornucopia Mine Future Uncertain

Future of Cornucopia Gold Mines Inc., a one-time rich gold producer located in the Panhandle country of Baker County, is uncertain after the disclosure this week that Earl Belle of Pittsburgh, Pa., who had assembled 11 companies under the name of Cornucopia Gold Mines Inc., had left the country.

According to an article in the July 21 issue of Newsweek Magazine, Belle left the U.S. for Rio de Janeiro just before a Cornucopia stockholder complained to a Massachusetts court that there was a \$400,000 discrepancy in Belle's accounting for assets.

Cornucopia itself apparently is an innocent participant in the financial empire built and toppled by Belle. The Newsweek article suggests that the entire enterprises were given Cornucopia's name since the firm had a listing on the American Stock Exchange. The story adds that no charges have been filed against Belle, who can't be brought back because the U.S. has no treaty of extradition with Brazil.

## 'COPIA MINES HEARING BANKRUPTCY SET

A hearing is being held October 1 on the petition of involuntary bankruptcy filed against Cornucopia Gold Mines Inc., was received by the county this week, indicates.

The county with \$400,000 listed as due in taxes from the mine; is one of three local creditors, two small accounts being owed at Halfway. Most of the creditors are Eastern firms and individuals in the financial end of the corporate operation.

The notice indicated it was hoped a merger would be effected to permit settlement of the debts according to a plan proposed in the petition.

# History and Present Production of Mines at Cornucopia Shown

Article Appears In  
Jan. Issue of Mining World

FOUR MILLION  
TAKEN IN GOLD

Extensive Operation Is Now Underway

ONE of the outstanding articles written about the Cornucopia Gold Mines, along with a splendid lay-out of pictures, appears in the January issue of the Mining World, a mining magazine published in Seattle.

The article and pictures cover four pages of the magazine. The front cover is also given over to a picture take inside the mine.

The inside pictures include those of the caterpillar tractor used in hauling ore, the underground compressor room, Leverett Davis, vice president and general manager, and A. V. Quine, general superintendent, in one of the mine offices, machine shops and other scenes.

The Mining World story reads as follows:

Cornucopia is an old camp in the Wallowa mountains of northeastern Oregon. First worked in 1878, it produced almost continuously until 1927, when it shut down.

Canadian interests sent engineers and geologists to the property for a thorough examination. The report made in 1930 was that the mines were worked out.

Since that time Cornucopia—"the horn of plenty"—has produced nearly \$4,000,000 in gold.

It has risen to the sixth position among American gold mines.

How can you account for this?

Leverett Davis, vice president and general manager of Cornucopia Gold Mines, credits two factors:

1. The faith and determination of the late A. D. Coulter of Seattle, who refused to believe the mine was worked out and who organized the project which drove a new low-level tunnel 6000 feet to the ore 1200 feet below any previous workings.

2. The theory evolved by G. E. Goodspeed, professor of geology at the University of Washington, which contends that mineralizing solutions

ore shoots through the tangled veins and dikes of Cornucopia mountain, permitting development to keep on the vein of values by staying with the microbrecciation even where sampling may fail to disclose commercial ore.

There is a third element Mr. Davis did not mention, but the person who spends some time studying the Cornucopia camp cannot escape the impression that a listing of the factors which have brought about the rebirth of Cornucopia should include:

3. The energy, ability and vision of Leverett Davis, vice president and general manager.

Cornucopia Gold Mines' head office is in Seattle, where Dr. Richard E. Fuller is president and A. Scott Hill is secretary-treasurer. Mr. Davis is at Cornucopia, where A. V. Quine is his general superintendent.

The property consists of well over 2000 acres, of which nearly half are patented. It lies to the west of Pine creek near its head on the south side of the Wallowa mountains. The mines are approximately 75 miles northeast of Baker, Ore. Elevation at the mill is 4500 feet, the property running up to 8400 feet at the outcrop of the Valley View vein.

There are 11 veins, of which only two have been worked to any considerable extent, with some development in three others. From east to west, the veins are: Whitman, Alta (which may be a faulted portion of the Whitman), Jonathan Bourne, Forest Queen, Union, Last Chance, Stella, Daw, Wallingford, Black Eagle and Valley View.

The Wallingford, Daw and Stella perpetuate in stone the names of characters in the Get-Rich-Quick J. Rufus Wallingford fiction series of some years ago.

The principal veins, Union-Companion, Last Chance, Wallingford and Valley View, strike about 30 degrees east of north and dip uniformly at about 45 degrees to the west.

There are nearly 35 miles of workings. Primary tunnels are: The Lawrence at 6890 feet elevation running 3700 feet 4-5 degrees south of west to the Valley View vein.

The Clark at 5890 feet elevation, running more than 5000 feet, part way about 18 degrees west of north, then swinging to 40 degrees west of north, cutting the Union-Companion vein and the Last Chance vein, and now being extended to the Wallingford and Valley View.

The Coulter at 4803 feet elevation, running 6400 feet at 67 degrees west of north and reaching the Union-Companion vein on the lowest level

was a serious problem, particularly when the lines, if maintained in the tunnel, would be under water and muck virtually all of the time. In the mine electric cable used includes products of General Electric, Kerite Insulated Wire and Cable company and Standard Underground Cable company.

The roof of the compressor room was supported by heavy steel I-beams, which in turn carried a close mat of 40-pound rails and heavy wire netting, the whole serving as reinforcing for the concrete of which the chamber is constructed, the concrete being run in to the rock walls.

Fourth of the major undertakings—and the most extensive and important—is extension of the Clark tunnel a distance of 4500 to 5000 feet to cut the Wallingford and Valley View veins at 5890 feet elevation. This project has two main objects. 1. To open those veins to mining from the Clark to the Lawrence levels. 2. To make practicable the ultimate extension of the Coulter tunnel, by another 8000 feet or thereabouts, also to cut these veins on a still lower level.

One of the unusual features of the Cornucopia operation is the extent to which ore is produced by leasers. From a third to a half of the mill feed comes from this source. The extensive character of the underground workings, particularly in the upper levels of the mine; the rather tortuous veins and lenses; and the comparative impossibility of maintaining adequate supervision over mining throughout the entire property leads to this unusual leasing policy.

Under the leasing arrangement, the company provides all necessary mining supplies and equipment. The lessee furnishes the labor. From the smelter returns cost of supplies, milling and transportation is deducted, and the balance is divided equally between the company and the lessee.

There is nearly 19,000 feet of track in the mine. Trains are hauled by Mancha Titon electric locomotives, three powered with Edison nickel-iron alkaline storage batteries and two with Exide lead batteries. Another locomotive is on order. Cars number about 50, being in 1½ and 2-ton sizes, side dump type, manufactured by the C. S. Card Iron Works, Denver.

The underground compressor room in the Coulter tunnel contains a Gardner-Denver 1200 cubic feet compressor and an Ingersoll Rand 1150-foot compressor. Each is driven by a 150-horsepower motor.

The Clark tunnel at present is equipped with one Ingersoll-Rand and one Gardner-Denver compressor, each driven by a General Electric motor. A 900 cubic feet Sullivan compressor will be installed there shortly.

All company employees are equipped with Edison electric cap lamps, furnished by the Mine Safety Appliances company, as are most of the hard hats, which are M. S. A. Skullguards from the Sanderson Safety Supply company, Seattle. Some of the leasers use carbide lamps.

All company drilling is done with Ingersoll-Rand detachable bits. Leasers use conventional steel from the

Although the hot milling equipment was installed only a short time before the plant was visited, Mr. Davis was highly enthusiastic about it. He said early experience had shown that it doubled the number of usages secured per bit, as compared with grinding. Moreover, they were finding that it gave sharply increased footage per use. With the extension of the Cornucopia tunnels, he said, the change to bits from conventional steel had become imperative. Using steel, a train a day was required for transportation of approximately 500 pieces.

In the extension of the Clerk tunnel a jumbo is being used with two 4 inch drills working in the face. About 25 stopers and as many drifters are employed in the mine. Ingersoll-Rand, Gardner-Denver and Sullivan makes being represented.

Drifts are usually carried forward in 4.5 foot lifts, with V cuts normally employed. All powder is Atlas; VLF special gelatine being the usual type.

A Gardner-Denver mucking machine is employed at the face of the advancing Clark tunnel. A Sullivan slusher finds steady employment in the levels above the Coulter tunnel, particularly in working ore out of large lenses where it is possible to stope down substantial volume.

A winze has been sunk from the Coulter tunnel level 200 feet on the Union vein, with drifts in either direction. A Bingham pump dewaterers the winze, and a second is being installed. A Sullivan hoist is used in the winze with a C. S. Card Iron Works skip. Other hoists in the raises include two Anacondas, a pair of Ingersoll-Rand rotaries, and one 50-horsepower electric hoist. In addition, there are a number of Gardner-Denver tuggers.

A Mitchell diamond drill is used in the mine, some bits being Koebellite bits from the Sullivan Machinery company.

The company buys its mine timbers on contract from local loggers. Red fir and tamarack are preferred. They appear to have virtually unlimited life in the mine, with timbers known to have been in place as long as 30 years still wholly sound.

White fir is also available but is not considered suitable save for strictly temporary work, and little is used for that purpose, lest it become mixed with the more permanent species. Mr. Davies does not rate it as good for more than a year at Cornucopia. He has studied the strength and endurance of various materials and gives tamarack and red fir a rating of 6, as against only 1 for white fir.

One of the interesting features of the Cornucopia operation is winter transportation of ore from the Clark tunnel to the mill, which is situated at the Coulter tunnel. The Clark is reached by a road which makes good 1200 feet of elevation in a distance of but little over a mile. Grade runs from 18 to 26 per cent. During the summer months ore is hauled from the Clark in a Ford V-8 dump truck equipped with a Gallon body purchased from the Sawtooth company, Boise.

For about five months of the year, however, snow makes this type of transportation impracticable and a "Caterpillar" RD8 tractor takes over the job. The tractor tows a special buggy built by LeTourneau for the purpose. It is a single axle trailer with four wheels using Goodrich tires. A load of ore runs from 14 to 18 tons. Snow at the Clark tunnel reaches a minimum of 10 feet in mid-winter.

The caterpillar is also provided with a LeTourneau bulldozer, which is used for clearing the road to the Clark tunnel, and also for keeping the road open from Cornucopia to Carson. It finds numerous other duties about the property as well.

extensively from the Clark tunnel, which is also being driven ahead. The Union-Companion vein is being worked from the Coulter tunnel as well.

Raises from the Coulter tunnel, completed last year, connect with all upper workings, which reach surface at a number of points.

Mr. Davis is attacking the Cornucopia problem from a long-range standpoint, as shown by a number of factors.

Earnings have been plowed back into development, above ground as well as below. For example, a whole town has been built for employees, the buildings of the old Cornucopia having largely fallen in. Comfortable staff residences have been built. Arrival of snow this fall saw the completion of a new dry. It is large, comfortable, thoroughly modern and equipped with a solarium where the men can receive hours of sunlight equivalent in a few minutes.

Under construction is a recreation buildings which will contain a full-sized gymnasium.

The road to the mine from Carson, about five miles, has been relocated, regraded and rocked.

Underground, three long-range development projects have been completed and a fourth—the most ambitious—is now underway.

The first of these projects consisted in raising through from the Coulter tunnel on the Union vein to the level of the Clark tunnel. This opened a number of totally unworked levels to mining and gave excellent ventilation in the main workings, as the upper portions of the mine surface at a number of points.

The second consisted in raising the track throughout the Coulter tunnel. It should be explained that the Cornucopia mines are very wet, with the drainage mainly through the low level tunnel. At periods of maximum flow the water over the old track made operations almost impossible. Accordingly, the track was raised on 8' by 8 timbers, and new steel, 40, 60 and 80-pound, was laid throughout.

Third main underground project consisted in the construction of a great compressor room on the Coulter tunnel at the Union vein. This room is 60 feet long, 16 feet wide for about half the length and 18 feet for the balance. The roof is arched, rising from 14 to 20 feet in height. Off the compressor room in an L is a lunch room for the shift, it being 25 feet long by 14 feet wide and 14 feet high. Air from the

# Cornucopia Tops Lode Producers of State in Year

**Continuous Operation Maintained With  
200 Men on Payroll and Many Improve-  
ments Made Underground, in Plant**

**Dredging District Active and Successful;  
Many Mining Properties Go Into Pro-  
duction; Outlook for 1940 Bright**

By H. E. HENDRYX  
Editor Oregon Mining Review

THE annual meeting of the Baker County chamber of commerce has become a time for taking stock of the industrial life of the community. Our county is fortunate in having diversified resources, and one of these basic industries comes from its minerals. It was the discovery of gold that brought the first settlers to the county, and the mining of gold and other wealth from that beginning.

In recent years—from the start of prolonged depression in 1929—more and more attention has been turned toward mining with the result that Oregon is showing increased production of precious metals each year.

The year just closed, according to preliminary figures issued by the federal bureau of mines from San Francisco, gives the production of the state for 1939, gold, silver, copper and lead, \$3,268,135, which is an increase of more than \$300,000 over the preceding year, when the state's metal output was valued at \$2,935,058. The total for 1937 was \$2,005,218.

It is too early to secure government estimates of the output by counties and any statement for the production of Baker county or the gold fields of the Blue mountains of eastern Oregon," could be only in the nature of a guess. However, the report of the bureau of mines says: "Gold mining in northeastern Oregon, Baker and Grant counties, was more productive in 1939 than in the previous year. In southwestern Oregon, where Josephine and Jackson counties are the leading contributors to the gold output, preliminary figures indicate no expansion."

This area, with Baker county leading Grant, has long accounted for more than half the metal production of Oregon, and for 1939 the preliminary figures from the government indicate this part of the state accounted for nearly, if not all, the increased production of the entire state.

#### Cornucopia Leads Lodes

The Cornucopia gold mine in the northern part of the county, was the largest lode producer of the state, being credited with two-thirds of the state's lode output. This mine, under the able management of Lev-

erett Davis and his able staff, is today recognized as one of the 10 leading gold producers of the United States—said to rank sixth. The mine was in continuous operation during 1939 and many improvements were made in plants, buildings erected and development carried on underground, all pointing years ahead for continued operation. A payroll of more than 200 men is maintained the year around. The expenditures of this mine in Baker county for labor and supplies are probably larger than any other enterprise in the county.

There are a number of placer mining projects that have worked during the summer season along Pine creek below the Cornucopia mine, and promising lode prospects in the mountains surrounding the town of Cornucopia.

In the Homestead district along Snake river 1939 passed with little mining activity. The Crown Copper company, H. H. Newell of Homestead, president and manager, made preparations for more active operation during the coming years. There



# MINERAL OUTPUT OF BAKER AND GRANT STEPS UP

## Cornucopia Tops Lode Producers; Outlook Bright

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is also prospect of other work in that locality and the district may take on new life during 1940.

Along Snake river between Robinette and Huntington, there was the usual number of small placer miners working, and while there were no known large production, the aggregate of gold from this source doubtless reached a sizeable sum that cannot be estimated at this time. In the old Connor Creek district successful drift placer mining was carried on during the year. One of these was on a lease on property belonging to W. D. Pierce of Baker.

### Rich Ore Discovered

There was little activity in the Mormon Basin district, part of which is in Malheur county. However, it is from this section that recent reports have come of a discovery of rich gold ore valued up to several hundred dollars per ton. This was on the Buckhorn claim and the discovery was made by W. H. Whalley and J. C. Hice of Twin Falls, Idaho. Development with a view of bringing this discovery into production will be carried on during 1940, according to announcement of the owners.

In the Burnt river canyon near Weather, the Mont d'Or Minnig company, M. M. Wein of Baker, manager, during the fall installed equipment for recovering gold and black sands from gravel bars high on the hillside at that point. Test runs are being made. The values recovered from the sand are reported as encouraging.

### Chicken Creek Active

A little known district tributary to Burnt river, is the Chicken creek section. There are a number of small lode properties in that section which have been in operation. Among these is the Gleason mine, operated by A. V. Lovejoy, the Gold Cluter, M. P. Gifford and associates, and the Little Hill, operated by LaFran and Brothers, under lease from Mr. and Mrs. Frank L. Bowen of Baker. All these properties have small stamp mills. While the veins are narrow the grade of the ore is such that they find they have satisfactory operations.

In the Sparta district the Gem mine was active most of the year. S. A. Mathews of Sparta is in charge of the work for the Gem Gold company of Tacoma. The work to the present has consisted of unwatering the mine, making improvements in the plant and developing, with the result it is reported this mine will

be confined to development. The shaft has been sunk from the 150-foot level to below the 200-foot. The result of this work is reported as favorable, indicating these enterprising men will probably be able to resume shipping during 1940. Several carloads of high grade antimonial gold ore was shipped from this property a few years ago.

### Sumpter Valley Dredges

Dredging operations in Sumpter valley west of Baker were continuous during 1939. The Sumpter Valley Dredging company bucket line dredge was the principal operation and its production will account for a large part of the placer gold production of the state. However, there were three drag line dredges also in operation in that section during the year. These are the Little, Harris and Wolfinger dredge, R. K. Nutting and company, both of Sumpter, and the Oregon Consuela Mining company, between Sumpter and Bourne of which Max Hoffman of Sumpter is manager.

North of Sumpter about three miles from the Columbia mine the Oregon Argonaut Gold, Inc., H. C. Wilnot of Baker vice president and manager, spent 1939 in development work. A crew of 20 or more men has been employed continuously. Electric power from the Eastern Oregon Light and Power company has been installed. Operating plans for this mine call for building a 100-ton flotation plant at the property during 1940, and the Argonaut mine should become one of the leading gold producers of the state in a short time.

At Bourne, 1939 opened with the Campbell Oregon Gold Mining company working toward the reopening of the mines of the Bourne section. The company decided in August to withdraw from the district, and late in the fall John Arthur of Baker secured a lease from the owners and now has 15 to 20 men at Bourne and has started shipping ore to the smelter at Tacoma.

### Granite Mining Revived

It was in the Granite district west of Sumpter and in Grant county that some of the largest mining developments of 1939 took place. Heading this was the opening up of the Cougar Independence mine near Granite under a lease, of which G. P. Lilley of Baker is manager and P. A. Rokne is superintendent. The year saw this mine producing heavy in direct smelting ore, which was shipped to the smelter at Tacoma. About 100 50-ton cars were shipped. The proceeds from this ore was used for building a 75-ton flotation mill which was placed in operation in October. The concentrates from the mill are trucked to Baker and shipped to a smelter in Utah.

A bit of hard luck hit the Buffalo mine which has been a producer of high grade shipping ore for many years. The mill was burned and since the property has been forced to slow down its work until the plant can be rebuilt, which will be next spring. In the meantime Frank Allen is at the property and the production is being confined to the shipping of high grade and piling up mill ore. Bruce Dennis of Portland is the principal owner of the property.

### Re-Opening LaBellevue

It is in re-opening old mines that much of the success has been made in recent years in mining. This is

the Ora Plata Mining company has a large dragline dredge, which has been in continuous operation for more than a year. S. K. Atkinson of Boise, Idaho, is head of this company.

Charles E. Silbaugh, head of the C. E. Silbaugh Construction company, has a dragline dredge operating on Granite creek several miles below the Ora Plata operation.

### Testing Near Whitney

Considerable interest shown in placer deposits in the vicinity of Whitney, on Dry creek, Gimlet and other tributaries of Burnt river, give promise of considerable mining activity in that section during 1940. W. E. Beckwith and Fred Ranes of Baker, during the year contracted for the mineral rights of some 7000 acres of logged off lands from the Oregon Lumber company. In turn they have contracted a part of this land to a group of mining men from Seattle and Alaska. These parties now have a crew of men on the ground testing the gravel.

In Greenhorn district the active property during the winter is the Owl and Red Bird, owned by E. E. Petty of Greenhorn, which was contracted in December to W. R. O'Keefe of Portland. Mr. Petty is in charge of this work of which the sinking of the shaft from the 60-foot level to 100 feet is the first undertaking.

At the Rabbit mine near the Owl, Bennett James and partner, "Scotty" Hays, are working.

There are a number of properties in the Greenhorn district which are expected to be in operation in 1940 which should go a long way toward bringing the district to the front in mining activity. One of these is the I. X. L., owned by Fred T. Kelly of Boise, and which it is reported will be taken over in the spring by a new organization for the purpose of opening up the mine and bringing it in to production.

### Timms Has New Dredge

On the Middle Fork of the John Day river Charles H. Timms, president and manager of the Timms Gold Dredging company completed the building of a new bucket line dredge which was put in commission about the first of November. It has since been working successfully with several years of operation ahead of it.

Gold dredging operations at Prairie City and at John Day will account for a good part of the gold production of Grant county. At Prairie City the H. F. England company has been working full time, while at John Day the Western Dredging company bucket line dredge and the Paris and March bank dragline dredge comprise the principal operations.

### War Materials in Grant

The John Day section has long been known for its chromium deposits, and with the passage by congress in 1939 of what is known as the strategic materials bill with provision for making surveys of domestic deposits of war metals, mining engineers working under the bureau of mines made an investigation of chrome deposits near Canyon City.

Several carloads of chrome were shipped to a steel company in Ohio late in the year by I. B. Hazeltine, sheriff of Grant county, and as-

sociates. The shipments were made in the nature of a trial with the hope that a market for the chrome could be developed.

With the mention of "war metals" the manganese deposits of Baker county in the vicinity of Pleasant Valley and Durkee come to mind. In the closing months of the past year much interest was shown in this material and some 40 or 50 manganese claims were staked. There has been considerable investigation of the territory, but as yet no concerted effort for production has been undertaken.

These are some of the highlights of mining activities in eastern Oregon during 1939 and the outlook for the coming year.

Mining has been fortunate in the